WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASSES XI AND XII

SUBJECT: ALTERNATIVE ENGLISH (ALTE)

Course Overview and Objectives

In the prescribed textbook, learners are exposed to a wide range of English texts. The texts are an interesting mix of classic and contemporary selection of prose, poetry and play. Both the Indian and the global authors have been included in the syllabus to enable the students to enjoy the richness of world literature. The play included in the syllabus highlights Ireland's struggle for freedom which makes an interesting reading even today.
We hope the students of Alternative English will enjoy the texts included in the syllabus.

CLASS - XI

SEMESTER – I

SUBJECT: ALTERNATIVE ENGLISH (ALTE)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE: THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
1	**Prose:** 1. Home to Heaven – Pearl S. Buck 2. I Became an Author – W. B. Yeats	25	13
2	**Poetry:** 1. The Coromandel Fishers – Sarojini Naidu 2. Everyone Sang – Siegfried Sassoon	25	12
3	**Grammar:** 1. Transformation of Sentences 2. Prepositions 3. Group Verbs 4. Joining of Sentences 5. Splitting of Sentences	50	15

CLASS - XI

SEMESTER – II

SUBJECT: ALTERNATIVE ENGLISH (ALTE)

FULL MARKS: 40 **CONTACT HOURS :100 HOURS**

COURSE CODE: THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
1	**Prose:** 1. Kabuliwallah – Rabindranath Tagore 2. The Man With the Scar - Maugham	25	07
2	**Poetry:** 1. Bright Star – John Keats 2. A Dog Has Died – Pablo Neruda	25	07
3	**Rapid:** 1. Three Blind Mice by Agatha Christie	25	06
4	**Writing Skills:** 1. Letter Writing (Formal & Informal) 2. Essay Writing	25	20

Project for Class XI

Project on Victorian Poetry in English Literature – **20 marks**

CLASS - XII

SEMESTER – III

SUBJECT: ALTERNATIVE ENGLISH (ALTE)

FULL MARKS: 40 **CONTACT HOURS: 80 Hours**

COURSE CODE: THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
1	**Prose:** 1. The Disk – Jorge Luis Borges 2. Three Questions - Lev Nikolayevich Tolstoy	25	13
2	**Poetry:** 1. The World Is Too Much With Us – William Wordsworth 2. Lotus – Toru Dutt	25	12
3	**Grammar:** 1. Correction of Error 2. Splitting and Joining of Sentences 3. Change of Narration	30	15

CLASS - XII

SEMESTER – IV

SUBJECT: ALTERNATIVE ENGLISH (ALTE)

FULL MARKS: 40 **CONTACT HOURS: 120 Hours**

COURSE CODE: THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
1	**Prose:** 1. Sparrows – K. Abbas 2. The Mark of Vishnu – Khushwant Singh	25	07
2	**Poetry:** 1. A Bird Came Down The Walk – Emily Dickinson 2. Break BreakBreak – Alfred Tennyson	25	07
3	**Play:** 1. The Rising of the Moon - Lady Gregory	25	06
4	**Comprehension**	20	10
5	**Precis/ Report Writing**	25	10

Project for Class XII

Project on Dramatizing a Story [from within or outside the syllabus] – **20 marks**

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII
SUBJECT : ARABIC (ARBC)

CLASS - XI

SEMESTER – I

Unit-I

Arabic Prose (النثر):

Content: سورة الفيل, أبو صير و أبوقير by من يضع الحجر ,كامل الكيلاني by أبو الحسن علي الحسني الندوي

Objectives:

- Develop a comprehensive understanding of Surah Al-Fil from the Quran, exploring its linguistic and thematic aspects.
- Enhance linguistic skills and vocabulary through the analysis of modern prose.
- Foster critical thinking through the evaluation of themes, characters, and literary techniques introduced in the selected prose works.

Unit-II

Arabic Poetry (النظم):

Content: البنت , by محمود درويش **by** الأم ,**أمية** بن أبي الصلت **by** أحمد شوقي بك في صفة الله تعالى

Objectives:

- Connect poetic expressions with the cultural and historical contexts, understanding how poets reflects and influence the societies.
- Develop expressive and creative language skills through the study of various poetic styles.
- Gain insights into societal values, emotions, and historical contexts reflected in Arabic poetry.

Unit-III

History of Arabic Literature (تاريخ الأدب العربي):

Content: History of Arabic literature from pre Islamic period to Islamic period. Poetry with special references to Antara Bin Shaddad, Imraul Qais, Zuhair bin Abi Sulma, Hassan bin Thabit, Khansa.

Objectives:

- Understand the historical development of Arabic literature, providing insight into cultural and intellectual evolution.
- Appreciate the literary contributions of Antara Bin Shaddad, Imraul Qais, Zuhair bin Abi Sulma, Hassan bin Thabit, Khansa.
- Develop historical awareness by exploring literary responses to socio-political events.

Unit-IV

Grammar (النحو والصرف):

Content: Basic Arabic grammar like huruf, kalimah,harakat, mubtada, khabar, mudaf etc.

Objectives:

- Achieve knowledge about basic grammatical rules, enhancing language proficiency.
- Improve communication skills by understanding and applying basic grammatical concepts.
- Foster accuracy in expression and grammatical correctness for effective communication.

Unit-V

Translation (الترجمة):

Content: Translation of simple sentences from English / Vernacular language to Arabic or from Arabic to English / Vernacular language.

Objectives:

- Develop translation skills by applying grammar concepts.
- Translating sentences from Arabic to English and vice versa.
- Gain cultural sensitivity and understanding through translation.
- Apply grammatical knowledge to ensure accurate and nuanced translations.

SEMESTER – II

Unit-I

Arabic Prose (النثر):

Content: نوادر by شهاب الدين القليوي , أحمد في البادية ﷺ محمد by كامل الكيلاني, من يضع الحجر by أبو الحسن علي الحسني الندوي

Objectives:

- Analyze various Arabic stories by Ahmed Shihabuddin Al Qalyubi, Samee Atif Al Zain and Muhammad Atiya Al Ibrashi.
- Enhance linguistic skills and vocabulary through the analysis of the selected stories.
- Acquire moral values through the analysis of these stories.

Unit-II

Arabic Poetry (النظم):

Content: عيسى الناعوري by أخي الانسان , كامل كيلانيby الوقت , حسان بن ثابت by أغر عليه للنبوة خاتم

Objectives:

- Cultivate an appreciation for Arabic poetry, recognizing its cultural and emotional nuances.
- Introducing Arabic poetry to the students so that they can be benefited from thoughts of the poets of different periods and develops their knowledge about basic forms and structure of Arabic poetry.

Unit-III

History of Arabic Literature (تاريخ الأدب العربي):

Content: History of Arabic literature (Umayyad Period). Poetry with special references to Akhtal, Farazdaq, Jarir, Umar Bin Abi Rabiah

Objectives:

- Understand the historical development of Arabic literature, providing insight into cultural and intellectual evolution.
- Appreciate the literary contributions of Akhtal, Farazdaq, Jarir, Umar Bin Abi Rabiah
- Providing information about cultural & social aspects of Arabic literature in Umayyad period.

Unit-IV

Grammar (النحو والصرف):

Content: Basic Arabic grammar like Ismul isarah, Ismul mousool,harful jar, Fa'l etc.

Objectives:

- Teaching the students basic forms of Arabic structure like Ismul isarah, Prepositions, Conjunctions etc.
- Improve communication skills by understanding and applying grammatical concepts.
- Achieve grammatical correctness for effective communication.

Unit-V

Translation (الترجمة):

Content: Translation of simple sentences from English / Vernacular language to Arabic or from Arabic to English / Vernacular language.

Objectives:

- To translate the basic sentences from Arabic to English and English to Arabic.
- Gain communication skills through translation.
- Apply grammatical knowledge to ensure accurate and nuanced translations.

PROJECT :

Content: Project on various topics like Origin and Development Arabic Language, Muslim Festivals, A prominent Educationist of Bengal, Muslim Architecture in India.

Objectives:

- Develop research and presentation skills through a project on one of the provided topics.
- Fostering independent inquiry and critical thinking.
- Delving into historical figures and architectural elements.

Assessment:

Assessments include written analyses of prose and poetry, translation exercises, grammar assessments, and research projects on historical figures in Arabic literature.

Overall Goals:

- Equip students with comprehensive Arabic language skills.
- Foster cultural appreciation, critical thinking, and expressive communication.
- Provide a historical and literary context for a deeper understanding of Arabic culture and literature.

Arabic Syllabus for Class XI

FULL MARKS -100

Prose:	**20 Marks**
Poetry:	**20 Marks**
History of Arabic Literature:	**15 Marks**
Grammar:	**15 Marks**
Translation:	**10 Marks**
Project:	**20 Marks**

CLASS - XI

SEMESTER – I

SUBJECT: ARABIC (ARBC)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE: THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – I	**النثر-Prose** **Text Book: Arabic Selection for H.S, 2024 A.D** 1 . سورة الفيل القرآن الكريم 2 . أبو صبير و أبوقير كامل الكيلاني 3. من يضع الحجر أبو الحسن علي الحسني الندوي	20	10
Unit - II	**النظم-Poetry** 1 . في صفة الله تعالى أمية بن أبي الصلت 2. الأم أحمد شوقي بك 3. البنت محمود درويس	20	10
Unit - III	**تاريخ الأدب العربي-History of Arabic Literature** **(Pre- Islamic & Islamic Period)** • Imraul Qais • Zuhair bin Abi Sulma • Antara Bin Shaddad • Hassan bin Thabit • Khansa	20	10
Unit - IV	**النحو والصرف-Grammar** 1 . الحروف الشمسية و الحروف القمرية 2. حروف العلة 3. الحركات 4. حالة الإعراب 5. الكلمة و أقسامها 6. المعرفة و النكرة 7. المذكر و المؤنث 8. الاسم: المفرد و المثنى و الجمع 9. المبتدأ و الخبر 10 الموصوف و الصفة 11. المضاف و المضاف إليه.	20	5
Unit - V	**الترجمة-Translation** Based on the above-mentioned Grammar	20	5

CLASS - XI

SEMESTER – II

SUBJECT: ARABIC (ARBC)

FULL MARKS: 40 **CONTACT HOURS: 80 HOURS**

COURSE CODE: THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit - I	**النثر -Prose** **Text Book: Arabic Selection for H.S, 2024 A.D** 1 . النوادر (الحكايات 1- 3) أحمد شهاب الدين القليوبي 2. محمد ﷺ في البادية سميح عاطف الزين 3. الملك و الراعي محمد عطية الإبريشي	15	10
Unit - II	**النظم -Poetry** 1 في مدح الرسول حسان بن ثابت الانصاري 2. الوقت مجموعة القصص العربية لكامل الكيلاني 3. أخي الإنسان (8 أبيات) عيسى الناعوري	15	10
Unit - III	**تاريخ الأدب العربي-History of Arabic Literature** **(Umayyad Period)** • Akhtal • Farazdaq • Jarir • Umar Bin Abi Rabiah	15	5
Unit - IV	**النحو والصرف-Grammar** 1. اسم الإشارة 2. الأسماء الموصولة 3. حروف الجر 4. الضمائر 5. أداة الاستفهام 6. الفعل اللازم و المتعدي 7. الفعل الماضي و صيغه 8. الفعل المضارع و صيغه	15	10
Unit - V	**الترجمة-Translation** Based on the above-mentioned Grammar (A passage or few sentences to be translated from Arabic to English or vernacular language / English or Bengali to Arabic)	20	5

PROJECT

ARABIC (ARBC)

FULL MARKS: 20 **CONTACT HOURS: 20 HOURS**

Sub Topics :

1	Six important books of Hadith (Any one)
2	Role of Fairs in promotion of Arabic Language and Literature in the pre- Islamic period
3	Influence of Quran and Hadith on Arabic Language and Literature
4	Origin and Development Arabic Language
5	Muslim Festival (Any one)
6	A prominent Educationist of Bengal
7	Muslim Architecture in India
8	Book review: (Any Arabic Book)
9	A prominent Arabic Scholar of India

OR

Communicative Arabic for Class XI

Conversation & Related Vocabularies:

- Introduction, Greeting & Gratitude
- Body parts
- Dresses
- Colours & Directions
- Days & months
- Flowers & Fruits
- Interrogative Words
- In the hospital
- In the bank
- In the embassy
- At the airport

SUGGESTED READING:

1. Al- Qirayatur Rashida by Abul Hasan Ali An-Nadwi
2. Al-Qasasul Adabiyyah by Atiah al- Ibrishi
3. Kitab- An-Nawadir by Shihabuddin al-Kalyubi
4. Majmuah Al-Qasas al-Arabiyah by Kamil Al-Kilani
5. Ahlul Kahaf by Taufik al- Hakim
6. Mukhtarat Min Siyril Arabi al- Hadith by Dr.Tajuddin Mannani & Dr. Ahamad K.M.Ain. Ahmad Zubair
7. H.S.Arabic Selection by WBCHSE
8. Tarikh al-Adab Al-Arabi by Ahmad Hussain Zaiyyat
9. Tarikh Al-Adab Al-Arabi by Jurji Jaidan
10. A literary History of Arabs by R.A. Nicholson
11. Teach Yourself by S.A. Rahman
12. An-Nahwal Wadih by Al- Jarim & Mustafa Amin
13. Spoken Arabic Made Easy by Amanulla Vadakkangara
14. Al-Arabiyyah Lil Hayat, Vol I, Published by King Saud University, Riyad
15. Madinah Arabic Reader by Dr. V. Abdur Rahim

Course overviews and Objectives for HS Arabic syllabus

CLASS - XII

SEMESTER – III

Unit-I

Arabic Prose (النثر):

Content: سورة الأعلى , فتح مكة by شهامة اليتيم ,عبد الملك بن هشام by أبو الحسن علي الحسني الندوي

Objectives:

- Understand and analyze Sura Al-A'la focusing on linguistic and thematic elements from the Quran.
- Explore the historical narrative of conquest Makka.
- Foster critical thinking by interpreting diverse prose genres.

Unit-II

Arabic Poetry (النظم):

Content: مهلا نوار! by حاطم الطائي **,** الطالب النشيطbyكامل كيلاني , غاندي by أحمد شوقي

Objectives:

- Analyze classical and modern poems, exploring the various expressions of emotions, social issues and personal reflections.
- Develop expressive and creative language skills through the study of various poetic forms.
- Gain insights into societal values, emotions, and historical contexts reflected in Arabic poetry.

Unit-III

History of Arabic Literature (تاريخ الأدب العربي):

Content: History of Arabic literature Abbasid period. Arabic prose & poetry with special references to Abul Atahia, Mutanabbi, Abu Nuwas,Ibnul Muqaffa, Jahez, Hariri,

Objectives:

- Providing information about cultural & social aspects of Arabic literature in Abbasid period.
- Appreciate the literary contributions of Abul Atahia, Mutanabbi, Abu Nuwas, and others.
- Develop historical awareness by exploring literary responses to socio-political events.

Unit-IV

Grammar (النحو والصرف):

Content: Basic Arabic grammar like Jumla Ismiah, Jumla Faliah, M'urab, Mabni etc.

Objectives:

- Teaching the student basic forms of Arabic structure like Morab, Mabni, Jumla Ismiah, Jumla Fa'liah etc.
- Improve communication skills by understanding and applying grammatical concepts.
- Improve grammatical correctness for effective communication.

Unit-V

Translation (الترجمة):

Content: Translation of simple sentences from English / Vernacular language to Arabic or from Arabic to English / Vernacular language.

Objectives:

- Transfer meaning accurately between Arabic and the target language.
- Improve translation skills to get job opportunities in various fields.
- Apply grammatical knowledge to ensure accurate and nuanced translations.

SEMESTER – IV

Unit-I

Arabic Prose (النثر):

Content: الأحاديث المنتخبة , سيّدنا علي بن أبي طالب by محمد عطية الإبريشي, أهل الكهف by توفيق الحكيم

Objectives:

- Study selected hadiths and gaining insights into the sayings and actions of Prophet Muhammad.
- Enhance linguistic skills and vocabulary through the analysis of complex prose.
- Develop critical thinking by interpreting various texts.

Unit-II

Arabic Poetry (النظم):

Content: في وصف القمر by نجيب محفوظ , أمي by سعيد عقل , الآم المحب by ابن زيدون

Objectives:

- Analyze the selected poems, exploring poets' reflections on nature and societal issues.
- Improve language skills through the study of various poetic forms.
- Gain insights into societal values, emotions, and historical contexts reflected in Arabic poetry.

Unit-III

History of Arabic Literature (تاريخ الأدب العربي):

Content: History of Arabic literature modern period. Arabic prose & poetry with special references to Ahmad Shawqi, Haiz Ibrahim, Najib Mahfooz, Manfaluti, Abul Hasan Ali Al Nadwi

Objectives:

- Understand the historical development of Arabic literature, providing insight into cultural and intellectual evolution.
- Appreciate the literary contributions of Ahmad Shawqi, Haiz Ibrahim, Najib Mahfooz, Manfaluti, Abul Hasan Ali Al Nadwi.
- Develop historical awareness by exploring literary responses to socio-political events.

Unit-IV

Grammar (النحو والصرف):

Content: Basic Arabic grammar like Munsarif, Mafool,Hal, Tamiz etc.

Objectives:

- Achieve grammatical knowledge, enhancing language proficiency.
- Improve communication skills by understanding and applying grammatical concepts.
- Improve precision in expression and grammatical correctness for effective communication.

Unit-V

Translation (الترجمة):

Content: Translation of simple sentences from English / Vernacular language to Arabic or from Arabic to English / Vernacular language.

Objectives:

- Translate accurately between Arabic and the target language.
- Improve translation skills for getting job in different fields.
- Apply advanced grammatical knowledge to ensure accurate and nuanced translations.

PROJECT

Content: Project on various topics like The Four Caliphs of Islam, Arabic word uses in Bengali Language, A prominent Bengali Muslim Scholar, A Pioneer of Muslim women Education in Bengal, Three Grand Mosques etc.

Objectives:

- Develop research and presentation skills through a project on one of the provided topics.
- Fostering independent inquiry and critical thinking.
- Delving into historical figures and architectural elements.

Assessment:

Assessments include written analyses of prose and poetry, translation exercises, grammar assessments, and research projects on historical figures in Arabic literature.

Overall Goals:

- Equip students with comprehensive Arabic language skills.
- Foster cultural appreciation, critical thinking, and expressive communication.
- Provide a historical and literary context for a deeper understanding of Arabic culture and literature.

Arabic Syllabus for Class XII

FULL MARKS -100

Prose:	**20 Marks**
Poetry:	**20 Marks**
History of Arabic Literature:	**15 Marks**
Grammar:	**15 Marks**
Translation:	**10 Marks**
Project:	**20 Marks**

CLASS - XII

SEMESTER – III

SUBJECT: ARABIC (ARBC)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE: THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – I	**النثر -Prose** **Text Book: Arabic Selection for H.S, 2024 A.D** 1. سورة الأعلى القرآن الكريم 2. فتح مكة عبد الملك بن هشام . من السيرة النبوية 3. شهامة اليتيم أبو الحسن علي الحسني الندوي	20	10
Unit - II	**النظم -Poetry** 1. و قال حاتم الطاى حاتم الطائي 2. الطالب النشيط مجموعة القصص العربية لكامل الكيلاني 3. غاندى (ابيات 1-12)أحمد شوقى بك	20	10
Unit - III	**تاريخ الأدب العربي-History of Arabic Literature (Abbasid Period)** • Abul Atahia • Mutanabbi • Abu Nuwas • Ibnul Muqaffa • Jahez • Hariri	20	10
Unit - IV	**النحو والصرف-Grammar** 1 . الجملة الإسمية 2 . الجملة الفعلية 3. المعرب و المبني 4. الجمع المذكر السالم و الجمع المؤنث السالم 5. الجمع المكسر 6. الفعل الأمر و صيغه 7. الفعل النهي و صيغه 8. نواصب الفعل المضارع 9. جوازم الفعل المضارع	20	5
Unit - V	**الترجمة-Translation** Based on the above-mentioned Grammar	20	5

CLASS - XII

SEMESTER – IV

SUBJECT: ARABIC (ARBC)

FULL MARKS: 40 **CONTACT HOURS: 80 HOURS**

COURSE CODE: THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit - I	**النثر -Prose** **Text Book: Arabic Selection for H.S, 2024 A.D** 1. الأحاديث المنتخبة من مشكاة المصابيح 2. سيدنا على بن أبي طالب محمد عطية الإبريشى 3. اهل الكهف (جزء من الفصل الاول) توفيق الحكيم	15	10
Unit - II	**النظم -Poetry** 1. فى وصف القمر نجيب محفوظ 2. أمى سعيد عقل 3. الام المحب ابن زيدون	15	10
Unit - III	**تاريخ الأدب العربي-History of Arabic Literature (Modern Period)** • Ahmad Shawqi • Hafiz Ibrahim • Najib Mahfooz • Mustafa lutfi al- Manfaluti, • Abul Hasan Ali Al Nadwi	15	5
Unit - IV	**النحو والصرف-Grammar** 1. منصرف و غير منصرف 2. المفاعيل الخمسة 2. الحروف العطف 3. حروف المشبهة بالفعل 4. الأفعال الناقصة 5. ما و لا المشبهتان بليس 6. لا النافية للجنس 7. الحال 8. التمييز 9. الاستثناء	15	10
Unit - V	**الترجمة-Translation** Based on the above-mentioned Grammar (A passage or few sentences to be translated from Arabic to English or vernacular language / English or Bengali to Arabic)	20	5

PROJECT

CLASS-XII

ARABIC (ARBC)

FULL MARKS: 20 **CONTACT HOURS: 20 HOURS**

Sub Topics :

1	The Four Caliphs of Islam (Any One)
2	Arabic word uses in Bengali Language
3	A prominent Bengali Muslim Scholar
4	A Pioneer of Muslim Women Education in Bengal
5	Three Grand Mosques
6	Masjid al Nabawi
7	Masjid al Haraam
8	Masjid al Aqsa
9	A famous Muslim Institution in India
10	Sunderban
11	Bengali Festival (Any One)
12	An important River of West Bengal
14	Book Review: (Any Arabic Book)

OR

Communicative Arabic for Class XII

Conversation & Related Vocabularies:

- Numbers
- Professions
- Diseases
- Conversation in daily life
- In the school
- At the market
- At the street
- At home

SUGGESTED READING:

1. Al- Qirayatur Rashida by Abul Hasan Ali An-Nadwi
2. Al-Qasasul Adabiyyah by Atiah al- Ibrishi
3. Kitab- An-Nawadir by Shihabuddin al-Kalyubi
4. Majmuah Al-Qasas al-Arabiyah by Kamil Al-Kilani
5. Ahlul Kahaf by Taufik al- Hakim
6. Mukhtarat Min Siyril Arabi al- Hadith by Dr.Tajuddin Mannani & Dr. Ahamad K.M.Ain. Ahmad Zubair
7. H.S.Arabic Selection by WBCHSE
8. Tarikh al-Adab Al-Arabi by Ahmad Hussain Zaiyyat
9. Tarikh Al-Adab Al-Arabi by Jurji Jaidan
10. A literary History of Arabs by R.A. Nicholson
11. Teach Yourself by S.A. Rahman
12. An-Nahwal Wadih by Al- Jarim & Mustafa Amin
13. Spoken Arabic Made Easy by Amanulla Vadakkangara
14. Al-Arabiyyah Lil Hayat, Vol I, Published by King Saud University, Riyad
15. Madinah Arabic Reader by Dr. V. Abdur Rahim

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII

SUBJECT : BENGALI – A (BNGA)

CLASS - XI

SEMESTER – I

SUBJECT : BENGALI-A (BNGA)

FULL MARKS : 40

CONTACT HOURS : 90 Hours

COURSE CODE : THEORY

(MCQ Type Questions)

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	গল্প	10	08
	প্রবন্ধ	09	05
	কবিতা	12	07
	আন্তর্জাতিক গল্প ও ভারতীয় কবিতা	12	05
	ভাষা	22	10
	বাংলা শিল্প–সাহিত্য ও সংস্কৃতির ইতিহাস	25	05

CLASS - XI

SEMESTER – II

SUBJECT : BENGALI-A (BNGA)

FULL MARKS : 40

CONTACT HOURS : 60 Hours

COURSE CODE : THEORY

(SAQ and LAQ Type Questions)

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	গল্প	10	05
	কবিতা	09	05
	নাটক	06	05
	পূর্ণাঙ্গ সহায়ক গ্রন্থ	12	10
	বাংলা শিল্প–সাহিত্য ও সংস্কৃতির ইতিহাস	13	05
	প্রবন্ধ রচনা	10	10

PROJECT

CLASS - XI

FULL MARKS : 20

CONTACT HOURS : 30 HOURS

বাংলা ক

একাদশ শ্রেণি

সেমিস্টার – I

পূর্ণমান- ৪০

গল্প-

পুঁইমাচা-বিভূতিভূষণ বন্দ্যোপাধ্যায়

প্রবন্ধ-

বিড়াল-বঙ্কিমচন্দ্র চট্টোপাধ্যায়

কবিতা-

১.ঈশ্বরচন্দ্র বিদ্যাসাগর-মাইকেল মধুসূদন দত্ত

২.সাম্যবাদী -কাজী নজরুল ইসলাম

আন্তর্জাতিক গল্প-

বিশাল ডানাওয়ালা এক থুত্থুরে বুড়ো- গ্যাব্রিয়াল গারসিয়া মার্কেজ(অনুবাদ-মানবেন্দ্র বন্দ্যোপাধ্যায়)

ভারতীয় কবিতা-

চারণ কবি-ভারভারা রাও(অনুবাদ-শঙ্খ ঘোষ)

ভাষা-

- বিশ্বের ভাষা ও ভাষা পরিবার
- বাংলা ভাষার উদ্ভব ও ক্রমবিকাশ
- ভারতে প্রচলিত ভাষা পরিবার
- বাংলা ভাষার বৈচিত্র্য

বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস-

পর্ব ১- প্রাচীন বাংলা:- সমাজ ও সাহিত্য

পর্ব ২- মধ্যযুগের বাংলা সমাজ ও সাহিত্যের প্রধান ধারা:-
শ্রীকৃষ্ণকীর্তন, বৈষ্ণব পদাবলি, চৈতন্য ও চৈতন্য জীবনী, মঙ্গল কাব্য,অনুবাদ, ইসলামীয় ধারা, শাক্ত পদাবলি।

বাংলা ক

একাদশ শ্রেণি

সেমিস্টার – II

পূর্ণমান- ৪০

গল্প:-

১.ছুটি-রবীন্দ্রনাথ ঠাকুর

২. তেলেনাপোতা আবিষ্কার- প্রেমেন্দ্র মিত্র

কবিতা:-

১.ভাব সম্মিলন-বিদ্যাপতি

২.লালন শাহ ফকিরের গান- লালন শাহ

৩.নুন- জয় গোস্বামী

নাটক:-

আগুন-বিজন ভট্টাচার্য

পূর্ণাঙ্গ সহায়ক গ্রন্থ:-

পঞ্চতন্ত্র-সৈয়দ মুজতবা আলি

- বই কেনা
- আজব শহর কলকেতা
- পঁচিশে বৈশাখ
- আড্ডা

বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস:-

পর্ব ৩-

- আধুনিক বাংলা সাহিত্য:- যুগের আধুনিকতা ও উপনিবেশিক বাংলার সামাজিক ও ধর্মীয় আন্দোলন শিক্ষা সংস্কার গদ্যের উদ্ভব, কবিতা, উপন্যাস ও ছোটগল্প, নাটক, যাত্রা ও নাট্যমঞ্চ, প্রবন্ধ(সত্তর দশক পর্যন্ত)।
- লৌকিক সাহিত্য:- ছড়া, ধাঁধা, প্রবাদ,কথা
- কবিতায় মহাকাব্য, আখ্যানকাব্য, গীতিকবিতার ধারা-

- কবিতা:-মধুসূদন দত্ত, রবীন্দ্রনাথ ঠাকুর, কাজী নজরুল ইসলাম, জীবনানন্দ দাশ ও পরবর্তী ধারা।
- কথাসাহিত্য:- বঙ্কিমচন্দ্র চট্টোপাধ্যায়, রবীন্দ্রনাথ ঠাকুর ,শরৎচন্দ্র চট্টোপাধ্যায়, মানিক বন্দ্যোপাধ্যায়, বিভূতিভূষণ বন্দ্যোপাধ্যায়, তারাশঙ্কর বন্দ্যোপাধ্যায় ও পরবর্তী ধারা।
- নাটক:- মধুসূদন দত্ত , দীনবন্ধু মিত্র , গিরিশচন্দ্র ঘোষ, রবীন্দ্রনাথ ঠাকুর, দ্বিজেন্দ্রলাল রায় , বিজন ভট্টাচার্য ও পরবর্তী ধারা।

প্রবন্ধ রচনা –

রচনা লেখার বিষয়টি এক লাইনে না দিয়ে একটি মানস মানচিত্র এবং তথ্যসম্ভার দেওয়া হবে। পরীক্ষার্থীরা সেই মানচিত্র এবং প্রয়োজনীয় তথ্য ব্যবহার করে প্রবন্ধ রচনা করবে এবং শিরোনাম দেবে।

একটি বক্তব্যের স্বপক্ষে বা বক্তব্যের বিপক্ষে একটি অনুচ্ছেদ দেওয়া থাকবে। পরীক্ষার্থীরা প্রদত্ত অনুচ্ছেদের স্বপক্ষে/বিপক্ষে তাদের বক্তব্য লিখবে।

CLASS - XII

SEMESTER – III

SUBJECT : BENGALI-A (BNGA)

FULL MARKS : 40

CONTACT HOURS : 90 Hours

COURSE CODE : THEORY

(MCQ Type Questions)

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	গল্প	10	08
	প্রবন্ধ	09	05
	কবিতা	12	07
	ভারতীয় গল্প ও আন্তর্জাতিক কবিতা	12	05
	ভাষা	22	10
	বাংলা শিল্প–সাহিত্য ও সংস্কৃতির ইতিহাস	25	05

CLASS - XII

SEMESTER – IV

SUBJECT : BENGALI-A (BNGA)

FULL MARKS : 40

CONTACT HOURS : 60 Hours

COURSE CODE : THEORY

(SAQ and LAQ Type Questions)

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	গল্প	10	05
	কবিতা	09	05
	নাটক	06	05
	পূর্ণাঙ্গ সহায়ক গ্রন্থ	15	10
	বাংলা শিল্প–সাহিত্য ও সংস্কৃতির ইতিহাস	10	05
	প্রবন্ধ রচনা	10	10

PROJECT

CLASS - XII

FULL MARKS : 20

CONTACT HOURS : 30 HOURS

বাংলা ক

দ্বাদশ শ্রেণি

সেমিস্টার -III

পূর্ণমান- ৪০

গল্প –

আদরিনী- প্রভাত কুমার মুখোপাধ্যায়

কবিতা-

১. অন্ধকার লেখাগুচ্ছ-শ্রীজাত

২.দ্বিগ্বিজয়ের রূপকথা- নবনীতা দেবসেন

প্রবন্ধ-

বাঙ্গালা ভাষা -স্বামী বিবেকানন্দ

ভারতীয় গল্প-

পোটরাজ-শঙ্কর রাও খারাট(অনুবাদ:সুনন্দন চক্রবর্তী)

আন্তর্জাতিক কবিতা-

তার সঙ্গে- পাবলো নেরুদা(অনুবাদ:শক্তি চট্টোপাধ্যায়)

ভাষা-

- ধ্বনিতত্ত্ব: বাগযন্ত্র, ধ্বনি, স্বর ও ব্যঞ্জন,যুক্ত ব্যঞ্জন,ধ্বনি পরিবর্তনের কারণ।

- শব্দভান্ডার
- শব্দার্থতত্ত্ব
- শৈলী বিজ্ঞানের গোড়ার কথা

বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস

- পর্ব ৪ -বাংলা গানের ইতিহাস-সংক্ষিপ্ত রূপরেখা
- পর্ব ৭-বাঙালির বিজ্ঞানচর্চার সংক্ষিপ্ত পরিচিতি
- পর্ব ৮ -বাঙালির ক্রীড়া সংস্কৃতি

বাংলা ক

দ্বাদশ শ্রেণি

সেমিস্টার - IV

পূর্ণমান- ৪০

গল্প-

১. হলুদ পোঁড়া-মানিক বন্দ্যোপাধ্যায়

২. রং নাম্বার -মহাশ্বেতা দেবী

কবিতা-

১. প্রার্থনা-রবীন্দ্রনাথ ঠাকুর

২. তিমির হননের গান – জীবনানন্দ দাশ

৩. কেন এল না- সুভাষ মুখোপাধ্যায়

নাটক-

নানা রঙের দিন-অজিতেশ বন্দ্যোপাধ্যায়

পূর্ণাঙ্গ সহায়ক গ্রন্থ-

ডাকঘর-রবীন্দ্রনাথ ঠাকুর

বাংলা শিল্প সাহিত্য ও সংস্কৃতির ইতিহাস

- পর্ব ৫-বাংলা চিত্রকলার ইতিহাস সংক্ষিপ্ত রূপরেখা
- পর্ব ৬-বাঙালির চলচ্চিত্রের ইতিহাস সংক্ষিপ্ত রূপরেখা

প্রবন্ধ রচনা-

কোনো একটি বিষয়ে কোনো একজন লেখকের লেখার একটি অংশ দেওয়া থাকবে। প্রদত্ত অনুচ্ছেদটি হল মূল রচনার প্রস্তাবনা বা ভূমিকা। এই প্রস্তাবনা বা

ভূমিকাটিকে অবলম্বন করে পরীক্ষার্থী বিষয়বস্তুর গভীরে প্রবেশ করবে এবং পরিনতি দান করবে।

একটি প্রশ্নে কোনো একটি বিষয়ে নানা ধরনের সূত্র ও তথ্য দেওয়া থাকবে। সেগুলিকে ব্যবহার করে পরীক্ষার্থী রচনাটি গড়ে তুলবে।

একাদশশ্রেণি

প্রকল্প

প্রকল্প -২০(প্রুফ সংশোধন (০৫) প্রকল্পের অন্তর্ভুক্ত হবে)-

- **প্রুফ সংশোধন -**একটি অনুচ্ছেদ দেওয়া হবে তার থেকে বিরাম চিহ্ন, সম্পাদনা, অনুচ্ছেদ বিভাজন , বানান, শিরোনাম -এই বিষয়গুলির সম্ভাব্য ভুল ত্রুটি সংশোধন করতে হবে।

সটীক অনুবাদ-

- মূল ভাষা থেকে অনুবাদ করতে হবে।১০০০-৩০০০ শব্দের মধ্যে। সময়সীমা-৬ মাস।
- অনুবাদ করা যাবে-(ক) প্রবন্ধ, (খ) চিঠি, (গ) ঐতিহাসিক নথি,(ঘ) গল্প এবং(ঙ) নাটক। (লেখক এবং লেখা সম্পর্কে টীকাসহ অনুবাদ করতে হবে)

সাক্ষাৎকার গ্রহণ:-

- লোকায়ত আঙ্গিক/ সাহিত্য/ রাজনীতি/ ক্রীড়া/ নাচ/ গান/ কলা ক্ষেত্রের যে কোনো বিখ্যাত ব্যক্তিত্বের (অন্তত জেলাস্তরে পরিচিতি থাকতে হবে) সাক্ষাৎকার নিতে হবে। অন্তত 20 টি প্রশ্ন।

প্রতিবেদন রচনা:-

- ছ' মাসের দৈনিক সংবাদপত্রের খেলার পাতার কাটিং সংগ্রহ এবং তার ভিত্তিতে নিজের দেশ বা রাজ্যের ক্রীড়াক্ষেত্রে উত্থান পতন বিশ্লেষণ করে প্রতিবেদন লিখতে হবে। নূন্যতম শব্দ সংখ্যা-১০০০।

স্বরচিত গল্প লিখন- বিদ্যালয় জীবনের কোনো ঘটনাকে কেন্দ্র করে (মৌলিক) এক বা একাধিক স্বরচিত গল্প লিখতে হবে।

দ্বাদশশ্রেণি

প্রকল্প

প্রকল্প -২০(প্রুফ সংশোধন (০৫) প্রকল্পের অন্তর্ভুক্ত হবে)-

- **প্রুফ সংশোধন** -একটি অনুচ্ছেদ দেওয়া হবে তার থেকে বিরাম চিহ্ন, সম্পাদনা, অনুচ্ছেদ বিভাজন , বানান, শিরোনাম -এই বিষয়গুলির সম্ভাব্য ভুলত্রুটি সংশোধন করতে হবে।

প্রকল্প (প্রদত্ত প্রকল্প মধ্যে যে কোন একটি)

সমীক্ষা পত্র

ন্যূনতম ৫০টি নমুনার ভিত্তিতে তৈরি করতে হবে।

নিজের গ্রাম/পাড়া/অঞ্চলকে কেন্দ্র করে সাধারণ সমাজ ভিত্তিক সমীক্ষা নারী/পুরুষের হার, সাক্ষরতা, ধর্মসম্প্রদায়, খেলাধূলার প্রবণতা (ইন্ডোর, আউটডোর, ফুটবল, ক্রিকেট, হকি)প্রভৃতি। অন্যদিকে, আদিবাসী, জনজাতি, জনগোষ্ঠী ও সম্প্রদায়ভিত্তিক বিবিধ সমীক্ষা।

নিজের বিদ্যালয় নিয়েও করা যাবে, আবার অন্যান্য প্রতিবেশী বিদ্যালয়কে অর্ন্তভুক্ত করা যেতে পারে। সমীক্ষার বিষয় হবে বিদ্যালয় সংশ্লিষ্ট কোনো তথ্য উদঘাটন। হতে পারে বিদ্যালয় শিক্ষার্থীদের জাতিগত/সম্প্রদায় নকশা, হতে পারে শিক্ষক- শিক্ষিকাদের বয়স, সারস্বত ক্রিয়াকর্ম, বিদ্যালয়ের ইতিহাস (মৌখিক সাক্ষাৎকার-সমীক্ষা), বিদ্যালয়ের শ্রেণিবিভাজন- শিক্ষার্থীসামর্থ্য প্রভৃতি।

গল্পের নাট্যরূপ

ন্যূনতম শব্দসংখ্যা-২০০০-৪০০০ [কোন প্রথিতযশা লেখক/লেখিকার লেখা থেকে তৈরী করতে হবে]।

গল্পের চিত্রনাট্য

শব্দসংখ্যা ২০০০-৪০০০ [কোন প্রথিতযশা লেখক/লেখিকার লেখা থেকে তৈরী করতে হবে]।

গ্রন্থ সমালোচনা

প্রথিতযশা কবি, গল্পকার, নাট্যকার ও প্রাবন্ধিকের কোনো ১টি পূর্ণাঙ্গ বইয়ের সমালোচনা। ন্যূনতম শব্দসংখ্যাঃ-১০০০।

নির্বাচিত রচনাকারের সাহিত্য-শৈলী বিচার

বাংলা '**ক**'ভাষার ছাত্র-ছাত্রীরা ইংরাজির পাঠক্রম অন্তর্ভুক্ত কোনও একজন লেখকের গল্প (চারটি) বা কবিতা(ছয়টি) আলোচনা করে রচনার শৈলী বৈশিষ্ট্য ও অভিনবত্ব সম্পর্কে একটি মৌলিক প্রবন্ধ লিখবে।

বাংলা '**খ**' ভাষার ছাত্র-ছাত্রীরা বাংলার পাঠক্রমে অন্তর্ভুক্ত কোনো একজন লেখকের গল্প (চারটি) বা কবিতা (ছয়টি) আলোচনা করে তাঁর শৈলী বৈশিষ্ট্য ও অভিনবত্ব সম্পর্কে একটি মৌলিক প্রবন্ধ লিখবে। (৫০০-১০০০ শব্দ)

নির্দিষ্ট ঐতিহাসিক কালপর্বে সাহিত্য সংস্কৃতির বিকাশ ও বিবর্তনের তথ্যানুসন্ধান

সাহিত্য সংস্কৃতির ইতিহাস থেকে ঊনবিংশ বা বিংশ শতকের বাংলার কোনও একটি কাল ও পর্বকে কেন্দ্র করে (১) ভাষা (২) খাদ্যাভ্যাস (৩) পোষাক (৪) গৃহনির্মাণ (৫) সংগীত (৬) নাটক (৭) চলচ্চিত্র (৮) চিত্রকলা ও

ভাস্কর্য (৯) খেলাধূলা এইসব বিষয়ে যে কোনো একটির বিকাশ, বিবর্তন ও বৈশিষ্ট্যের তথ্যসহ অনুসন্ধান ও আলোচনা।

নির্বাচিত সাহিত্য-সৃষ্ট চরিত্রের জীবনীনির্মাণ-

ফেলুদা/ঘনাদা/টেনিদা/শঙ্কু/সদাশিব/ঋজুদা/পাগলা দাশু/গোগোল/কাকাবাবু/কিকিরা/হাঁদা ভোঁদা বা নন্টে-ফন্টে/হর্ষবর্ধন-গোবর্ধন।

নির্বাচিত সাহিত্যিকের সাহিত্য-অবদান সম্পর্কিত প্রকল্প নির্মাণ

উপেন্দ্রকিশোর রায়চৌধুরী, দক্ষিণারঞ্জন মিত্র মজুমদার, সুকুমার রায়, অবনীন্দ্রনাথ ঠাকুর, প্রেমেন্দ্র মিত্র, শরদিন্দু বন্দ্যোপাধ্যায়, লীলা মজুমদার, নারায়ণ গঙ্গোপাধ্যায়, শিবরাম চক্রবর্তী, সত্যজিৎ রায়, শীর্ষেন্দু মুখোপাধ্যায়, হিমানীশ গোস্বামী, নারায়ণ দেবনাথ, শৈলেন ঘোষ।

উল্লিখিত লেখকদের মধ্যে থেকে যে কোনো একজনের বাংলা সাহিত্যে অবদান ও সেই অবদান অপরিহার্য প্রতিপন্ন করে প্রকল্প নির্মাণ (ন্যূনতম ২০০০ শব্দ)

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII

SUBJECT : BENGALI – B (BNGB)

CLASS - XI

SEMESTER – I

SUBJECT : BENGALI-B (BNGB)

FULL MARKS : 40 **CONTACT HOURS : 90 Hours**

COURSE CODE : THEORY
(MCQ Type Questions)

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	গল্প	10	08
	প্রবন্ধ	10	05
	কবিতা	15	07
	আন্তর্জাতিক গল্প ও কবিতা	20	05
	ভাষা	15	10
	বাংলা শিল্প–সাহিত্য ও সংস্কৃতির ইতিহাস	20	05

CLASS - XI

SEMESTER – II

SUBJECT : BENGALI-B (BNGB)

FULL MARKS : 40 **CONTACT HOURS : 60 Hours**

COURSE CODE : THEORY

(SAQ and LAQ Type Questions)

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	গল্প	08	05
	প্রবন্ধ	08	05
	কবিতা	08	05
	পূর্ণাঙ্গ সহায়ক গ্রন্থ	15	10
	বাংলা শিল্প–সাহিত্য ও সংস্কৃতির ইতিহাস	12	05
	প্রবন্ধ রচনা	09	10

PROJECT

CLASS - XI

FULL MARKS : 20 **CONTACT HOURS : 30 HOURS**

বাংলা খ

একাদশ শ্রেণি

সেমিস্টার – I

পূর্ণমান- 40

গল্প-

পৌরাণিক-আধুনিক - বনফুল

প্রবন্ধ-

আড্ডা- বুদ্ধদেব বসু

কবিতা-

১. কপোতাক্ষনদ- মাইকেল মধুসূদন দত্ত

২. ছেলেটা- রবীন্দ্রনাথ ঠাকুর

আন্তর্জাতিক গল্প-

বুমবুম-জুল ক্লারেতি(অনুবাদ-উৎপল দত্ত)

আন্তর্জাতিক কবিতা-

আমার মা কে- ডেভিড দিয়োপ(অনুবাদ-শঙ্খ ঘোষ)

ভাষা-

- বাংলা ভাষার উদ্ভব ও ক্রম বিকাশ
- বাংলা ভাষার বৈচিত্র্য

বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস-

পর্ব ১- প্রাচীন বাংলা:- সমাজ ও সাহিত্য

পর্ব ২- মধ্যযুগের বাংলা সমাজ ও সাহিত্যের প্রধান ধারা:- শ্রীকৃষ্ণকীর্তন, বৈষ্ণব পদাবলি, চৈতন্য ও চৈতন্য জীবনী, মঙ্গল কাব্য, অনুবাদ, ইসলামীয় ধারা, শাক্ত পদাবলি।

বাংলা খ

একাদশ শ্রেণি

সেমিস্টার – II

পূর্ণমান- 40

গল্প -

ঈর্ষা-আশাপূর্না দেবী

প্রবন্ধ -
মুনশীজী -শ্রীপান্থ

কবিতা-
১.মানুষের নামে-বীরেন্দ্র চট্টোপাধ্যায়
২.জনমদুখিনী-সুনীল গঙ্গোপাধ্যায়

পূর্নাঙ্গ সহায়ক গ্রন্থ - রবীন্দ্রনাথের গল্প
১.দেনাপাওনা
২.কাবুলিওয়ালা
৩.চিত্রকর
বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস:-

পর্ব ৩-

- আধুনিক বাংলা সাহিত্য:- যুগের আধুনিকতা ও উপনিবেশিক বাংলার সামাজিক ও ধর্মীয় আন্দোলন, শিক্ষা-সংস্কার, গদ্যের উদ্ভব, কবিতা, উপন্যাস ও ছোটগল্প, নাটক, যাত্রা ও নাট্যমঞ্চ, প্রবন্ধ(স্বাধীনতার সময় পর্যন্ত)।

- কবিতায় মহাকাব্য, আখ্যানকাব্য, গীতিকবিতার ধারা :-
- কবিতা:-মধুসূদন দত্ত, রবীন্দ্রনাথ ঠাকুর, কাজী নজরুল ইসলাম, জীবনানন্দ দাশ।
- কথাসাহিত্য:- বঙ্কিমচন্দ্র চট্টোপাধ্যায়, রবীন্দ্রনাথ ঠাকুর ,শরৎচন্দ্র চট্টোপাধ্যায়, মানিক বন্দ্যোপাধ্যায়, বিভূতিভূষণ বন্দ্যোপাধ্যায়, তারাশঙ্কর বন্দ্যোপাধ্যায়।
- নাটক:- মধুসূদন দত্ত , দীনবন্ধু মিত্র , গিরিশচন্দ্র ঘোষ, রবীন্দ্রনাথ ঠাকুর, দিজেন্দ্রলাল রায়, বিজন ভট্টাচার্য।

প্রবন্ধ রচনা –

- রচনা লেখার বিষয় টি এক লাইনে না দিয়ে একটি মানস মানচিত্র এবং তথ্যসম্ভার দেওয়া হবে। পরীক্ষার্থীরা সেই মানচিত্র এবং প্রয়োজনীয় তথ্য ব্যবহার করে প্রবন্ধ রচনা করবে এবং শিরোনাম দেবে।
- একটি বক্তব্যের স্বপক্ষে বা বক্তব্যের বিপক্ষে একটি অনুচ্ছেদ দেওয়া থাকবে| পরীক্ষার্থীরা প্রদত্ত অনুচ্ছেদের স্বপক্ষে/বিপক্ষে তাদের বক্তব্য লিখবে।

CLASS - XII

SEMESTER – III

SUBJECT : BENGALI-B (BNGB)

FULL MARKS : 40 **CONTACT HOURS : 90 Hours**

COURSE CODE : THEORY

(MCQ Type Questions)

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	গল্প	12	08
	কবিতা	10	07
	নাটক	15	05
	ভারতীয় গল্প ও কবিতা	20	05
	ভাষা	18	10
	বাংলা শিল্প–সাহিত্য ও সংস্কৃতির ইতিহাস	15	05

CLASS - XII

SEMESTER – IV

SUBJECT : BENGALI-B (BNGB)

FULL MARKS : 40 **CONTACT HOURS : 60 Hours**

COURSE CODE : THEORY

(SAQ and LAQ Type Questions)

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	গল্প	10	05
	কবিতা	08	05
	নাটক	07	05
	পূর্ণাঙ্গ সহায়ক গ্রন্থ	16	10
	বাংলা শিল্প–সাহিত্য ও সংস্কৃতির ইতিহাস	10	05
	প্রবন্ধ রচনা	09	10

PROJECT

CLASS - XII

FULL MARKS : 20 **CONTACT HOURS : 30 HOURS**

বাংলা খ

দ্বাদশ শ্রেণি

সেমিস্টার -III

পূর্ণমান- 40

গল্প-

মহেশ- শরৎ চন্দ্র চট্টোপাধ্যায়

কবিতা-

কান্ডারী হুঁশিয়ার-কাজী নজরুল ইসলাম

ভারতীয় গল্প-

নেমকের দারোগা- প্রেমচন্দ্র

ভারতীয় কবিতা-

পৃথিবী আমার কবিতা- হীরেন ভট্টাচার্য

নাটক-

লক্ষ্মণের শক্তিশেল -সুকুমার রায়

ভাষা-

১.বাংলা ধ্বনিতত্ত্ব: বাংলা স্বরধ্বনি ও উচ্চারণ অনুযায়ী তার শ্রেণিবিভাগ
২. বাংলা শব্দভান্ডার

৩. শব্দার্থতত্ত্ব

বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস

১.পর্ব ৪ -বাংলা গানের ইতিহাস সংক্ষিপ্ত রূপরেখা
২. পর্ব ৬: বাঙালির চলচ্চিত্রের ইতিহাস সংক্ষিপ্ত রূপরেখা
৩.পর্ব ৮ -বাঙালির ক্রীড়া সংস্কৃতি

বাংলা খ

দ্বাদশ শ্রেণি

সেমিস্টার – IV

পূর্ণমান- 40

গল্প-

নাম নেই- সুনীল গঙ্গোপাধ্যায়

সম্প্রদায়ের ভাষা -শঙ্খ ঘোষ

কবিতা-

১. খুকু ও খোকা- অন্নদাশঙ্কর রায়

২. কন্যাশ্লোক- মল্লিকা সেনগুপ্ত

নাটক-

সূক্ষ্ম বিচার- রবীন্দ্রনাথ ঠাকুর

পূর্ণাঙ্গ সহায়ক গ্রন্থ- রবীন্দ্রনাথের গল্প

১. খোকাবাবুর প্রত্যাবর্তন

২. সুভা

৩. গুপ্তধন

৪. দর্পহরণ

বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস-

১. পর্ব ৫: বাংলা চিত্রকলার ইতিহাস সংক্ষিপ্ত রূপরেখা

২. পর্ব ৭: বাঙালির বিজ্ঞানচর্চার সংক্ষিপ্ত পরিচিত

প্রবন্ধ রচনা-

কোনো একটি বিষয়ে কোনো একজন লেখকের লেখার একটি অংশ দেওয়া থাকবে। প্রদত্ত অনুচ্ছেদটি হল মূল রচনার প্রস্তাবনা বা ভূমিকা। এই প্রস্তাবনা বা ভূমিকাটিকে অবলম্বন করে পরীক্ষার্থী বিষয়বস্তুর গভীরে প্রবেশ করবে এবং পরিনতি দান করবে।

একটি প্রশ্নে কোনো একটি বিষয়ে নানা ধরনের সূত্র ও তথ্য দেওয়া থাকবে। সেগুলিকে ব্যবহার করে পরীক্ষার্থী রচনাটি গড়ে তুলবে।

একাদশশ্রেণি

প্রকল্প

প্রকল্প -২০(প্রুফ সংশোধন (০৫) প্রকল্পের অন্তর্ভুক্ত হবে)-

- **প্রুফ সংশোধন -**একটি অনুচ্ছেদ দেওয়া হবে তার থেকে বিরাম চিহ্ন, সম্পাদনা, অনুচ্ছেদ বিভাজন , বানান, শিরোনাম -এই বিষয়গুলির সম্ভাব্য ভুলত্রুটি সংশোধন করতে হবে।

সটীক অনুবাদ-

- মূল ভাষা থেকে অনুবাদ করতে হবে।১০০০-৩০০০ শব্দের মধ্যে। সময়সীমা-৬ মাস।
- অনুবাদ করা যাবে-(ক) প্রবন্ধ, (খ) চিঠি, (গ) ঐতিহাসিক নথি,(ঘ) গল্প এবং(ঙ) নাটক। (লেখক এবং লেখা সম্পর্কে টীকাসহ অনুবাদ করতে হবে)

সাক্ষাৎকার গ্রহণ:-

- লোকায়ত আঙ্গিক/ সাহিত্য/ রাজনীতি/ ক্রীড়া/ নাচ/ গান/ কলা ক্ষেত্রের যে কোনো বিখ্যাত ব্যক্তিত্বের (অন্তত জেলাস্তরে পরিচিতি থাকতে হবে) সাক্ষাৎকার নিতে হবে। অন্তত 20 টি প্রশ্ন।

প্রতিবেদন রচনা:-

- ছ' মাসের দৈনিক সংবাদপত্রের খেলার পাতার কাটিং সংগ্রহ এবং তার ভিত্তিতে নিজের দেশ বা রাজ্যের ক্রীড়াক্ষেত্রে উত্থান পতন বিশ্লেষণ করে প্রতিবেদন লিখতে হবে। নূন্যতম শব্দ সংখ্যা-১০০০।

স্বরচিত গল্প লিখন- বিদ্যালয় জীবনের কোনো ঘটনাকে কেন্দ্র করে (মৌলিক) এক বা একাধিক স্বরচিত গল্প লিখতে হবে।

দ্বাদশশ্রেণি

প্রকল্প

প্রকল্প -২০(প্রুফ সংশোধন (০৫) প্রকল্পের অন্তর্ভুক্ত হবে)-

- **প্রুফ সংশোধন -**একটি অনুচ্ছেদ দেওয়া হবে তার থেকে বিরাম চিহ্ন, সম্পাদনা, অনুচ্ছেদ বিভাজন , বানান, শিরোনাম -এই বিষয়গুলির সম্ভাব্য ভুলত্রুটি সংশোধন করতে হবে।

প্রকল্প (প্রদত্ত প্রকল্প মধ্যে যে কোন একটি)

সমীক্ষা পত্র

ন্যূনতম ৫০টি নমুনার ভিত্তিতে তৈরি করতে হবে।

নিজের গ্রাম/পাড়া/অঞ্চলকে কেন্দ্র করে সাধারণ সমাজ ভিত্তিক সমীক্ষা নারী/পুরুষের হার, সাক্ষরতা, ধর্মসম্প্রদায়, খেলাধূলার প্রবণতা (ইন্ডোর, আউটডোর, ফুটবল, ক্রিকেট, হকি)প্রভৃতি। অন্যদিকে, আদিবাসী, জনজাতি, জনগোষ্ঠী ও সম্প্রদায়ভিত্তিক বিবিধ সমীক্ষা।

নিজের বিদ্যালয় নিয়েও করা যাবে, আবার অন্যান্য প্রতিবেশী বিদ্যালয়কে অর্ন্তভুক্ত করা যেতে পারে। সমীক্ষার বিষয় হবে বিদ্যালয় সংশ্লিষ্ট কোনো তথ্য উদঘাটন। হতে পারে বিদ্যালয় শিক্ষার্থীদের জাতিগত/সম্প্রদায় নকশা, হতে পারে শিক্ষক- শিক্ষিকাদের বয়স, সারস্বত ক্রিয়াকর্ম, বিদ্যালয়ের ইতিহাস (মৌখিক সাক্ষাৎকার-সমীক্ষা), বিদ্যালয়ের শ্রেণিবিভাজন- শিক্ষার্থীসামর্থ্য প্রভৃতি।

গল্পের নাট্যরূপ

ন্যূনতম শব্দসংখ্যা-২০০০-৪০০০ [কোন প্রথিতযশা লেখক/লেখিকার লেখা থেকে তৈরী করতে হবে]।

গল্পের চিত্রনাট্য

শব্দসংখ্যা ২০০০-৪০০০ [কোন প্রথিতযশা লেখক/লেখিকার লেখা থেকে তৈরী করতে হবে]।

গ্রন্থ সমালোচনা

প্রথিতযশা কবি, গল্পকার, নাট্যকার ও প্রাবন্ধিকের কোনো ১টি পূর্ণাঙ্গ বইয়ের সমালোচনা। ন্যূনতম শব্দসংখ্যাঃ-১০০০।

নির্বাচিত রচনাকারের সাহিত্য-শৈলী বিচার

বাংলা '**ক**'ভাষার ছাত্র-ছাত্রীরা ইংরাজির পাঠক্রম অন্তর্ভুক্ত কোনও একজন লেখকের গল্প (চারটি) বা কবিতা(ছয়টি) আলোচনা করে রচনার শৈলী বৈশিষ্ট্য ও অভিনবত্ব সম্পর্কে একটি মৌলিক প্রবন্ধ লিখবে।

বাংলা '**খ**' ভাষার ছাত্র-ছাত্রীরা বাংলার পাঠক্রমে অন্তর্ভুক্ত কোনো একজন লেখকের গল্প (চারটি) বা কবিতা (ছয়টি) আলোচনা করে তাঁর শৈলী বৈশিষ্ট্য ও অভিনবত্ব সম্পর্কে একটি মৌলিক প্রবন্ধ লিখবে। (৫০০-১০০০ শব্দ)

নির্দিষ্ট ঐতিহাসিক কালপর্বে সাহিত্য সংস্কৃতির বিকাশ ও বিবর্তনের তথ্যানুসন্ধান

সাহিত্য সংস্কৃতির ইতিহাস থেকে ঊনবিংশ বা বিংশ শতকের বাংলার কোনও একটি কাল ও পর্বকে কেন্দ্র করে (১) ভাষা (২) খাদ্যাভ্যাস (৩) পোষাক (৪) গৃহনির্মাণ (৫) সংগীত (৬) নাটক (৭) চলচ্চিত্র (৮) চিত্রকলা ও

ভাস্কর্য (৯) খেলাধূলা এইসব বিষয়ে যে কোনো একটির বিকাশ, বিবর্তন ও বৈশিষ্ট্যের তথ্যসহ অনুসন্ধান ও আলোচনা।

নির্বাচিত সাহিত্য-সৃষ্ট চরিত্রের জীবনীনির্মাণ-

ফেলুদা/ঘনাদা/টেনিদা/শঙ্কু/সদাশিব/ঋজুদা/পাগলা দাশু/গোগোল/কাকাবাবু/কিকিরা/হাঁদা ভোঁদা বা নন্টে-ফন্টে/হর্ষবর্ধন-গোবর্ধন ।

নির্বাচিত সাহিত্যিকের সাহিত্য-অবদান সম্পর্কিত প্রকল্প নির্মাণ

উপেন্দ্রকিশোর রায়চৌধুরী, দক্ষিণারঞ্জন মিত্র মজুমদার, সুকুমার রায়, অবনীন্দ্রনাথ ঠাকুর, প্রেমেন্দ্র মিত্র, শরদিন্দু বন্দ্যোপাধ্যায়, লীলা মজুমদার, নারায়ণ গঙ্গোপাধ্যায়, শিবরাম চক্রবর্তী, সত্যজিৎ রায়, শীর্ষেন্দু মুখোপাধ্যায়, হিমানীশ গোস্বামী, নারায়ণ দেবনাথ, শৈলেন ঘোষ।

উল্লিখিত লেখকদের মধ্যে থেকে যে কোনো একজনের বাংলা সাহিত্যে অবদান ও সেই অবদান অপরিহার্য প্রতিপন্ন করে প্রকল্প নির্মাণ (ন্যূনতম ২০০০ শব্দ)

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII
SUBJECT:ENGLISH – A(ENGA)
CLASS - XI

COURSE OVERVIEW:

The short stories and poems selected for XI are a part of popular world literature, which will help students get acquainted with the famous writers and poets of the stories and poems. The themes and ideas dealt with in each story and poem will enable the students to think and appreciate as well as develop their language and vocabulary. Besides conveying social messages, the pieces throw light on Nature (An introduction to the Romantic Movement in English Literature). The complexities of human relationships dealt with in the texts will also lead to a matured understanding and consequent development of the students' intellectual and mental faculties.

COURSE OBJECTIVES:

1. Help the students comprehend the turmoils of human relationships.
2. Help the students appreciate Nature.
3. Introduce students to the prevalent social evils, enabling them to think about the eradication of such evils.
4. Infuse a spirit of patriotism & nationalistic feelings for the motherland as responsible citizens.
5. Overall development of students through appreciation of the discussed themes enhancing their abilities to think, feel and evaluate.
6. An introduction to the different ages of English literature (History of English Literature) will enable the students to carry on with the project allotted to them. This will also help the student who will be pursuing English Honours in their Graduation 1st Year.
7. An introduction to and explanation of Rhetoric (selected Figures of Speech) viz. Simile,Metaphor, Oxymoron, Alliteration, Rhetorical Question, Epigram, Antithesis, Irony, Chiasmus, Epanaphora, Onomatopoeia, Personification, Hyperbole, Transferred Epithet, Litotes, Interrogation, Exclamation will help students understand better while reading the texts.
8. Textual Grammar will help students learn the grammatical rules & sentence structures in detail.
9. Comprehending live and recorded oral presentations on various topics.
10. Participating in group discussions, interviews, and making short oral presentations.
11. Participating in discussions and debates on current national and international affairs, sports, business, etc.
12. Responding in interviews, group discussions, and making meaningful inquiries for travel purposes.

CLASS - XI

SEMESTER – I

SUBJECT: ENGLISH – A (ENGA)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE:THEORY

MCQ MARKS: 1 MARK PER QUESTION]

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 1 : PROSE	1. 'The Last Leaf' by O'Henry	10	05
	2. 'One of these Days' by Gabriel Garcia Marquez	10	05
	TOTAL	**20 Hours**	**10**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 2 : VERSE	1. 'To Autumn' by John Keats	07	03
	2. 'All the World's a Stage' by William Shakespeare	06	03
	3. 'In the Bazaars of Hyderabad' by Sarojini Naidu	07	04
	TOTAL	**20 Hours**	**10**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 3 : RHETORIC	Rhetoric from Unit 2: Simile, Metaphor, Oxymoron, Paradox, Alliteration, Antitheses, Irony, Onomatopoeia, Personification, Transferred Epithet	20	05
	TOTAL	**20 Hours**	**05**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 4 : NON-TEXTUAL GRAMMAR	Non-Textual Grammar: Tense, Voice, Direct and Indirect Speech, Phrases and Clauses, Tenses, Articles, Prepositions, Phrasal Verbs	20	01×5
	TOTAL	**20 Hours**	**05**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 5 : READING COMPREHENSION	Reading Comprehension (Unseen)	20	01×10

	TOTAL	**20 Hours**	**10**
	GRAND TOTAL	**100**	**40**

CLASS - XI

SEMESTER – II

SUBJECT: ENGLISH – A (ENGA)

FULL MARKS: 40 **CONTACT HOURS: 80 Hours**

COURSE CODE:THEORY

UNIT No.	TOPICS	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (6 marks)	CONTACT HOURS	MARKS
UNIT 1 : PROSE	1. 'Shooting an Elephant' by George Orwell	02**		01***	06	10
	2. 'The Portrait of a Lady' by Khushwant Singh				06	
	3. 'Araby' by James Joice				08	
				TOTAL	**20 Hours**	**10**

**** Any 2 out of 3 Questions of 02 marks. Total marks 2 x2= 04 marks**

****Any 01 out of 03 questions of 06 marks. Total marks: 06 marks**

UNIT No.	TOPICS	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (5 marks)	CONTACT HOURS	MARKS
UNIT 2 : VERSE	1. 'I Know Why the Caged Bird Sings' by Maya Angelou	02**		01***	07	09
	2. 'Dover Beach' by Mathew Arnold				08	
				TOTAL	**15 Hours**	**09**

**** Any 2 out of 4 Questions of 02 marks. Total marks 2 x2= 04 marks**

****Any 01 out of 02 questions of 05 marks. Total marks: 05 marks**

UNIT No.	TOPICS	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (5 marks)	CONTACT HOURS	MARKS
UNIT 3 : TEXTUAL: PROSODY	Textual Prosody		2		20	06
				TOTAL	**20 Hours**	**06**

UNIT No.	TOPICS	Short Answer Type	Short Answer Type	Descriptive Type	CONTACT	MARKS

		Questions (2 marks)	Questions (3 marks)	Questions (5 marks)	HOURS	
UNIT 4 : NON-TEXTUAL GRAMMAR	Non-textual Grammar: Voice Change, Simple, Complex and Compound Sentences, Finite and Non-Finite Verbs	1 question of 2 marks [1 question to be attempted out of two questions from Transformation of sentences and Correction of errors]	Fill in the blanks as per direction from a paragraph: 01 mark x 3 to be attempted from all topics covered		10	02+03 = 05
				TOTAL	**10 Hours**	**05**

UNIT No.	TOPICS	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (6 marks)	CONTACT HOURS	MARKS
UNIT 5 : READING COMPREHENSION	Reading Comprehension (Unseen) SAQ – 04 Marks Precis Writing –06 Marks	02		01	15	10
				TOTAL	**15 Hours**	**10**
				GRAND TOTAL	**80**	**40**

CLASS - XI

PROJECT WORK / TUTORIAL
FULL MARKS – 20

FORMAT:

1) Listening and Speaking Activity 05+05 marks
2) Writing Activity/ Project 10 marks

Instructions:

1. Subject teachers will engage students in activities which would assess their listening and speaking skills comprehensively.
2. Project Work to be taken up on the following topic in consultation with the concerned subject teacher:
    - Elizabethan Age (All Genres)
3. Project/Tutorial may be done throughout both the semesters. However, the student will be evaluated at the end of Semester II.

CLASS - XII

SEMESTER – III

SUBJECT: ENGLISH – A (ENGA)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE:THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 1 : PROSE	1. 'War' by Luigi Pirandello	07	04
	2. 'Debut on Stage' by Charles Chaplin	06	03
	3. 'The Legends of Pensam' by Mamang Dai	07	03
	TOTAL	**20 Hours**	**10**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 2 : VERSE	1. 'Ode to the West Wind' by P. B. Shelley	10	05
	2. 'My Grandmother's House' by Kamala Das	10	05
	TOTAL	**20 Hours**	**10**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 3 : DRAMA	'The Glass Menagerie' by Tennessee Williams (Scene I to IV)	30	05
	TOTAL	**30 Hours**	**05**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 4 : TEXTUAL GRAMMAR	Textual Grammar from Unit 1 and Unit 2: Synthesis and Splitting of Sentences; Change of Narration; Correction of errors	10	05
	TOTAL	**10 Hours**	**05**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 5 : READING COMPREHENSION	Reading Comprehension (Unseen)	20	10
	TOTAL	**20 Hours**	**10**
	GRAND TOTAL	**100**	**40**

*** 5 Questions based on Grammar and Vocabulary Items – 5 Marks**

5 Questions based on Understanding and Inference of the Text – 5 Marks

CLASS - XII

SEMESTER – IV

SUBJECT: ENGLISH – A (ENGA)

FULL MARKS: 40 **CONTACT HOURS: 80 Hours**

COURSE CODE:THEORY

[MCQ: 1 MARK PER QUESTION]

UNIT No.	TOPICS	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (5 marks)	CONTACT HOURS	MARKS
UNIT 1 : PROSE	1. 'Mr. Pirzada' by JhumpaLahiri	02**		01***	05	09
	2. 'The Lamb of the Slaughter' by Roald Dahl				05	
				TOTAL	**10 Hours**	**09**

** **Any 2 out of 4 Questions of 02 marks. And total marks 2 x2= 04 marks**

***Any 01 out of 02 questions of 05 marks. Total marks: 05 marks**

UNIT No.	TOPICS	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (5 marks)	CONTACT HOURS	MARKS
UNIT 2 : VERSE	1. 'Last Ride Together' by Robert Browning	02**		01***	07	09
	2. 'I cannot live with thee' by Emily Dickinson				07	
	3. 'This is a Photograph of Me' by Margaret Atwood				06	
				TOTAL	**20 Hours**	**09**

** **Any 2 out of 4 Questions of 02 marks. And total marks 2 x2= 04 marks**

***Any 01 out of 03 questions of 05 marks. Total marks: 05 marks**

UNIT No.	TOPICS	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (5 marks)	CONTACT HOURS	MARKS
UNIT 3 : DRAMA	'The Glass Menagerie' by Tennessee Williams (Scene V to VII)			01*	20	05

	TOTAL	**20 Hours**	**05**	

***Any 01 question to be attempted out of 02 questions. Total Marks - 5**

UNIT No.	**TOPICS**	**Short Answer Type Questions (2 marks)**	**Short Answer Type Questions (3 marks)**	**Descriptive Type Questions (5 marks)**	**CONTACT HOURS**	**MARKS**
UNIT 4 : NON-TEXTUAL GRAMMAR	Non-textual Grammar: Synthesis and Splitting of Sentences; Change of Narration; Correction of Errors	1 question of 2 marks [1 question to be attempted out of two questions from Synthesis of Sentences and Splitting of Sentences]	Fill in the blanks to report a paragraph or conversation: 01 mark x03 to be attempted		15	02+03 = 05
	TOTAL				**15 Hours**	**05**

UNIT No.	**TOPICS**	**Short Answer Type Questions (2 marks)**	**Short Answer Type Questions (3 marks)**	**Descriptive Type Questions (6 marks)**	**CONTACT HOURS**	**MARKS**
UNIT 5 : WRITING SKILL	Essay			01*	15	12
	TOTAL				**15 Hours**	**12**
	GRAND TOTAL				**80**	**40**

***01 out of Any 02 Questions to be attempted. Total Marks - 10**

CLASS - XII

PROJECT WORK / TUTORIAL

FULL MARKS – 20

FORMAT:

3)	Listening and Speaking Activity	05 marks +05 marks
4)	Writing Activity/ Project + Viva Voce	05 marks + 05 marks

Instructions:

4. Subject teachers will engage students in activities which would assess their listening and speaking skills comprehensively.
5. Project Work to be taken up on any of the following topics in consultation with the concerned subject teacher:
    - Post War Literature
    - Indian Writing in English
6. Project/Tutorial may be done throughout both the semesters. However, the student will be evaluated at the end of Semester IV.

English B
Course Code - ENGB

Course Overview:

By the time students enter Class XI, it is anticipated that they have attained a reasonable level of language proficiency in English. The primary objective of this course is to further enhance and cultivate higher-order language skills. This proficiency becomes especially crucial as the higher secondary stage serves as a pivotal preparation phase, catering to two significant pathways for students.

Firstly, for a substantial number of students, this stage acts as a preparation for university education which often demand a commendable proficiency in English, making it imperative for students to refine their language skills to meet these academic standards.

Secondly, for another sizable group of students, the higher secondary stage serves as groundwork for entry into the professional realm. In the professional domain as well, effective communication in English is frequently a prerequisite. Hence, this Course is meticulously designed to address the linguistic demands of both academic study and the workplace.

The course structure is strategically crafted to cover a spectrum of language competencies, ensuring that students not only excel in academic contexts but are also well-equipped for effective communication in professional settings.

The Course also introduces diverse literature, including classics and modern texts with themes relevant to contemporary issues. This approach provides students exposure to literature, culture, society, environment, and the broader aspects of humanity. It aims to foster a comprehensive understanding of the world through engaging literary exploration in the context of today's global landscape.

*The annual course duration spans 200 contact hours, with 100 hours allocated to Semester I & III, 80 hours to Semester II & IV and the remaining 20 hours dedicated to Home Assignments, Projects andTutorial / Remedial Classes.*By embracing a comprehensive approach, this Course seeks to prepare students for the diverse linguistic challenges they may encounter in their future endeavours, whether in university studies or the professional world.

Course Objectives:

The general objectives include developing skills in listening, speaking, reading, and writing. Specific competencies include:

Listening and Comprehension:

- Comprehending live and recorded oral presentations on various topics.
- Participating in group discussions, interviews, and making short oral presentations.

Speaking Skills:

- Participating in discussions and debates on current national and international affairs, sports, business, etc.
- Responding in interviews, group discussions, and making meaningful inquiries for travel purposes.

Reading and Comprehension:

- Perceiving the overall meaning and organization of texts.
- Identifying central points, supporting details, and building communicative competence in different lexicons.
- Promoting advanced language skills for reasoning and drawing inferences.
- Reading and comprehending extended texts in various genres.
- Developing study skills such as skimming and scanning for main ideas and details.
- Understanding the writer's purpose, tone, and distinguishing between literal and figurative language.
- Comprehending technical language in computer-related fields.

Writing Skills:

- Writing expository/argumentative essays, formal/informal letters.
- Using contextual clues to infer meanings of unfamiliar vocabulary.
- Producing unified paragraphs with adequate details and support.
- Writing workplace-related items such as summaries, and reports.
- Writing Commercial Documents like posters and advertisements.

Grammar:

- Developing an advanced understanding and usage of various tenses, surpassing the levels acquired in previous classes, enabling them to express nuanced temporal relationships in English sentences.
- Constructing and deconstructing sentences, including diverse types (simple, compound, complex) and clauses, showcasing their ability to use varied sentence structures for effective communication.
- Emphasis on the use of passive forms in scientific and innovative writings.

- Usage of modal auxiliaries based on semantic considerations

Methods and Techniques:

- Emphasis on self-learning, reducing dependence on teachers.
- Multi-skill, learner-centred, activity-based approach.
- Incorporating silent reading, role-play, dramatization, group discussions, and other interactive activities.
- Encouraging independent interpretation of texts.
- Overall, the curriculum aims to develop well-rounded language skills for academic and professional success, fostering independent thinking and lifelong learning.

Course Structure

Class XI

Semester I: 40 Marks

Unit	Segment	Marks	Contact Hours
I	Prose	10	15
II	Verse	10	15
III	Rapid Reader	10	20
IV	Textual Grammar	05	25
V	Reading Comprehension	05	25

Semester II: 40 Marks

Unit	Segment	Marks	Contact Hours
I	Prose	10	20
II	Verse	10	10
III	Rapid Reader	05	20
IV	Non-Textual Grammar	05	15
V	Writing	10	15

Project: 20 Marks

Activity/ Project	Marks	Contact Hours
Assessment of Listening & Speaking (ALS)	Listening – 5 Marks Speaking – 5 Marks	10
Project	10 Marks	10

Class XII

Semester III: 40 Marks

Unit	Segment	Marks	Contact Hours
I	Prose	10	20
II	Verse	10	15
III	Drama	05	20
IV	Textual Grammar	05	20
V	Reading Comprehension	10	25

Semester IV: 40 Marks

Unit	Segment	Marks	Contact Hours
I	Prose	10	10
II	Verse	10	10
III	Drama	05	20
IV	Non-Textual Grammar	05	20
V	Writing	10	20

Project: 20 Marks

Activity/ Project	Marks	Contact Hours
Assessment of Listening & Speaking (ALS)	Listening – 5 Marks Speaking – 5 Marks	10
Project	10 Marks	10

SUBJECT: ENGLISH B

CLASS XI TOTAL THEORY MARKS: 80

- **CLASS XI SEMESTER I TOPICS**: [MCQ MARKS: 1 MARK PER QUESTION]

UNIT 1 : Prose

Sl No	Topic	Marks	Hours
1	'An Astrologer's Day' – R. K. Narayan	04	05
2	'The Swami and Mother-Worship' from *The Master as I Saw Him* by Sister Nivedita	03	05
3	'Amarnath' from *The Master as I Saw Him* by Sister Nivedita	03	05

UNIT 2 : Verse

Sl No	Topic	Marks	Hours
1	'Composed Upon Westminster Bridge' – William Wordsworth	04	05
2	'The Bangle Sellers' – Sarojini Naidu	03	05
3	'The Second Coming' – W.B. Yeats	03	05

UNIT 3 : Rapid Reader

Sl No	Topic	Marks	Hours
1	'Macbeth' from A TextBook of English(B) Rapid Reader & A Book on ESP & Project by WBCHSE	04	07
2	'Othello' from A TextBook of English(B) Rapid Reader & A Book on ESP & Project by WBCHSE	03	07
3	'As You Like It' from A TextBook of English(B) Rapid Reader & A Book on ESP & Project by WBCHSE	03	06

UNIT 4 : Textual Grammar

Sl No	Topic	Marks	Hours
1	Textual Grammar from Unit 1 and Unit 2: Tense, Voice, Indirect Speech, Phrasal Verbs, Preposition, Clause, Participle, Gerund and Transformation of sentences	01 x 5	25

UNIT 5 : Comprehension (Unseen)

Sl No	Topic	Marks	Hours
1	Reading Comprehension (Unseen)	01 x 5	25

- **CLASS XI SEMESTER II TOPICS**:

UNIT 1 : Prose

Sl No	Topic	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (6 marks)	Total Marks	Total Hours
1	'The Garden Party' – Katherine Mansfield	02		01	10	05
2	'Alias Jimmy Valentine' – O' Henry					05
3	'Of Studies' - Francis Bacon					04
4	'Nobel Lecture' - Mother Teresa					06

**** Any 2 out of 4 Questions of 02 marks. And total marks 2 x2= 04 marks**

*****Any 01 out of 03 questions of 06 marks. Total marks: 06 marks**

UNIT 2 : Verse

Sl No	Topic	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (6 marks)	Total Marks	Total Hours
1	'My last Duchess' – Robert Browning	02		01	10	05
2	'And Still I Rise' – Maya Angelou					05

**** Any 2 out of 4 Questions of 02 marks. And total marks 2 x2= 04 marks**

*****Any 01 out of 02 questions of 06 marks. Total marks: 06 marks**

UNIT 3 : Rapid Reader

Sl No	Topic	~~Short Answer Type Questions (2 marks)~~	~~Short Answer Type Questions (3 marks)~~	Descriptive Type Questions (5 marks)	Total Marks	Total Hours
1	'The Ghost Brahman' from *Folk-Tales of Bengal* by LalBehariDey			1 question to be attempted out of 3 questions	05	07
2	'A Ghostly Wife' from *Folk-Tales of Bengal* by LalBehariDey					07
3	'The Man Who Wished to be Perfect' from *Folk-Tales of Bengal* by LalBehariDey					06

UNIT 4 : Non Textual Grammar

Sl No	Topic	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	~~Descriptive Type Questions (5 marks)~~	Total Marks	Total Hours
	Non-textual Grammar: Tense, Voice, Phrasal Verbs, Preposition, Clause, Participle, Gerund, Transformation of Sentences	1 question of 2 marks [1 question to be attempted out of two questions from Transformation of sentences **or** Correction of errors]	Fill in the blanks as per direction: 0.5 marks x 6 to be attempted from all topics covered		02+03 = 05	15

UNIT 5 : Writing Skill

Sl No	Topic	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (5/10 marks)	Total Marks	Total Hours
1	Paragraph Writing [150 words] OR Formal Letter Writing [75 words] & Event Report Writing [75 words]			1 x 10 OR 1 x 05 + 1 x 05	10	15 hours

PROJECT/TUTORIAL **Marks : 20 Hours : 20**

FORMAT:

1) Listening and Speaking Activity 05+05 marks
2) Writing Activity 10 marks

Subject teachers will engage students in activities which would test their listening and speaking skills comprehensively.

Instructions:

1. For writing activity concerned teacher will select relevant topic from:
   a) Environmental Issues
   b) Society and Culture
   c) Eminent Personalities
2. Project/Tutorial may be done throughout both the semesters. However the student will be evaluated at the end of Semester II.

SUBJECT: ENGLISH B

CLASS XII

- **CLASS XII SEMESTER III TOPICS**: **TOTAL THEORY MARKS: 40**
  [MCQ: 1 MARK PER QUESTION]

UNIT 1 : Prose

Sl. No.	Topic	Marks	Hours
1	'The Night Train at Deoli' by Ruskin Bond	04	07
2	'Strong Roots'(Extract from the chapter Orientation from Wings of Fire) by APJ Abdul Kalam	03	06
3	'A Room of One's Own: Section on Shakespeare's Sister' by Virginia Woolf	03	07

UNIT 2 : Verse

Sl. No.	Topic	Marks	Hours
1	'Our Casuarina Tree' by Toru Dutt	05	07
2	'Ulysses' by Alfred Lord Tennyson	05	08

UNIT 3 : Drama

Sl. No.	Topic	Marks	Hours
1	'Tara' by Mahesh Dattani (Act I)	05	20

UNIT 4 : Textual Grammar

Sl. No.	Topic	Marks	Hours
1	Textual Grammar from Unit 1 and Unit 2: Synthesis and Splitting of Sentences; Change of Narration; Correction of errors	05	20

UNIT 5 : Reading Comprehension

Sl. No.	Topic	Marks	Hours
1	Reading Comprehension (Unseen)	10*	25

*** 5 Questions based on Grammar and Vocabulary Items – 5 Marks**

5 Questions based on Understanding and Inference of the Text – 5 Marks

- **CLASS XII SEMESTER IV:TOTAL THEORY MARKS: 40**

UNIT 1 : Prose

Sl. No.	Topic	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (6 marks)	Total Marks	Total Hours
1	'Alice in Wonderland – Down the Rabbit Hole' by Lewis Caroll	02**		01***	10	05
2	'Three Questions' by Leo Tolstoy					05

**** Any 2 out of 4 Questions of 02 marks. And total marks 2 x2= 04 marks**

*****Any 01 out of 02 questions of 06 marks. Total marks: 06 marks**

UNIT 2 : Verse

Sl. No.	Topic	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (6 marks)	Total Marks	Total Hours
1	'Hawk Roosting' by Ted Hughes	02**		01***	10	03
2	'That time of year ….' - Sonnet 73 by William Shakespeare					03
3	'The Greenhouse Effect' by Carl Dennis					04

**** Any 2 out of 4 Questions of 02 marks. And total marks 2 x2= 04 marks**

*****Any 01 out of 03 questions of 06 marks. Total marks: 06 marks**

UNIT 3 : Drama

Sl. No.	Topic	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (5 marks)	Total Marks	Total Hours
1	'Tara' by Mahesh Dattani (Act II)			01*	05	20

***Any 01 question to be attempted out of 02 questions. Total Marks - 5**

UNIT 4 : Non-Textual Grammar

Sl. No.	Topic	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (5 marks)	Total Marks	Total Hours
1	Non-textual Grammar: Synthesis and Splitting of Sentences; Change of Narration; Correction of Errors	1 question of 2 marks [1 question to be attempted out of two questions from Synthesis of Sentences and Splitting of Sentences]	Fill in the blanks to report a paragraph or conversation : 01 marks x03 to be attempted		02+03 = 05	20

UNIT 5 : Writing

Sl. No.	Topic	Short Answer Type Questions (2 marks)	Short Answer Type Questions (3 marks)	Descriptive Type Questions (10 marks)	Total Marks	Total Hours
1	Essay			01*	10	10
2	Precis					10

***01 out of Any 02 Questions to be attempted. Total Marks - 10**

PROJECT/TUTORIAL **20 Marks**

FORMAT:

3) Listening and Speaking Activity 05+05 marks
4) Writing Activity/ Project 10 marks

Instructions:

3. Subject teachers will engage students in activities which would assess their listening and speaking skills comprehensively.
4. For writing activity concerned teacher will select a relevant topic from any of the following themes:
   d) Health and Fitness
   e) Film and Drama
   f) Technology and Innovation
   g) Local Festivals and Traditions
5. Project/Tutorial may be done throughout both the semesters. However, the student will be evaluated at the end of Semester IV.

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASS XI AND XII

SUBJECT : HINDI (HINA)

अवलोकन एवं उद्देश्य

पश्चिम बंगाल उच्च माध्यमिक शिक्षा परिषद् की पाठ्य-चर्या 2024 के हिंदी भाषा व साहित्य 'अ' पर विचार एवं पुनर्संयोजन कार्य करते हुए हमारी टीम का ध्यान उस विद्यार्थी की ओर गया जिसने दस वर्ष की विद्यालयीन शिक्षा के एक पड़ाव को पार कर लिया है और अब आगत भविष्य की उड़ान भरने के लिए अपने पंखों को सँवारने लगा है लेकिन अभी पंखों में मजबूती नहीं आई है । अतः उसकी उम्र, वर्तमान परिस्थितियाँ, उसकी बौद्धिक क्षमता, आगे बढ़ने की संभावनाएँ और खुद को अभिव्यक्त करने का मार्ग उनके लिए प्रशस्त करना है । यह हमारा नैतिक कर्त्तव्य है कि पश्चिम बंगाल उच्च माध्यमिक शिक्षा परिषद ने जो उत्तरदायित्व हमारे कंधों पर डाला है उसको पूरा वहन कर सके । इस भावना के साथ हमारी टीम ने निम्नांकित बिंदुओं को ध्यान में रखने का प्रयास किया है -

उद्देश्य :

* विगत दिनों में हुई कोविड महामारी के कारण शिक्षा के स्तर में जो गिरावट आई है, उसको वापस विकास के मार्ग पर अग्रसर करना ।
* राष्ट्रीय शिक्षा नीति, 2020 के अनुसार बिना अतिरिक्त बोझ बढ़ाए विद्यार्थी को रचनात्मक अनुभव अधिगम प्रदान करना ।
* देश के अन्य राज्यों, यहाँ तक कि राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद् की नीतियों का अध्ययन करते हुए पश्चिम बंगाल के पाठ्यक्रम (हिंदी) को उनके समकक्ष बनाना ।
* विद्यार्थियों के अधिगम कौशल को आगामी आने वाले प्रतियोगी परीक्षाओं के अनुकूल बनाना ।
* साहित्य और समाज के अन्योन्याश्रित संबंध को विद्यार्थी के लिए बोधगम्य बनाना ।
* साहित्य पठन का सबसे महनीय उद्देश्य 'मानवीयता का अर्जन', विद्यार्थी के अंतर्मन में विकसित हो सके, ऐसे साहित्य को पाठ्यक्रम में शामिल करना ।
* आज के हिंदी साहित्य अपने पैर पसारते हुए नयी-नयी विधाओं को अपने अंदर समेटता जा रहा है । पर्यावरण, विज्ञान, कला, पत्रकारिता, फिल्म आदि उनमें शामिल हैं । हमारी चेष्टा है कि इन सभी से आज के विद्यार्थी का परिचय करा सकें ।

  अंत में इस बात को स्पष्ट कर देना अति आवश्यक है कि पिछले पाठ्यक्रम में हिंदी विषय में सिर्फ आधार पुस्तक (Text Book) ही रह गई थी जबकि इसके पूर्व आधार के साथ एक पूरक पुस्तक (Rapid Reader) हुआ करती थी । हमारी टीम ने देश के अन्य राज्यों तथा राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद् (NCERT) ने अध्ययन में पाया कि इन सभी में पूरक पुस्तक अभी भी पाठ्यक्रम में शामिल हैं, अतः हमने उसे पुनः पाठ्यक्रम में शामिल करना उचित समझते हुए उसे पाठ्यक्रम का अंग बनाया है ।

CLASS - XI

SEMESTER – I

SUBJECT: HINDI (HINA)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit-I साहित्य क काव्य	अमीर खुसरो – पहेलिया सूरदास – सूर के पद बिहारी – बिहारी के दोहे भारतेंदु – मुकरियां	24	1 × 10 = 10
Unit-I साहित्य ख गद्य	डॉ० ए० पी० जे० अब्दुल कलाम – विज्ञान में जीवन प्रसाद – दासी सत्यजीत राय – सहपाठी	21	1 × 10 = 10
Unit-II उपन्यास (पूरक पाठ)	मुंशी प्रेमचंद – गबन (अध्याय 1 से 26 तक) अथवा रणेन्द्र–ग्लोबल गाँव के देवता (आरंभ से पृष्ठ 50 तक)	20	1 × 5 = 5
Unit-III अपठित बोध	काव्य अथवा गद्य	10	1 × 5 = 5
Unit-IV व्याकरण	लिंग, वचन, उपसर्ग, प्रत्यय, मुहावरे, कारक, अशुद्धि संशोधन	21	1 × 5 = 5
Unit-V पारिभाषिक शब्द	50 शब्द	4	1 × 5 = 5
	Total	100	40

CLASS - XI

SEMESTER – II

SUBJECT: HINDI (HINA)

FULL MARKS: 40 **CONTACT HOURS: 80 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit-I साहित्य क काव्य	मैथिलीशरण गुप्त – सखी वे मुझसे कहकर जाते सूर्यकांत त्रिपाठी निराला – राजे ने अपनी रखवाली की केदारनाथ अग्रवाल – बसंती हवा हूँ दुष्यंत कुमार त्यागी – कहाँ तो तय था	24	2 × 4 = 8 3 × 2 = 6 5 × 2 = 10 24
Unit-I साहित्य ख गद्य	हजारी प्रसाद द्विवेदी – कुटज भीष्म साहनी – भाग्य रेखा हरिशंकर परसाई – भेड़ और भेड़िए	21	
Unit-II उपन्यास	मुंशी प्रेमचंद – गबन (अध्याय 27 से अंत तक) अथवा रणेन्द्र–ग्लोबल गाँव के देवता (पृष्ठ संख्या 51 से अंत तक)	20	1 × 5 = 5 3 × 2 = 6 11
Unit-III रचना	पत्र लेखन अनुच्छेद लेखन अंग्रेजी से हिंदी अनुवाद	15	1 × 5 = 5
	Total	80	40

CLASS - XII

SEMESTER – III

SUBJECT: HINDI (HINA)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit-I साहित्य क काव्य	संत कबीरदास – (अ) साखी (आ) पद तुलसीदास – (अ) दोहावली (आ) केवट प्रसंग – रामचरितमानस रवींद्रनाथ ठाकुर – शरत् सुंदरसी (गीतांजलि) महादेवी वर्मा – मैं नीर भरी दुःख की बदली नागार्जुन – गुलाबी चूड़ियाँ	30	1 × 10 = 10
Unit-I साहित्य ख गद्य	गजानन माधव मुक्तिबोध – एक लंबी कविता का अंत शेखर जोशी – कोशी का घटवार कृष्णा सोबती – सिक्का बदल गया	24	1 × 10 = 10
Unit-II नाटक (पूरक पाठ)	मोहन राकेश – लहरों के राजहंस (प्रथम अंक) अथवा धर्मवीर भारती – अंधा युग (प्रथम और द्वितीय अंक)	20	1 × 5 = 5
Unit-III अपठित बोध	काव्य अथवा गद्य	6	1 × 5 = 5
Unit-IV व्याकरण	संधि, समास, वाक्य संशोधन, वाक्य परिवर्तन, मुहावरे	15	1 × 5 = 5
Unit-V पारिभाषिक शब्द	50 शब्द	5	1 × 5 = 5
	Total	100	40

CLASS - XII

SEMESTER – IV

SUBJECT: HINDI (HINA)

FULL MARKS: 40 **CONTACT HOURS: 80 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit-I साहित्य काव्य	अज्ञेय – (a) सवेरे उठा तो धूप खिली थी (b) सांप धूमिल – (a) रोटी और संसद (b) धूमिल की अंतिम कविता हरिवंशराय बच्चन – अंधेरे का दीपक गिरिजा कुमार माथुर – नींव रखने वालों का गीत अरुण कमल – उम्मीद	25	2 × 4 = 8 3 × 2 = 6 5 × 2 = 10 24
Unit-I साहित्य गद्य	कुमार गंधर्व – भारतीय गायिकाओं में बेजोड़ लता मंगेशकर निर्मल वर्मा – चीड़ों पर चाँदनी कमलेश्वर – राजा निरवंसिया	24	
Unit-II नाटक (पूरक पाठ)	मोहन राकेश – लहरों के राजहंस (द्वितीय एवं तृतीय खंड) अथवा धर्मवीर भारती – अंधा युग (तृतीय, चतुर्थ एवं पंचम अंक)	20	1 × 5 = 5 3 × 2 = 6 11
Unit-III रचना	पत्र लेखन प्रतिवेदन भाव पल्लवन	11	1 × 5 = 5
	Total	80	40

COURSE CODE

HIN A & HIN B

PROJECT

CLASS-XI (SEMESTER II)

FULLM MARKS :20 (PROJECT REPORT – MAXIMUM PAGES 20 TO 25)

विद्यार्थी अपनी इच्छानुसार निम्नांकित विषयों में से एक परियोजन द्वितीय सेमेस्टर में प्रस्तुत करें :

क) किसी कहानी / लोक कथा /प्रसंग का नाट्य रूपांतरण अथवा रेडियो नाट्य रूपांतरण की हस्तलिखित प्रस्तुति।

ख) किसी एक तात्कालिक समस्या जैसे :

अ)जनसंख्या विस्फोट :देश की विकराल समस्या।

ब) भूमंडलीय ऊष्मीकरण (ग्लोबल वार्मिंग)।

स)महासागरों का बढ़ता जलस्तर :खतरों की दस्तक का विस्तृत विवरण (कारण -निवारण सहित)।

ग)हिंदी की उपभाषाएँ एवं उसकी बोलियाँ (विस्तृत लेखन)।

घ)डायरी और हम -डायरी लिखने की शैली , उद्देश्य ,किसी विज्ञ व्यक्ति की डायरी के कुछ अंश और अपनी दस दिन की दिनचर्या को डायरी में अंकित करें।

ङ) मेरे प्रिय साहित्यकार :व्यक्तित्व एवं कृतित्व (विस्तृत लेखन)।

COURSE CODE

HIN A & HIN B

PROJECT

CLASS- XII (SEMESTER –IV)

FULL MARKS :20

PROJEECT REPORT MAXIMUM IN 20 -25 PAGES)

विद्यार्थी अपनी इच्छानुसार निम्नांकित विषयों में से एक परियोजन द्वितीय सेमेस्टर में प्रस्तुत करें :

क) जनसंचार माधयम और हिंदी

(समाचार पत्र ,दूरदर्शन , चलचित्र , इंटरनेट , पत्रकारिता की विस्तृत जानकारी)

ख) साक्षात्कार लेखन

(किसी क्षेत्र विशेष जैसे -संगीत ,नृत्य ,शिक्षा खेल , अभिनय आदि से जुड़े व्यक्ति से साक्षात्कार करने के लिए प्रश्न -सूचि तैयार करना और अपने पसंदीदा किसी व्यक्ति का साक्षात्कार प्रस्तुत करना होगा)

ग) भक्तिकाल :एक स्वर्णिम युग

(विषय पर विस्तृत लेखन)

घ) सफल व्यक्तित्व का आधार : आत्मविश्वास

(विषय पर विस्तृत लेख)

ङ)हिंदी की किसी कहानी अथवा कविता का तुलनात्मक अध्ययन या उसकी संवेदना पर विचार।

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII

SUBJECT : HINDI – B (HINB)

Subject – HINB

(Over View and Objective)

अवलोकन

पश्चिम बंग उच्च माध्यमिक शिक्षा परिषद की पाठ्यचर्या 2024 के हिंदी भाषा व साहित्य 'ब' पर विचार एवं पुनर्संयोजन कार्य करते हुए हमारी टीम का ध्यान उसे विद्यार्थी की ओर केंद्रित हुआ जिसने अपने 10 वर्षीय विद्यालयीन शिक्षा में किसी हिंदीतर भाषा को करीब से जाना और अभिव्यक्त किया है। हिंदी उसके पठन-पाठन की द्वितीय भाषा है जिसमें विचार करने की प्रक्रिया से वह कम ही गुजरता होगा। यह एक चुनौती पूर्ण कार्य है कि ऐसे विद्यार्थी के मन में (हिंदी जो कि पूरे देश में सबसे अधिक बोली जाने वाली भाषा है) हिंदी की जड़ों को आरोपित किया जाए। एक ऐसा पाठ्यक्रम उसके सामने उपस्थित किया जाए जो उसे रोचक भी लगे और भाषाई कौशल ,बौद्धिक क्षमता तथा भारतीय प्रायद्वीप के जन-जन से जुड़ी हिंदी को आत्मसात करने में सहायक हो सके।

उद्देश्य

- विगत दिनों में हुई कोविड महामारी का प्रभाव सबसे अधिक विद्यार्थियों पर पड़ा ।शिक्षा का ग्राफ निम्नगामी होता चला गया ,उसको उर्ध्व तक वापस पहुंचाना हमारा सबसे पहला ध्येय है।

- भाषा साहित्य का यह पाठ्यक्रम विद्यार्थी के लिए नवीन संभावनाएं तलाशने में मददगार हो और उनके सोचने समझने तथा अभिव्यक्त करने की क्षमता में अभिवृद्धि ला सके।

- नवीन शिक्षा नीति के अनुसार अतिरिक्त बोझ बढ़ाएं बिना विद्यार्थी को रचनात्मक अनुभव अधिगम प्रदान करना।

- वर्तमान समय 'डिजिटल युग' कहला रहा है, ऐसे समय में मानव का जीवन बहु -आयामी चुनौतियों को अपने सम्मुख देख रहा है। उसे इन चुनौतियों से जीतने के लिए दक्षता हासिल करनी होगी और इसके लिए उसे भाषा व साहित्य को माध्यम बनाकर सब कुछ सीखना होगा। हमारा प्रयास है कि विद्यार्थी को भाषा की वह जमीन दे सके जिस पर चलकर वह अपने लक्ष्य तक पहुंच सके।

- साहित्य समाज का दर्पण माना जाता है जिसमें हिंदी और हिंदीतर भाषाओं के साहित्य का पूर्ण योगदान है। हमारा प्रयास है कि हिंदीतर भाषाओं के साहित्य को भी इस पाठ्यक्रम में शामिल किया जाए।

- अंत में इस बात को स्पष्ट कर देना अति आवश्यक है कि पिछले पाठ्यक्रम में हिंदी 'ब' विषय में सिर्फ आधार पुस्तक ही रह गई थी जबकि इसके पूर्व आधार(text book)के साथ एक पूरक पुस्तक(rapid reader) भी हुआ करती थी। हमारी टीम ने देश के अन्य राज्यों तथा राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद(NCERT) के अध्ययन में पाया कि इन सभी में पूरक पुस्तक अभी भी पाठ्यक्रम में शामिल हैं। अतः हमने उसे पुनः पाठ्यक्रम में शामिल करना उचित समझते हुए उसे पाठ्यक्रम का अंग बनाया है।

Class XI

Semester – I

HIN B

Full Marks : 40

Sub Topic :

Units	Contents	Marks	Hours
Unit – 1 साहित्य क काव्य	1. सूरदास- पद 2. रहीम- दोहे 3. मैथिली शरण गुप्त -कैकई का अनुताप 4. सूर्यकांत त्रिपाठी 'निराला'- स्नेह निर्झर बह गया	**1 x 10 = 10**	**24**
Unit – 1 साहित्य ख गद्य	1. दिनकर- अर्धनारीश्वर 2. प्रेमचंद पुत्र प्रेम 3. बनफूल- दूध का दाम	**1 x 10 = 10**	**21**
Unit – 2 नाटक (पूरक पाठ)	शंकर शेष- एक और द्रोणाचार्य (प्रथम अंक) अथवा सर्वेश्वर दयाल सक्सेना -बकरी (प्रथम अंक)	**1 x 5 = 5**	**20**
Unit – 3 अपठित बोध	काव्य अथवा गद्य	**1 x 5 = 5**	**10**
Unit – 4 व्याकरण	1. उपसर्ग 2. प्रत्यय 3. कारक 4. मुहावरे 5. अशुद्धि संशोधन	**1 x 5 = 5**	**20**
Unit – 5 पारिभाषिक शब्द	कुल -50	**1 x 5 = 5**	**5**
	Page Total	**40**	**100**

Class XI

Semester – II

HIN B

Full Marks : 40

Sub Topic :

Units	Contents	Marks	Hours
Unit – 1 साहित्य क काव्य	1. अज्ञेय -बावरा अहेरी 2. बच्चन- निशा निमंत्रण 3. मुक्तिबोध- मैं उनका ही होता 4. नागार्जुन - प्रेत का बयान	**2 x 2 = 4** **3 x 1 = 3** **5 x 1 = 5** **12**	**24**
Unit – 1 साहित्य ख गद्य	1. हजारी प्रसाद द्विवेदी -शिरीष के फूल 2. भीष्म साहनी- झुटपुटा 3. फणीश्वर नाथ रेणु -पहलवान की ढोलक	**2 x 2 = 4** **3 x 1 = 3** **5 x 1 = 5** **12**	**21**
Unit – 2 नाटक (पूरक पाठ)	1.शंकर शेष- एक और द्रोणाचार्य 2.अथवा सर्वेश्वर दयाल सक्सेना -बकरी (द्वितीय अंक)	**3 x 2 = 6** **5 x 1 = 5** **11**	**20**
Unit – 3 रचना	1. पत्र लेखन 2. अनुच्छेद लेखन 3. भाव विस्तार	**5 x 1 = 5**	**15**
	Page Total	**40**	**80**

Class XII

Semester – III

HIN B

Full Marks : 40

Sub Topic :

Units	Contents	Marks	Hours
Unit – 1 साहित्य क काव्य	1.संत कबीर- a)साखी b)पद 2.बिहारी लाल- दोहे 3. सुमित्रानंदन पंत- मूर्धन्य 4.केदारनाथ अग्रवाल- a) पैतृक संपत्ति b)वह जन मारे नहीं मरेगा 5.भवानी प्रसाद मिश्र- हिम्मत नहीं पड़ती	**1 x 10 = 10**	**30**
Unit – 1 साहित्य ख गद्य	1. धर्मवीर भारती- क्षणों की अथाह नीलिमा 2. हरिशंकर परसाई- बारात की वापसी 3. काशीनाथ सिंह- सुख	**1 x 10 = 10**	**24**
Unit – 2 उपन्यास (पूरक पाठ)	मुंशी प्रेमचंद -निर्मला (अध्याय 1 से 13 तक) अथवा कमलेश्वर- समुद्र में खोया हुआ आदमी (पृष्ठ 1से 66 तक)	**1 x 5 = 5**	**20**
Unit – 3 अपठित बोध	काव्य अथवा गद्य	**1 x 5 = 5**	**6**
Unit – 4 व्याकरण	1. संधि 2. समास 3. वाक्य संशोधन 4. वाक्य परिवर्तन 5. मुहावरे	**1 x 5 = 5**	**15**
Unit – 5 पारिभाषिक शब्द	कुल - 50	**1 x 5 = 5**	**5**
	Page Total	**40**	**100**

Class XII

Semester – IV

HIN B

Full Marks : 40

Sub Topic :

Units	Contents	Marks	Hours
Unit – 1 साहित्य क काव्य	1. तुलसीदास -तुलसीदास के पद 2. रवींद्रनाथ ठाकुर -धन्य हुई मेरी कविता(गीतांजलि) 3. त्रिलोचन- सचमुच इधर तुम्हारी याद तो नहीं आई 4. शमशेर बहादुर सिंह- बात बोलेगी 5. सर्वेश्वर दयाल सक्सेना - मेघ आए	**2 x 2 = 4** **3 x 1 = 3** **5 x 1 = 5** **12**	**25**
Unit – 1 साहित्य ख गद्य	1. महादेवी वर्मा- जीने की कला 2. शिव पूजन सहाय- मुंड माल 3. मनीषा कुलश्रेष्ठ- , पीढ़ियों का अंतराल	**2 x 2 = 4** **3 x 1 = 3** **5 x 1 = 5** **12**	**24**
Unit – 2 उपन्यास (पूरक पाठ)	मुंशी प्रेमचंद -निर्मला(अध्याय 14 से अंत तक) अथवा कमलेश्वर- समुद्र में खोया हुआ आदमी (पृष्ठ 67 से लेकर अंत तक)	**3 x 2 = 6** **5 x 1 = 5** **11**	**20**
Unit – 3 रचना	1. पत्र लेखन 2. प्रतिवेदन 3. संवाद लेखन	**5 x 1 = 5**	**11**
	Page Total	**40**	**80**

COURSE CODE

HIN A & HIN B

PROJECT

CLASS-XI (SEMESTER II)

FULLM MARKS :20 (PROJECT REPORT – MAXIMUM PAGES 20 TO 25)

विद्यार्थी अपनी इच्छानुसार निम्नांकित विषयों में से एक परियोजन द्वितीय सेमेस्टर में प्रस्तुत करें :

क) किसी कहानी / लोक कथा /प्रसंग का नाट्य रूपांतरण अथवा रेडियो नाट्य रूपांतरण की हस्तलिखित प्रस्तुति ।

ख) किसी एक तात्कालिक समस्या जैसे :

अ)जनसंख्या विस्फोट :देश की विकराल समस्या ।

ब) भूमंडलीय ऊष्मीकरण (ग्लोबल वार्मिंग) ।

स)महासागरों का बढ़ता जलस्तर :खतरों की दस्तक का विस्तृत विवरण (कारण -निवारण सहित) ।

ग)हिंदी की उपभाषाएँ एवं उसकी बोलियाँ (विस्तृत लेखन) ।

घ)डायरी और हम -डायरी लिखने की शैली , उद्देश्य ,किसी विज्ञ व्यक्ति की डायरी के कुछ अंश और अपनी दस दिन की दिनचर्या को डायरी में अंकित करें ।

ङ) मेरे प्रिय साहित्यकार :व्यक्तित्व एवं कृतित्व (विस्तृत लेखन) ।

COURSE CODE

HIN A & HIN B

PROJECT

CLASS- XII (SEMESTER –IV)

FULL MARKS :20

PROJEECT REPORT MAXIMUM IN 20 -25 PAGES)

विद्यार्थी अपनी इच्छानुसार निम्नांकित विषयों में से एक परियोजन द्वितीय सेमेस्टर में प्रस्तुत करें :

क) जनसंचार माधयम और हिंदी

(समाचार पत्र ,दूरदर्शन , चलचित्र , इंटरनेट , पत्रकारिता की विस्तृत जानकारी)

ख) साक्षात्कार लेखन

(किसी क्षेत्र विशेष जैसे -संगीत ,नृत्य ,शिक्षा खेल , अभिनय आदि से जुड़े व्यक्ति से साक्षात्कार करने के लिए प्रश्न -सूचि तैयार करना और अपने पसंदीदा किसी व्यक्ति का साक्षात्कार प्रस्तुत करना होगा)

ग) भक्तिकाल :एक स्वर्णिम युग

(विषय पर विस्तृत लेखन)

घ) सफल व्यक्तित्व का आधार : आत्मविश्वास

(विषय पर विस्तृत लेख)

ङ)हिंदी की किसी कहानी अथवा कविता का तुलनात्मक अध्ययन या उसकी संवेदना पर विचार।

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII

SUBJECT : NEPALI – A (NEPA)

NEPALI – B (NEPB)

नेपाली पाठ्यक्रम

NEPALI-A (NEPA)

CLASS XI

Full marks = 100

पहिलो अर्द्धवार्षिक पाठ्यावधि वा सत्र (First Semester)

गद्य	-१५ अङ्क
पद्य	-१० अङ्क
व्याकरण र रचना	-१५ अङ्क
मोठ	-४० अङ्क

१. **धनमतिको सिनेमा स्वप्न** (कथा) -रूपनारायण सिंह
२. **गान्धी** (निबन्ध) -राजनारायण प्रधान
३. **साहित्य-सुधा** (कविता) -धरणीधर कोइराला
४. **छोरोलाई** (कविता) -अगमसिंह गिरी

५. **व्याकरण र रचना**

-पर्यायवाची शब्द, विपरीतार्थी शब्द, अनेकार्थी शब्द, श्रुतिसमभिन्नार्थी शब्द, सार शब्द, उखान, तुक्का, वाग्धारा,

-कारक, लिङ्ग, वचन

-वर्ण विन्यास (हिज्जे वा वर्तनी)

दोस्त्रो अर्द्धवार्षिक पाठ्यावधि वा सत्र (Second Semester)

गद्य	-१५ अङ्क
पद्य	-१० अङ्क
व्याकरण र रचना	-१५ अङ्क
मोठ	-४० अङ्क

१. **माछाको मोल** (कथा) -शिवकुमार राई
२. **फुर्बाले गाउँ छोड्यो** (कथा) -सानु लामा
३. **तिमी उज्यालो पर्खिरहू** (कविता) -तुलसी अपतन
४. **रहर** (कविता) -हरिभक्त कटुवाल

५. **व्याकरण र रचना**
-प्रतिवेदन लेखन, संवाद लेखन, पत्र लेखन, अङ्ग्रेजीबाट नेपालीमा अनुवाद,
-वर्ण विन्यास (हिज्जे वा वर्तनी)

६. **परियोजना** -२० अङ्क

नेपाली पाठ्यक्रम

NEPALI-A (NEPA)

CLASS XII

Full marks = 100

पहिलो अर्द्धवार्षिक पाठ्यावधि वा सत्र (Third Semester)

गद्य	-१० अङ्क
पद्य	-१० अङ्क
नाटक	-१० अङ्क
व्याकरण र रचना	-१० अङ्क
मोठ	-४० अङ्क

१. **मालिकको कुकुर** (कथा) -गोविन्दबहादुर गोठाले
२. **माइला बाजे** (निबन्ध) -राजनारायण प्रधान
३. **यात्री** (कविता) -लक्ष्मीप्रसाद देवकोटा
४. **काल-महिमा** (कविता) -लेखनाथ पौड्याल

५. **कोही किन बर्बाद होस्** (नाटक) -विजय मल्ल

६. **व्याकरण र रचना**

-पर्यायवाची शब्द, विपरीतार्थी शब्द, अनेकार्थी शब्द, श्रुतिसमभिन्नार्थी शब्द, सार शब्द, उखान, तुक्का, वाग्धारा,

-कारक, लिङ्ग, वचन, सन्धि, समास

-वर्ण विन्यास (हिज्जे वा वर्तनी)

दोस्त्रो अर्द्धवार्षिक पाठ्यावधि वा सत्र (fourth Semester)

गद्य	-१० अङ्क
पद्य	-१० अङ्क
उपन्यास	-१० अङ्क
व्याकरण र रचना	-१० अङ्क
मोठ	-४० अङ्क

१.	**वानका** (अनूदित कथा)	-चेखब
२.	**जीवन र साहित्य** (निबन्ध)	-रामकृष्ण शर्मा
३.	**शत्रु** (कथा)	-विश्वेश्वरप्रसाद कोइराला
४.	**एक दिन एकचोटि आउँछ** (कविता)	-गोपालप्रसाद रिमाल
५.	**वसन्तको जन्म** (कविता)	-वीरेन्द्र
६.	**तर कहिले !** (उपन्यास)	-प्रकाश 'कोविद'

७. **व्याकरण र रचना**

-प्रतिवेदन लेखन, संवाद लेखन, पत्र लेखन, अङ्ग्रेजीबाट नेपालीमा अनुवाद, दिइएका बुँदाहरूका आधारमा कथा लेखन, पाठ-आधारित सप्रसङ्ग व्याख्या, निबन्ध लेखन

-वर्ण विन्यास (हिज्जे वा वर्तनी)

८. **परियोजना** २० अङ्क

नेपाली पाठ्यक्रम

NEPALI-B (NEPB)

CLASS XI

Full marks = 100

पहिलो अर्द्धवार्षिक पाठ्यावधि वा सत्र (First Semester)

गद्य	-१० अङ्क
पद्य	-१० अङ्क
व्याकरण र रचना	-२० अङ्क
मोठ	-४० अङ्क

१. **छिमेकी** (कथा) -गुरुप्रसाद मैनाली

२. **वर्षा** (कविता) -पारसमणि प्रधान

३. **उत्सर्ग** (कविता) -लक्खीदेवी सुन्दास

४. **व्याकरण र रचना**

-पर्यायवाची शब्द, विपरीतार्थी शब्द, अनेकार्थी शब्द, श्रुतिसमभिन्नार्थी शब्द, सार शब्द, उखान, तुक्का, वाग्धारा,

-कारक, लिङ्ग, वचन

-वर्ण विन्यास (हिज्जे वा वर्तनी)

दोस्त्रो अर्द्धवार्षिक पाठ्यावधि वा सत्र (Second Semester)

गद्य	-१० अङ्क
पद्य	-१० अङ्क
व्याकरण र रचना	-२० अङ्क
मोठ	-४० अङ्क

१. **मानिसलाई कति जमिन चाहिन्छ** (अनूदित कथा)-टाल्सटाय

२. **सोझा** (निबन्ध) -हृदयचन्द्रसिंह प्रधान

३. **जिन्दगीको मौसम** (कविता) -लक्ष्मीप्रसाद देवकोटा

४. **व्याकरण र रचना**

-प्रतिवेदन लेखन, संवाद लेखन, पत्र लेखन, अङ्ग्रेजीबाट नेपालीमा अनुवाद,

-वर्ण विन्यास (हिज्जे वा वर्तनी)

५. **परियोजना** -२० अङ्क

नेपाली पाठ्यक्रम

NEPALI-B (NEPB)

CLASS XII

Full marks = 100

पहिलो अर्द्धवार्षिक पाठ्यावधि वा सत्र (Third Semester)

गद्य	-१० अङ्क
पद्य	-१० अङ्क
व्याकरण र रचना	-२० अङ्क
मोठ	-४० अङ्क

१. **मूर्तिकारको धोको** (कथा) -लैनसिंह बाङ्देल

२. **नैतिक दृष्टान्त** (कविता) -लेखनाथ पौड्याल

३. **सहिदहरूको सम्झनामा** (कविता) -भूपी शेरचन

४. **व्याकरण र रचना**

-पर्यायवाची शब्द, विपरीतार्थी शब्द, अनेकार्थी शब्द, श्रुतिसमभिन्नार्थी शब्द, सार शब्द, उखान, तुक्का, वाग्धारा,

-कारक, लिङ्ग, वचन, सन्धि, समास

-वर्ण विन्यास (हिज्जे वा वर्तनी)

दोस्त्रो अर्द्धवार्षिक पाठ्यावधि वा सत्र (Fourth Semester)

गद्य	-१० अङ्क
पद्य	-१० अङ्क
उपन्यास	-१० अङ्क
व्याकरण र रचना	-१० अङ्क
मोठ	-४० अङ्क

१. **औँठी** (कथा) -अच्छा राई 'रसिक'

२. **अजिब भोज** (निबन्ध) -पारसमणि प्रधान

३. **स्वर्ग आफै बन्छ** (कविता) -बालकृष्ण सम

४. **लङ्गडाको साथी** (उपन्यास) -लैनसिंह बाङ्देल

५. **व्याकरण र रचना**

-प्रतिवेदन लेखन, संवाद लेखन, पत्र लेखन, अङ्ग्रेजीबाट नेपालीमा अनुवाद, दिइएका बुँदाहरूका आधारमा कथा लेखन, पाठ-आधारित सप्रसङ्ग व्याख्या, निबन्ध लेखन

-वर्ण विन्यास (हिज्जे वा वर्तनी)

६. **परियोजना** -२० अङ्क

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASSES XI AND XII

SUBJECT : ODIA (ODIA)

CLASS - XI

SEMESTER – I

SUBJECT : ODIA

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit I : PRABANDHA	1. Prachin Chitrare Barna O Beshacharya 2. Adhikar	18	07
Unit II : KABITA	1. Mo Jiban Pachhe Narke Padithau 2. Namaskar 3. Dipak Jala Madhur	18	07
Unit III : GALPA	1. Samayatit 2. Pahad Gadanire	17	07
Unit IV : BHASA	1. Pratisabda 2. Sandhi Unseen Comprehension (PROSE)	16 + 13	07 + 05
Unit-V	Odia Sahitya Samaj, Sanskrutir Itihas (Adi Parba)	18	07

CLASS - XI

SEMESTER – II

SUBJECT : ODIA (ODIA)

FULL MARKS: 40 **CONTACT HOURS: 80 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit-I PRABANDHA	1. Irsha 2. Ekabinsha Shatabdiku Jatra	14	06
Unit-II KABITA	1. Sharat Ruture Jahna 2. Charama Patra	14	06
Unit-III GALPA	1. Kani Apa 2. Manthan	14	06
Unit-IV BHASA	A. 1. Rudhi 2. Bishesya B. Rachana (On current and contemporary social, cultural problems and events).	14 + 10	06 + 10
Unit-V	Odia Sahitya Samaj Sanskrutir Itihas (Madhya Parba)	14	06

SUGGESTED READING :

1. ODIA. Selection of Odia Prose & Verse. ClassXI
   West Bengal Council of Higher Secondary Education.
2. SARBASA RABYAKARAN by Pandit Narayan Mahapatra & Adhyapak Shidhar Das, New Students Stores Ltd.
3. ODIA SAHITYAR SAMAJIK O SANSKRUTIK BIKASH DHARA (ADI O MADHYA PARBA)
   By. Krushna Chandra Pradhan Vidyapuri, Balu Bazar, Cuttack- 753002

CLASS - XI

SUBJECT : ODIA (ODIA)

FULL MARKS: 20

PROJECT

Choose any one of the following topics :

1. Brukhya Ropana
2. Bidyalayare Srunkhala Rakhya
3. Pradushana Niyantrana
4. Pustaka Samikhya
5. Pustaka/ Patrika Sampadana
6. Swasthya Rakhya Sibir
7. Banya Prani Sanrakhyana
8. Raktadana Sibir

CLASS - XII

SEMESTER – III

SUBJECT : ODIA (ODIA)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit-I PRABANDHA	1. Jatir Jiban O Sanskruti 3. Satyajuga Pahanchilanita	18	07
Unit-II KABITA	1. Gramapatha 4. Odisha	18	07
Unit-III GALPA	1. Nida 3. Ugrasena Ubach	17	07
Unit-IV BHASA	1. Dhwani O Barnatatwa 2. Samasa Unseen Comprehension (PROSE)	16 + 13	07 + 05
Unit-V	Odia Sahitya Samaj, Sanskrutir Itihas (Radhanath Juga)	18	07

CLASS - XII

SEMESTER – IV

SUBJECT : ODIA (ODIA)

FULL MARKS: 40 **CONTACT HOURS: 80 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit-I PRABANDHA	Odia Jati Kie	14	06
Unit-II KABITA	1. Uddam Singh 2. Alok Tumaku Dhankidie	14	06
Unit-III GALPA	1. Jahna Ratira Setu 2. Khata	14	06
Unit-IV BHASA	1. Sabda 2. Karaka O Bibhakti	14	06
Unit-V	Odia Sahitya Samaj, Sanskrutir Itihas (Satyabadi O Sabuj Parba)	14	06
Unit-VI	RACHANA (On current and contemporary social, cultural problems and events).	10	10

SUGGESTED READING:

1. Selection of Odia Prose & Verse Class- XII, West Bengal Council of Higher Secondary Education.
2. SARBASA RABYAKARAN by Pandit Narayan Mahapatra & Adhyapak Shidhar Das, New Students Stores Ltd.
3. ODIA SAHITYAR SAMAJIK O SANSKRUTIK BIKASH DHARA (ADHUNIK PARBA) By Krushna Chandra Pradhan Vidyapuri, BaluBazar, Cuttack- 753002

CLASS - XII

SUBJECT : ODIA (ODIA)

FULL MARKS: 20

PROJECT

Choose any one of the following topics :

1. Swanirbharashilata
2. Chakshudaan Abhiyan
3. Swasthya Sibir Sthapan
4. BrustiJala Sangrakshan
5. Ragging Samasya
6. Mobile Asakti
7. Janaswartha Mamla
8. Durbala Shikhyarthinka Samasya

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASSES XI AND XII

SUBJECT : PERSIAN (PRSN)

CLASS - XI

SEMESTER – I

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE : THEORY

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Unit – 1(A) : (Forms of Prose) :{ Hours -08} Marks-(3)

انواع نثر :مقاله، داستان، نمایش‌نامه، رمان، سفرنامه، تاریخچه زندگی، خود نوشت تاریخچه زندگی وغیرآن.

.....

Unit –1(B) : (Prose) :{ Hours -25} Marks-(10)

1. انتخاب ازفارسی جدید: (الف) گرگ وگاو(ب)روباه وخروس
2. انتخاب ازدرس فارسی (دورهٔ مقدماتی) : "سگ طمعکار"ازدکترتقی پورنامداریان
3. انتخاب ازبهارستان جامی :(۲حکایت) ازعبدالرحمٰن جامی
4. انتخاب ازنگارستان:(1حکایت) ازقاضی احمدغفاری
5. انتخاب ازهمیشه بهار: (۴خوشمزگیها) ازمیرزا محسن نمازی

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Unit –2(A) : (Forms of Poetry) { Hours -07} Marks-(2)

انواع شعر : حمد، نعت، منقبت، قصیده، غزل، نظم، مثنوی، مرثیه،رباعی،قطعه،هجووغیرآن.

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Unit –2(B):(Poetry) :{ Hours -25} Marks-(10)

1. انتخاب ازپیام مشرق : "کرم کتابی" ازدکترمحمد اقبال
2. انتخاب ازشعرمعاصر: "مادر" ازابوالقاسم حالت
3. انتخاب ازمجموعه شعر: "کوچه‌های کودکی" ازرضا اسماعیلی
4. انتخاب ازرباعیات عطار :(۲رباعی) ازشیخ فرید الدین عطار
5. انتخاب ازقطعات ابن یمین :(۲ قطعه) ازامیرفخرالدین ابن یمین
6. انتخاب ازدیوان وحشت : (1 غزل) ازسید رضا علی وحشت

.....

Unit – 3 : (Applied Grammar) :{ Hours -25} Marks-(10)

اسم وانواع آن، صفت وانواع آن، موصوف و صفت، مضاف و مضاف الیه وغیرآن.

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Unit – 4 : (Translation "Unseen") : (Simple Sentences)**{ Hours -10} Marks-(05)**

From English to Persian and Persian to English

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SUBJECT : PERSIAN (PRSN)

CLASS - XI

SEMESTER – II

FULL MARKS: 40 **CONTACT HOURS: 80 Hours**

COURSE CODE : THEORY

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Unit – 1(A) : (Forms of Prose) :{ Hours -05} Marks-(3)

انواع نثر :مقاله، داستان، نمایش‌نامه، رمان، سفرنامه، بیوگرافی، تاریخچه زندگی، خود نوشت تاریخچه زندگی وغیرآن.

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Unit –1(B) : (Prose) :{ Hours -25} Marks-(10)

1. انتخاب ازفارسی جدید : (الف) آتش (ب)مردمان نخستین.
2. انتخاب ازدرس فارسی (دورهٔ مقدماتی)"شیروموش"ازدکترتقی پورنامداریان
3. انتخاب ازبهارستان جامی :(۳حکایت) ازعبدالرحمٰن جامی
4. انتخاب ازکلیله ودمنه :(1 حکایت) ازنظام الدین ابوالمعالی نصرالله
5. انتخاب ازهمیشه بهار:(۴ خوشمزگیها) ازمیرزا محسن نمازی

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Unit –2(A) : (Forms of Poetry){ Hours -05} Marks-(2)

انواع شعر : حمد، نعت، منقبت، قصیده، غزل، نظم، مثنوی، مرثیه، رباعی، قطعه،هجو وغیرآن.

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Unit –2(B):(Poetry) :{ Hours -15} Marks-(05)

1. انتخاب ازآموزش زبان فارسی(کتاب سوم): "کتاب خوب" ازعباس یمینی شریف
2. انتخاب ازشعرمعاصر: "باغبان" ازعلی اصغرحکمت
3. انتخاب ازمجموعه شعر: "چراغ اشک" ازایرج قنبری
4. انتخاب ازکلیات جامی : (الف) "کوی دوست" (ب) "تمنای دل" ازعبدالرحمٰن جامی
5. انتخاب ازرباعیاتعطار :(۲رباعی) شیخ فریدالدین عطار

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Unit – 3 : (Applied Grammar) :{ Hours -15} Marks-(10)

ضمیر و انواع آن، مفرد و جمع، حرف ربط ، حرف اضافه ، مضارعوغیرآن.

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Unit – 4 : (Translation "Unseen") : (Simple Sentences)**{ Hours -15} Marks-(10)**

From English to Persian and Persian to English

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SUBJECT : PERSIAN (PRSN)

CLASS - XII

SEMESTER – III

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE : THEORY

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Unit – 1(A) : (Forms of Prose) :{ Hours -08} Marks-(3)

انواع نثر :مقاله، داستان، نمایش‌نامه، رمان، سفرنامه، تاریخچه زندگی، خود نوشت تاریخچه زندگی وغیرآن.

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Unit –1(B) : (Prose) :{ Hours -25} Marks-(10)

1. انتخاب ازدرس فارسی (دورۀ مقدماتی) : "دورفیق وخرس"ازدکترتقی پورنامداریان
2. انتخاب ازآموزش زبان فارسی(کتاب سوم): (الف) "زگهواره تا گور دانش بجوی" (ب)"محمد بن ذکریای رازی"ازدکتر یدالله ثمره
3. انتخاب ازفارسی جدید : از کجا دانست.
4. انتخاب ازگلستان سعدی : (۲حکایت) ازشیخ سعدی شیرازی
5. انتخاب ازاخلاق محسنی : (1 حکایت) ازملا حسین واعظ الکاشفی
6. انتخاب ازمطایبات ملا نصیرالدین:(۴ خوشمزگیها)

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Unit –2(A) : (Forms of Poetry) { Hours -07} Marks-(2)

انواع شعر : حمد، نعت، منقبت، قصیده، غزل، نظم، مثنوی، مرثیه،رباعی،قطعه،هجووغیرآن.

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Unit –2(B):(Poetry) :{ Hours -25} Marks-(10)

1. انتخاب ازشعرمعاصر: "اشک یتیم" ازپروین اعتصامی
2. انتخاب ازکلیات سعدی : "درتواضع" ازشیخ سعدی شیرازی
3. انتخاب ازشاه نامۀ فردوسی: "یزدان شناسی" ازابوالقاسم فردوسی طوسی
4. انتخاب ازرباعیات عبیدی : (۲رباعی) ازعبیدالله العبیدی سهروردی
5. اننخاب ازدیوان فتح علی ویسی : (۲غزل) ازصوفی فتح علی ویسی
6. انتخاب ازسخنوران ایران درعصرحاضر:"بیاد گارهفتادمین سال رابندرناته تاگور"ازرشید یاسمی
7. انتخاب ازپیام مشرق : "محاوره مابین خدا وانسان" ازدکترمحد اقبال

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Unit – 3 : (Applied Grammar) :{ Hours -25} Marks-(10)

جمله و انواع آن، نهاد وگزاره، فعل و شخص، فعل لازم، فعل متعدی، فعل امر، فعل نهی، فعل معروف ، فعل مجهول، زمانهای گذشته وغیرآن

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Unit – 4 : (Translation "Unseen passages") :{ Hours -10} Marks-(05)

(Complex and Compound sentences)

From English to Persian and Persian to English

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SUBJECT : PERSIAN (PRSN)

CLASS - XII

SEMESTER – IV

FULL MARKS: 40 **CONTACT HOURS: 80 Hours**

COURSE CODE : THEORY

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Unit – 1(A) : (Forms of Prose) :{ Hours -05} Marks-(3)

انواع نثر :مقاله، داستان، نمایش‌نامه، رمان، سفرنامه، بیوگرافی، تاریخچه زندگی، خود نوشت تاریخچه زندگی وغیرآن.

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Unit –1(B) : (Prose) :{ Hours -25} Marks-(10)

1. انتخاب ازاخلاق محسنی:(1 حکایت) ازملا حسین واعظ الکاشفی
2. انتخاب ازگلستان سعدی:(۲حکایت) ازشیخ سعدی شیرازی
3. انتخاب ازمطایبات ملا نصیرالدین:(۴ خوشمزگیها)
4. انتخاب از منتخبات فارسی : "شاهزادۀ خوشبخت"
5. انتخاب ازآموزش زبان فارسی(کتاب سوم): (الف) "دهقان فداکار" (ب) "مرغابی و لاک پشت" از دکتر یدالله ثمره

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Unit –2(A) : (Forms of Poetry){ Hours -05} Marks-(2)

انواع شعر : حمد، نعت، منقبت، قصیده، غزل، نظم، مثنوی، مرثیه، رباعی، قطعه،هجو وغیرآن.

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Unit –2(B):(Poetry) :{ Hours -15} Marks-(05)

1. انتخاب ازغزلیات امیرخسرو : (۲غزل) ازامیرخسرودهلوی
2. انتخاب ازغزلیات حافظ : (۲غزل) ازخواجه حافظ شیرازی
3. انتخاب ازپیام مشرق "رباعیات اقبال" : (۲رباعی) ازدکترمحد اقبال
4. انتخاب ازشعرمعاصر: "چشمه وسنگ" ازملک الشعرای بهار

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Unit – 3 : (Applied Grammar) :{ Hours -15} Marks-(10)

ضمیر و انواع آن، مفرد و جمع، حرف ربط ، حرف اضافه ، مضارع، قید و انواع آن، زمان حال، زمان آینده وغیرآن

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Unit – 4 : (Translation "Unseen passages") :{ Hours -15} Marks-(10)

(Complex and Compound sentences)

From English to Persian and Persian to English

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SUBJECT : PERSIAN (PRSN)

CLASS - XI

Allocation of Marks

Semester- I

1. Literature…….(25) Marks
2. Grammar ……(10) Marks
3. Translation ……(05) Marks

Total : (40) Marks

Semester-II

(A) 1. Literature : ……..(20) Marks

(i) Short Answer Type Questions

(ii) Descriptive Questions

(iii) Seen Passage of 100 words followed by 2 short questions to test comprehension. 1 mark may be allotted for testing vocabulary.

(B) 2. Grammar…….(10) Marks

(C) 3. Translation…….(10) Marks

Total :40 Marks

(D) Internal Assessment……..(20) Marks

(i) Project Writing……..(15) Marks

(ii) Oral Discussion……..(05) Marks

Total :20 Marks

SUBJECT : PERSIAN (PRSN)

CLASS - XII

Allocation of Marks

Semester- III

1. Literature……..(25) Marks
2. Grammar ……(10) Marks
3. Translation ……(05) Marks

Total : (40) Marks

Semester-IV

(A) 1. Literature : ……..(20) Marks

(i) Short Answer Type Questions

(ii) Descriptive Questions

(iii) Seen Passage of 100 words followed by 2 short questions to test comprehension. 1 mark may be allotted for testing vocabulary.

(B) 2. Grammar…….(10) Marks

(C) 3. Translation…….(10) Marks

Total :40 Marks

(D) Internal Assessment……..(20) Marks

(i) Project Writing……..(15) Marks

(ii) Oral Discussion……..(05) Marks

Total :20 Marks

SUBJECT : PERSIAN (PRSN)

CLASS – XI

Internal Assessment (Project)

1. Origin of Persian Poetry.
2. Persian Literature under the Mughals.
3. Persian writers, scholars and poets in the 20th century Bengal.

(i) Project Writing……(15) Marks

(ii) Viva voce/Oral Discussion…….(05) Marks

Total :20 Marks

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CLASS – XII

Internal Assessment (Project)

1. Persian literature under the Samanids.
2. Persian Literature under the Ghaznavids.
3. Persian Literature under the Saljuqs.
4. Amir Khusrau as a Poet and Writer.
5. Sir Md. Iqbal as a Persian poet.
6. Persian poets of Bengal.
7. Growth and development of Persian literature in Bengal.

(i) Project Writing……..(15) Marks

(ii) Viva voce/Oral Discussion…….(05) Marks

Total :20 Marks

Suggested Reading :

1. Tarikh -I- Adabiyat-I- Iran, Raza Zada Shafaq
2. A Short History of Persian literature, Dr. Tanveer Ahmed
3. Modern Persian Grammar & Translation, Prof. Mojibur Rahman
4. The Heritage of Persian Literature in Bengal (19th Century), Dr. Md. Alimuddin
5. Aamad Namah, Darul Eshaat, Colootola
6. Amozish-i-Farsi-i-Emruz, Dr. Abid Hossain & Md. Aftab Alam
7. Dastur-i-Zaban-i-Farsi, Parvez Natil Khanlari
8. Parween Etesami In the Mirror, Dr. Md. Alimuddin
9. Aamozish-i-Zaban-i-Farsi, Dr. Yadollah Samareh
10. Adabiyat-i-Jadid-i-Iran, Dr. Manzar Imam
11. Chakida-i-Tarikh-i-Adabiyat-i-Iran (Prose & Poetry), Dr. Manzar Imam

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASS XI AND XII

SUBJECT : SANTHALI (SANT)

CLASS - XI

SEMESTER – I

FULL MARKS : 40 **CONTACT HOURS : 100 Hours**

COURSE CODE : THEORY

Unit- 1	**Prose :-** * 1. Doman Sahu Samir – Suk aar Duk * 2. Gomosta Prasad Saren – Dare Banchaw Rege Manmiyag Banchaw Do 3. Sirip Chandra Saren – Hor Hoponag Kathate Epil
Unit- 2	**Story :-** *1. Dijapada Hansda – Postaw 2. Rupnarayan Tudu 'Vidyaratna' – Disom Bhokta
Unit- 3	**Poetry :-** * 1. Sadhu Ramchand Murmu – Dhingki * 2. Saridharam Hansda – Manmi Jiyon 3. G. C. Tudu – Champa Garh
Unit- 4	**Translated Prose :-** * 1. Khusbant Sing – Gur Tayom, Tr. By- Burulukui Mandi 2. Rabindranath Tagore – Chhuti, Tr. By- Badal Hembram
Unit- 5	**Rapid Reader:-** * 1. Ratan Chandra Tudu – Homor Halang * 2. Bisakha Majhi – Pachri 3. Lusa Ram Murmu – Lota Dag
Unit- 6	**Grammar:-** 1. Phonemes 2. The Rules of change vowels sound and consonants sound(Vowel Prosthesis, Anaptyxis, Vowel Harmony, Metathesis Glide etc.) 3. The Change of part of Speech of different word. 4. Details of Pronoun
Unit- 7	**History of Literature:- 5** Division of History of Santali literature • Pre Missionary periods(Pre-1838)

SUGGESTED READING

1.	*1. Doman Sahu Samir – Suk aar Duk : **Old Syllabus** * 2. Gomosta Prasad Saren – Dare Banchaw Rege Manmiyag Banchaw Do: **Sarbhatug** 3. Sirip Chandra Saren – Hor Hoponag Kathate Epil : **Sai Khon Sange Kahni**
2.	*1. Dijapada Hansda – Postaw : **Jiyon Taras** 2. Rupnarayan Tudu 'Vidyaratna' – Disom Bhokta : **Old Syllabus**
3.	* 1. Sadhu Ramchand Murmu – Dhingki : **Onolmala** * 2. Saridharam Hansda – Manmi Jiyon : **Parsi Galang Mala** 3. G. C. Tudu – Champa Garh : **Chandmala**
4.	* 1. Khusbant Sing – Gur Tayom, Tr. By- Burulukui Mandi : **Old Syllabus** 2. Rabindranath Tagore – Chhuti, Tr. By- Badal Hembram : **Rabindranath aag Kahni**
5.	* 1. Ratan Chandra Tudu – Homor Halang : **Jiyan Gada** * 2. Bisakha Majhi – Pachri : **Old Syllabus** 3. Lusa Ram Murmu – Lota Dag : **Mis Sai Mid Kahni**
6.	**Ref: For the Study of Grammar :** 1. Ronor- Pandit Raghunath Murmu 2. A Santali Grammer for Begginners- Rev. P.O. Bodding 3. Nahak Santari Ronor- Sadhan Kumar mandi
7.	**Ref: For the Study of History of Santali Literature:-** 1. Saontali Sahityer Itihas- Parimal Hembram 2. Saontali Bhasa o Sahityer Itihas- Dhirendranath Baskey 3. Santari Parsi Panja- Singrai Murmu

CLASS – XI

SEMESTER – II

SUBJECT : SANTHALI (SANT)

FULL MARKS : 40 **CONTACT HOURS : 80 HOURS**

COURSE CODE : THEORY

Unit- 1	**Prose :-** * 1. Nityananda Hembram - Magh Sale 2. Kalendranath Mandi - Hor Hopanag Enej Sereng ar Somaj Re Ona reyag Enem
Unit- 2	**Story :-** * 1. Rupchand Hembram – Onorom * 2. Shyamcharan Hembram – Boyha Maya 3. Jagannath Murmu – Kami Janij Kurai
Unit- 3	**Poetry :-** * 1. Pandit Raghunath Murmu – Dharmo Owang Aar Dharti e Sirij Ked Reyag * 2. Siran Murmu – Monting 3. Kherwal Saren – Bagikate Okam Chalag

Unit- 4	**Translated Prose :-** * 1. Sahir Ludhianbhi – Karigol, Tr. By Marsal Hembram 2. Rabindranath Tagore – Ape Kowag Raskarege, Tr. By Sarada Prasad Kisku
Unit- 5	**Rapid Reader:-** * 1. Sarada Prasad Kisku(K.B.) – Chaya 2. Manik Chand Hansda – Karam Dar
Unit- 6	**Grammar:-** 1. Kinds of Verb 2. Tense 3. Kinds of Sentence
Unit- 7	**History of Literature:-** Division of History of Santali literature • Missionary periods(1838- 1945)

[Note: **20 Hours** reserved for Remedial classes, Tutorials and Home Assignments.]

SUGGESTED READING

1.	* 1. Nityananda Hembram – Magh Sale : **Old Syllabus** 2. Kalendranath Mandi – Hor Hopanag Enej Sereng ar Somaj Re Ona reyag Enem : **Onol Binda**
2.	* 1. Rupchand Hembram – Onorom : **Old Syllabus** * 2. Shyamcharan Hembram – Boyha Maya : **Mis Sai Mid Kahni** 3. Jagannath Murmu – Kami Janij Kurai : **Jiyan Gada**
3.	* 1. Pandit Raghunath Murmu – Dharmo Owang Aar Dharti e Sirij Ked Reyag : **Hital** * 2. Siran Murmu – Monting : **Dag Baha** 3. Kherwal Saren – Bagikate Okam Chalag : **Kerwal Aarang**
4.	* 1. Sahir Ludhianbhi - Karigol, Tr. By Marsal Hembram : **Epil-** Amrit Hansda 2. Rabindranath Tagore - Ape Kowag Raskarege, Tr. By Sarada Prasad Kisku : **Old Syllabus**
5.	* 1. Sarada Prasad Kisku(K.B.) – Chaya : **Mis Sai Mid Kahni** 2. Manik Chand Hansda – Karam Dar : **Old Syllabus**
6.	**Ref : For the Study of Grammar :** 1. Ronor- Pandit Raghunath Murmu 2. A Santali Grammer for Begginners- Rev. P.O. Bodding 3. Nahak Santari Ronor- Sadhan Kumar mandi
7.	**Ref : For the Study of History of Santali Literature:-** 1. Saontali Sahityer Itihas- Parimal Hembram 2. Saontali Bhasa o Sahityer Itihas- Dhirendranath Baskey 3. Santari Parsi Panja- Singrai Murmu

COURSE CODE : PROJECT

FULL MARKS : 20

Sub Topic

1.	**Project :- 20 (Any One)** Sohoray Parab Akhra, Baha Bonga, Bhandan Akhra, Rules of Santal Judgement.

SUGGESTED READING

1.	**Ref: For the Study of Project Paper** 1. Rameswar Murmu – Jaher Bonga Santar ko 2. ASECA(W.B.) – Kherwarh Gharonj Aan Aari 3. Sanat Hansda – Hor Ror aar Sawhed Renag Nagam 4. L. O. Skrefsrud – Hor Koren Mare Hapram Ko Reyag Katha

CLASS - XII

SEMESTER – III

SUBJECT : SANTHALI (SANT)

FULL MARKS : 40 **CONTACT HOURS : 100 Hours**

COURSE CODE : THEORY

Unit- 1	**Prose & Story :-** * 1. Baidyanath Hansda – Aandaman Sanghar * 2. Ananta Kumar Saren – Kukli 3. Mondal Hembram – Dhoromge Saria
Unit- 2	**Poetry :-** * 1. Sadhu Ramchand Murmu – Aakil * 2. Pandit Raghunath Murmu – Jiwi aar Mon Samtaw Jong 3. Shyam Beshra – Jatiyari Unurum
Unit- 3	**Rapid Reader:-** * 1. Madan Mohan Murmu – Urich Tuka 2. Laxminarayan Hansda – Lolo Dharti
Unit- 4	**Play: 5** * 1. Harekrishna Murmu – Koche Horasi
Unit- 5	**History of Literature:-** Reputed Writers and Poets in Santali and their writing 1945- 2003
Unit- 6	**Grammar:- 5** 1. Rules of Word formation with Prefix, Infix, Suffix 2. Gender, Number, Person 3. Shorten forms of Personal Pronouns and its use in Sentence

SUGGESTED READING

1.	* 1. Baidyanath Hansda – Aandaman Sanghar : - **Aandaman Sanghar** * 2. Ananta Kumar Saren – Kukli : **Sai Khon Sange Kahni** 3. Mondal Hembram – Dhoromge Saria : **Old Syllabus**
2.	* 1. Sadhu Ramchand Murmu – Aakil : **Onolmala** * 2. Pandit Raghunath Murmu – Jiwi aar Mon Samtaw Jong : **Hor Sereng** 3. Shyam Beshra – Jatiyari Unurum: **Nahag Bharatiya Onorhen Tumal**
3.	* 1. Madan Mohan Murmu – Urich Tuka : **Old Syllabus** 2. Laxminarayan Hansda – Lolo Dharti : **Sai Khon Sange Kahni**
4.	* 1. Harekrishna Murmu – Koche Horasi : **Koche Horasi**

5.	**Ref: For the Study of History of Santali Literature:-** 1. Saontali Sahityer Itihas- Parimal Hembram 2. Saontali Bhasa o Sahityer Itihas- Dhirendranath Baskey 3. Santari Parsi Panja- Singrai Murmu
6.	**Ref: For the Study of Grammar :** 1. Ronor- Pandit Raghunath Murmu 2. A Santali Grammer for Begginners- Rev. P.O. Bodding 3. Nahak Santari Ronor- Sadhan Kumar mandi

CLASS - XII

SEMESTER – IV

SUBJECT : SANTHALI (SANT)

FULL MARKS : 40 **CONTACT HOURS : 80 Hours**

COURSE CODE : THEORY

Unit- 1	**Prose & Story :-** * 1. Singrai Murmu – Bewra * 2. Biswanath Murmu – Manmi Ko Udawog Reyag Katha 3. Nguhum Hembram – Mone
Unit- 2	**Poetry :-** * 1. Sarada Prasad Kisku – Marang- Og * 2. Dr. Subodh Hansda – Kirya 3. Rabindra Tagore – Ayo ag Hoho(Tr. Chandranath Murmu)
Unit- 3	**Rapid Reader:-** * 1. Badal Hembram – Manmi * 2. Turyachand Baskey – Sirpa 3. Sunil Saren – Dobati
Unit- 4	**Play:** * 1. Dasarathi Majhi – Cherhe
Unit- 5	**History of Literature:-** Reputed Writers and Poets in Santali and their writing 2004- Till now
Unit- 6	**Grammar:-** 1. The Language family of Indian languages 2. Santali and its brother Language 3. Linguistic features of Santali 4. Transformation of sentences.

[Note: **20 Hours** reserved for Remedial classes, Tutorials and Home Assignments.]

SUGGESTED READING

1.	* 1. Singrai Murmu – Bewra : **Kanhis** * 2. Biswanath Murmu – Manmi ko Udawog Reyag katha: **Bar Thop Sanres Rasa** 3. Nguhum Hembram – Mone : **Sai Khon Sange Kahni**
2.	* 1. Sarada Prasad Kisku – Marang- Og : **Sarada Onol Mala** * 2. Dr. Subodh Hansda – Kirya : **Santari Onorhe Tumal** 3. Rabindra Tagore – Ayo ag Hoho(Tr. Chandranath Murmu) : **Old Syllabus**
3.	* 1. Badal Hembram – Manmi : **Old Syllabus** * 2. Turyachand Baskey – Sirpa : **Kahni Baha Mala** 3. Sunil Saren – Dobati : **Sai Khon Sange Kahni**
4.	* 1. Dasarathi Majhi – Cherhe : **Cherhe**
5.	**Ref: For the Study of History of Santali Literature:-** 1. Parimal Hembram – Saontali Sahityer Itihas 2. Ganesh Marandi -
6.	**Ref: For the Study of Grammar :** 1. Ronor- Pandit Raghunath Murmu 2. A Santali Grammer for Begginners- Rev. P.O. Bodding 3. Nahak Santari Ronor- Sadhan Kumar mandi

CLASS : XII

SUBJECT : SANTHALI (SANT)

COURSE CODE : PROJECT

FULL MARKS : 20

Sub Topic

1.	**Project :- 20 (Any One)** Parsi Jitkar Maha, Karam Bonga, Sagun Bapla, Chhatyar

SUGGESTED READING

1.	**Ref: For the Study of Project Paper** 1. Rameswar Murmu – Jaher Bonga Santar ko 2. Parimal Hembram – Saontali Bhasa Charcha O Bikasher Itibritta, Sanbidhanik Srikritir Dabite Santali Bhasa Andolaner Itihas 3. L. O. Skrefsrud – Hor Koren Mare Hapram Ko Reyag Katha

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASSES XI AND XII

SUBJECT : SANSKRIT (SNSK)

COURSE OVERVIEW :

Sanskrit has been an enlightening language since the dawn of Indian intellectual endeavour. It has the indomitable power to disseminate the pearls of wisdom along with its adorable potential to impel human spirit to undertake a rapturous journey to the abode of truth. In the contemporary times when the Artificial Intelligence (AI) is gaining a commanding influence on earth and almost taking over the human intelligence, this wonderful language has the ability to strengthen human intelligence and raise to a higher degree of perfection. Moreover, the spirit of Indian knowledge systems and culture is enshrined in this divine language. The vastness of Sanskrit literature, in innumerable fields of diversities, at once awakens awe and wonder. It encompasses varied disciplines like literature, grammar, linguistics, philosophy, mathematics, astronomy, *yoga*, *āyurveda*, law and ethics, polity, economics, sociology, fine arts, natural science and technology. Sanskrit is not merely a carrier of thought but is the cradle of profound ideas, throbbing emotions and ethical values permeated in Indian culture. Therefore, cultivation of this language is not only an intellectual pursuit but is a dynamic force in building a self-reliant, self-enabled, prosperous and awakened nation.

The new syllabus of the Sanskrit (SNSK) course, prepared for the students of Higher Secondary classes under the umbrella of the West Bengal Council of Higher Secondary Education, is offering a scope for acquiring a profound knowledge about several genres of Sanskrit literary heritage.

The new syllabus of the Sanskrit (SNSK) course has introduced texts and/or narratives from the *Rāmāyaṇa*, the *Mahābhārata* (including *Śrīmadbhagavadgītā*), the Buddhist *Avadānaśataka*, the *Carakasaṁhitā*, the works of Kālidāsa, Bhāsa, Bhavabhūti and two authors of modern Sanskrit literature also. Sanskrit grammar is always an essential part of Sanskrit learning. Therefore, the new syllabus also includes a few topics of Sanskrit grammar. A student of Sanskrit requires to develop a holistic idea about the Sanskrit literary heritage. So, a basic outline of the history of Sanskrit literature will be taught in this course.

A student having a basic knowledge of any of the Indian vernacular languages may opt for this course.

It aims to encourage the students of Sanskrit to continue with their higher studies and researches on several domains of Indian knowledge system.

OBJECTIVES OF THE COURSE :

The new syllabus of the Sanskrit (SNSK) course, prepared for the students of Higher Secondary classes under the umbrella of the West Bengal Council of Higher Secondary Education, aims to offer an intensive knowledge about several genres of Sanskrit literary heritage.

The following are the main objectives of the course:

- Develop the skill of reading and comprehending Sanskrit texts.
- Make the students acquainted with the fundamentals of Sanskrit grammar, which would help them analysing the grammatical applications of Sanskrit texts.
- Introduce the salient features of Vedic, Epic, Purāṇic and Classical Sanskrit literatures including the texts on Āyurveda and other scientific and technical literature through the lessons on History of Sanskrit Literature.
- Offer a general idea about the socio-cultural, socio-political and socio-economic conditions of the ancient, mediaeval and even contemporary India to boost their management skill and to inspire them to choose the areas of interdisciplinary studies and researches in future.
- Introduce the basics of health-awareness, human values and self-management through certain texts.
- Encourage the students of Sanskrit to continue with their higher studies and researches on several domains of Indian knowledge system.
- Inspire the students to utilise their acquired knowledge of ethics, values and self-management for building a self-reliant, self-enabled, prosperous and awakened nation.

CLASS - XI

SEMESTER – I

SUBJECT: SANSKRIT (SNSK)

FULL MARKS : 40 **CONTACT HOURS : 100 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: MCQ]
Part I	1. **সংস্কৃত সাহিত্য (Sanskrit Literature)**	**40**	**15**
Unit - I	**গদ্য (Prose):** উপমন্যুকথা (বৈয়াসিক-মহাভারতের আদিপর্বের নির্বাচিত অংশ অবলম্বনে) [*Upamanyukathā* (narrative based on select portion from *Ādiparvam* of *Vaiyāsika-Mahābhāratam*]		**05** [1 × 5 = 5]
Unit - II	**পদ্য (Poetry/Verse) :** বর্ষাবর্ণনম্ (বাল্মীকি-রামায়ণের কিষ্কিন্ধ্যাকাণ্ডের অংশ বিশেষ) [*Varṣāvarṇanam* (select portion from *Kiṣkindhyākāṇḍam* of *Vālmīki-Rāmāyaṇam*)]		**05** [1 × 5 = 5]
Unit III :	**দৃশ্যকাব্য (Drama):** কৃপণঃকপালী (শ্রীজীব ন্যায়তীর্থ-কৃত 'চিপিটকচর্বণম্'-এর নির্বাচিত অংশ) [*KṛpaṇaḥKapālī* (select portion from *Cipiṭakacarvaṇam* of Srijeeb Nyayatirtha)]		**05** [1 × 5 = 5]
Part II	**সংস্কৃত ব্যাকরণ ও সংস্কৃত সাহিত্যের ইতিহাস (Sanskrit Grammar & History of Sanskrit Literature)**	**60** **(40 + 20)**	**25**
Unit IV :	**ব্যাকরণ (Grammar):**	**40**	**15**
	1. সন্ধি [Sandhi] - ➢ স্বরসন্ধি [Vowel sandhi] - সবর্ণদীর্ঘ, গুণ ও বৃদ্ধি (*savarṇadīrgha*, *guṇa* and *vṛddhi*) ➢ ব্যঞ্জনসন্ধি [Consonant sandhi] - শ্চুত্ব,ষ্টুত্ব ও জশ্ত্ব (*ścutva*, *ṣṭutva* and *jaśtva*)		[1 × 3 = 3] [1 × 3 = 3]
	2. শব্দরূপ [Declension] - ➢ অজন্ত শব্দ- বালক, লতা, ফল, কবি, মতি, বারি, নদী [এবং এইগুলির সমতুল অন্যান্য শব্দ] (Words ending with vowel: *bālaka*,*latā*,*phala*,*kavi*,*mati*,*vāri*,*nadī* and similar words) ➢ সংখ্যাবাচক শব্দ- এক, দ্বি (তিন লিঙ্গে) (Numerals: *eka*, *dvi* in three genders) ➢ সর্বনাম শব্দ- অস্মদ্, যুষ্মদ্ (Pronouns: *asmad*, *yuṣmad*)		[1 × 3 = 3]

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: MCQ]
	3. ধাতুরূপ [Conjugation] - লট্, লঙ্ ও লৃট্- এই তিন লকারে (in three tenses: present, past, future) ➢ পরস্মৈপদী - √ভূ, √গম্, √কৃ, √পূজ্ (*Parasmaipadī* - √*bhū*, √*gam*, √*kṛ*, √*pūj*)		[1 × 3 = 3]
	4. প্রত্যয় [Suffix]- ➢ ক্ত, ক্তবতু, ক্ত্বা, ল্যপ্, ক্তিন্ (*kta*, *ktavatu*, *ktvā*, *lyap*, *ktin*)		[1 × 3 = 3]
Unit V :	**বৈদিক, জাতীয় মহাকাব্য ও লৌকিক সংস্কৃত সাহিত্যের ইতিহাস (History of Vedic, Epic & Classical Sanskrit Literature):**	**20**	**10**
	1. বৈদিক সাহিত্য (সংক্ষিপ্ত পরিচয়) [Brief Introduction to Vedic Literature] - ➢ ঋগ্বেদ, সামবেদ (*Ṛgveda*, *Sāmaveda*)		[1 × 4 = 4]
	2. বাল্মীকি-রামায়ণ (রচয়িতা ও বিষয়বস্তুর সংক্ষিপ্ত পরিচয়) [Brief Introduction to the author and subject-matter of *Valmīki-Rāmāyaṇa*]		[1 × 3 = 3]
	3. সংস্কৃত গল্পসাহিত্য (রচয়িতা ও বিষয়বস্তুর সংক্ষিপ্ত পরিচয়) [Brief Introduction to the author and subject-matter of Sanskrit Narrative Literature] - ➢ পঞ্চতন্ত্র, হিতোপদেশ, কথাসরিৎসাগর (*Pañcatantra*, *Hitopadeśa*, *Kathāsaritsāgara*)		[1 × 3 = 3]

CLASS - XI

SEMESTER – II

SUBJECT: SANSKRIT (SNSK)

FULL MARKS : 40 **CONTACT HOURS : 80 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: SAQ including DQ]
Part I	**সংস্কৃত সাহিত্য (Sanskrit Literature)**	**40**	**20**
Unit - I	**গদ্য (Prose):** প্রতিজ্ঞাসাধনম্ (পণ্ডিত অম্বিকাদত্ত ব্যাস রচিত 'শিবরাজবিজয়ম্' এর অংশ বিশেষ) [*Pratijñāsādhanam* (selected portion from *Śivarājavijayam* of Ambikadatta Vyasa]		**20** • SAQ: 06 Marks 3 questions out of 4 (covering all the given texts of this part) each containing 2 marks to be answered in Sanskrit [সংক্ষিপ্ত উত্তরের প্রশ্ন: চারটি (এই অংশে প্রদত্ত সকল গ্রন্থ অবলম্বনে) ২ নং-এর প্রশ্নের মধ্যে যেকোনো তিনটির সংস্কৃত-তে উত্তর করতে হবে]. **[2×3=6]**
Unit - II	**পদ্য (Poetry/Verse):** ঋতুচর্যা ('চরকসংহিতা'র নির্বাচিত অংশ) [*Ṛtucaryā* (selected portion from *Carakasaṁhitā*)]		• SAQ: 04 Marks 2 questions out of 3 (1+1+1) each containing 2 marks to be answered in Sanskrit/Bengali/ English/ Hindi [সংক্ষিপ্ত উত্তরের প্রশ্ন: তিনটি (১+১+১) ২ নং-এর প্রশ্নের মধ্যে যেকোনো দু'টির সংস্কৃত / বাংলা / ইংরাজি / হিন্দি-তে উত্তর করতে হবে]. **[2×2=4]**
Unit III	**দৃশ্যকাব্য (Drama):** দানবীরঃ কর্ণঃ (মহাকবি-ভাস-রচিত 'কর্ণভারম্' রূপকের অংশ) [*Dānavīraḥ Karṇaḥ* (selected portion from Bhāsa's *Karṇabhāram*]		• DQ: 10 Marks 2 questions out of 3 (1+1+1) each containing 5 marks to be answered in Sanskrit/Bengali/ English/ Hindi [ব্যাখ্যামূলক উত্তরের প্রশ্ন: তিনটি (১+১+১) ৫ নং-এর প্রশ্নের মধ্যে যেকোনো দু'টির সংস্কৃত/বাংলা/ইংরাজি/ হিন্দি-তে উত্তর করতে হবে]. **[5×2=10]**

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: SAQ including DQ]
Part II	**সংস্কৃত ব্যাকরণ ও সংস্কৃত সাহিত্যের ইতিহাস (Sanskrit Grammar & History of Sanskrit Literature)**	**40 (20+20)**	**20**
Unit IV :	**ব্যাকরণ (Grammar):** 1. সন্ধি [Sandhi] - ➢ স্বরসন্ধি [Vowel sandhi] - যণ্, অয়াদি (*yaṇ*, *ayetcetera*) ➢ ব্যঞ্জনসন্ধি [Consonant sandhi]-অনুস্বার, পরসবর্ণ (*anusvāra*, *parasavarṇa*) ➢ বিসর্গসন্ধি [*Visarga*-sandhi] - উত্ব, রুত্ব, লোপ, বিসর্গস্থানেস্, শ্, ষ্ (*utva*, *rutva*, deletion, and replacement of *visarga* by *s*, *ś*, *ṣ*) 2. শব্দরূপ [Declension] - ➢ অজন্ত শব্দ - শিশু, ধেনু, মধু, মাতৃ, পিতৃও সমতুল অন্যান্য শব্দ (Words ending with vowel: *śiśu*, *dhenu*, *madhu*, *mātṛ*, *pitṛ* and similar words) ➢ হলন্ত শব্দ - রাজন্, ভবৎ, কর্মন্, পথিন্, গুণিন্, দিশ্, আত্মন্ [এবং এইগুলির সমতুল অন্যান্য শব্দ] (Words ending with consonant: *rājan*, *bhavat*, *karman*, *pathin*, *guṇin*, *diś*, *ātman* and similar words) ➢ সংখ্যাবাচক শব্দ- ত্রি, চতুঃ (তিন লিঙ্গে) (Numerals: *tri*, *catuḥ* in three genders) ➢ সর্বনাম শব্দ- সর্ব, তদ্, ইদম্, কিম্ (তিন লিঙ্গে) (Pronouns: *sarva*, *tat*, *idam*,*kim* in three genders)	**20**	**10** SAQ: 10 Marks 5 questions out of 6/7(covering all the topics of this unit) each containing 2 marks to be answered as per given instructions [সংক্ষিপ্ত উত্তরের প্রশ্ন: (এই অংশের সকল বিষয় অবলম্বনে প্রদত্ত) ছয়/সাতটি ২ নং-এর প্রশ্নের মধ্যে যেকোনো পাঁচটির প্রদত্ত নির্দেশানুসারে উত্তর করতে হবে]. **[2×5=10]**

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: SAQ including DQ]
	3. ধাতুরূপ [Conjugation] - লট্, লঙ্ ও লৃট্- এই তিন লকারে (in three tenses: present, past, future) ➢ পরস্মৈপদী -√দা, √স্থা, √শ্রু, √দৃশ্ (*Parasmaipadī*- √*dā*, √*sthā*, √*śru*, √*dṛś*) 4. প্রত্যয় [Suffix] - ➢ তুমুন্, শতৃ, শানচ্, কৃত্য প্রত্যয় (*tumun*, *śatṛ*, *śānac*, *kṛtya* suffixes)		
Unit V :	**বৈদিক, জাতীয় মহাকাব্য ও লৌকিক সংস্কৃত সাহিত্যের ইতিহাস (History of Vedic, Epic & Classical Sanskrit Literature):** 1. বৈদিক সাহিত্য (সংক্ষিপ্ত পরিচয়) [Brief Introduction to Vedic Literature] - ➢ যজুর্বেদ, অথর্ববেদ ও বেদাঙ্গ [*Yajurveda*, *Atharvaveda* and *Vedāṅga*s] 2. বৈয়াসিক-মহাভারত (রচয়িতা ও বিষয়বস্তুর সংক্ষিপ্ত পরিচয়) [Brief Introduction to the author and subject-matter of *Vaiyāsika-Mahābhārata*] 3. সংস্কৃত গীতিকাব্য (রচয়িতা ও বিষয়বস্তুর সংক্ষিপ্ত পরিচয়) [Brief Introduction to the authors and subject-matters of Sanskrit lyrical poetries] - ➢ গীতগোবিন্দ ও মেঘদূত (*Gītagovinda* and *Meghadūta*)	**20**	**10** • SAQ: 6 Marks 3 questions out of 4 (covering all the topics of this unit) each containing 2 marks to be answered in Sanskrit/Bengali/ English/ Hindi [সংক্ষিপ্ত উত্তরের প্রশ্ন: (এই অংশের সকল বিষয় অবলম্বনে প্রদত্ত) চারটি ২ নং-এর প্রশ্নের মধ্যে যেকোনো তিনটির সংস্কৃত/বাংলা/ইংরাজি/হিন্দি-তে উত্তর করতে হবে]. **[2×3=6]** • DQ: 4 Marks 1 question out of 2 each containing 4 marks to be answered in Sanskrit/Bengali/ English/ Hindi [ব্যাখ্যামূলক উত্তরের প্রশ্ন: দুটি ৪ নং-এর প্রশ্নের মধ্যে যেকোনো একটির সংস্কৃত/বাংলা/ইংরাজি/হিন্দি-তে উত্তর করতে হবে]. **[4×1=4]**

CLASS: XI

SUBJECT: SANSKRIT (SNSK)

COURSE CODE: PRACTICAL/PROJECT

FULL MARKS : 20 **CONTACT HOURS : 20**

	Sub Topic (Project)	Contact hours	Marks
1.	প্রাচীন ভারতের জনপদ, পাহাড়, নদ-নদী থেকে একটি বিষয় [Provinces, Mountains and Rivers of ancient India – any one topic]	**20**	Pictorial and Informative Project work in Sanskrit language with Devanāgarī script on any two topics [ছবি ও তথ্যসহ সংস্কৃত ভাষায় দেবনাগরী লিপিতে যে কোনো দুটি বিষয় অবলম্বনে প্রকল্প-কর্ম] **[10 + 10 = 20]**
2.	প্রথম ও দ্বিতীয় সেমেস্টার-এর পাঠ্যান্তর্গত বিষয়সমূহ (সংস্কৃত সাহিত্য ও সাহিত্যের ইতিহাস) থেকে একটি বিষয় [Any one topic from the syllabus of Semester I or II (Sanskrit Literature and History of Sanskrit Literature)]		
3.	অনুচ্ছেদ রচনা (প্রকৃতি-বিষয়ক, জীবনী-বিষয়ক, নীতি/শিক্ষা-বিষয়ক) –একটি [Paragraph writing (Nature, Biography, Ethics/Morality/Education) – any one topic]		

CLASS - XII

SEMESTER – III

SUBJECT: SANSKRIT (SNSK)

FULL MARKS : 40 **CONTACT HOURS : 100 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: MCQ]
Part I	**সংস্কৃত সাহিত্য (Sanskrit Literature)**	**40**	**15**
Unit – 1	**গদ্য (Prose):** শ্রীমতী ('অবদানশতকম্'-এর অংশ বিশেষ) [*Śrīmatī* (selected portion of *Avadānaśatakam*)]		**05** [1 × 5=5]
Unit – 2	**পদ্য (Poetry/Verse):** অভ্যাসবশগংমনঃ ('শ্রীমদ্ভগবদ্গীতা'-র নির্বাচিত অংশ) [*Abhyāsavaśagaṁmanaḥ* (selected portion from *Śrīmadbhagavadgītā*)]		**05** [1 × 5=5]
Unit – 3	**দৃশ্যকাব্য (Drama):** বীরঃ সর্বদমনঃ (মহাকবি-কালিদাস-রচিত 'অভিজ্ঞান-শাকুন্তলম্' নাটকের অংশ বিশেষ) [*Vīraḥ Sarvadamanaḥ* (select portion from Kālidāsa's *Abhijñāna-Śākuntalam*)]		**05** [1 × 5=5]
Part II	**সংস্কৃত ব্যাকরণ ও সংস্কৃত সাহিত্যের ইতিহাস (Sanskrit Grammar & History of Sanskrit Literature)**	**60 (40+20)**	**25**
Unit – 4	**ব্যাকরণ (Grammar):**	**40**	**15**
	1. প্রত্যয় [Suffix] - ➢ তদ্ধিত- অণ্, মতুপ্, তরপ্, ঈয়সুন্, তমপ্, ইষ্ঠন্ (*taddhita*: *aṇ*, *matup*, *tarap*, *īyasun*, *tamap*, *iṣṭhan*) ➢ নামধাতু-প্রত্যয়- কাম্যচ্, ক্যচ্, ক্যঙ্ (suffix for *nāmadhātu*: *kāmyac*,*kyac*, *kyaṅ*)		[1 ×5=5]
	2. কারক-বিভক্তি ও সমাস [Case-ending and Compound]- ➢ কারক-বিভক্তি- কর্তৃ, কর্ম, করণ (Case-endings: *kartṛ*, *karma*, *karaṇa*) ➢ সমাস- অব্যয়ীভাব, তৎপুরুষ (Compounds: *avyayībhāva*, *tatpuruṣa*)		[1 × 5=5] [1 × 5=5]

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: MCQ]
Unit – 5	**পৌরাণিক ও লৌকিক সংস্কৃত সাহিত্যের ইতিহাস (History of Purāṇic and Classical Sanskrit Literature):**	**20**	**10**
	1. পুরাণের সংক্ষিপ্ত পরিচয় [Brief Introduction to the *Purāṇa*s]		[1 ×3=3]
	2. ভাস, কালিদাস ও ভবভূতির সাহিত্যকৃতির সংক্ষিপ্ত পরিচয় [Brief Introduction to the literary works of Bhāsa, Kālidāsa and Bhavabhūti]		[1 ×4=4]
	3. আর্যভট ও বরাহমিহির [গ্রন্থকার ও গ্রন্থের সংক্ষিপ্ত পরিচয়] [Brief Introduction to Āryabhaṭa and Varāhamihira and their works]		[1 ×3=3]

CLASS - XII

SEMESTER – IV

SUBJECT: SANSKRIT (SNSK)

FULL MARKS : 40 **CONTACT HOURS : 80 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: SAQ including DQ]
Part I	**সংস্কৃত সাহিত্য (Sanskrit Literature)**	**40**	**20**
Unit – 1	**গদ্য (Prose):** হাসবিদ্যকথা (কবি-বিদ্যাপতি-কৃত 'পুরুষপরীক্ষা'র অংশ বিশেষ) [*Hāsavidyakathā* (selected portion from *Puruṣaparīkṣā* of Vidyāpati)]		• SAQ: 06 Marks 3 questions out of 4 (covering all the given texts of this part) each containing 2 marks to be answered in Sanskrit [সংক্ষিপ্ত উত্তরের প্রশ্ন: চারটি (এই অংশে প্রদত্ত সকল গ্রন্থ অবলম্বনে) ২ নং-এর প্রশ্নের মধ্যে যেকোনো তিনটির সংস্কৃত-তে উত্তর করতে হবে]. **[2×3=6]**
Unit – 2	**পদ্য (Verse):** বনেচরভাষণম্ (ভারবি-রচিত 'কিরাতার্জুনীয়ম্' মহাকাব্যের প্রথম সর্গের নির্বাচিত অংশ) [*Vanecarabhāṣaṇam* (selected portion from the 1st canto of *Kirātārjunīyam* of Bhāravi)]		• SAQ: 04 Marks 2 questions out of 3 (1+1+1) each containing 2 marks to be answered in Sanskrit /Bengali / English/ Hindi [সংক্ষিপ্ত উত্তরের প্রশ্ন: তিনটি (১+১+১) ২ নং-এর প্রশ্নের মধ্যে যেকোনো দু'টির সংস্কৃত/বাংলা/ইংরাজি/ হিন্দি-তে উত্তর করতে হবে]. **[2×2=4]**
Unit – 3	**দৃশ্যকাব্য (Drama):** আত্রেয়ী-বনদেবতা-সংবাদঃ (মহাকবি-ভবভূতি-রচিত 'উত্তররামচরিতম্' এর দ্বিতীয় অঙ্কের প্রারম্ভে বিষ্কম্ভকের নির্বাচিত অংশ) [*Ātreyī-vanadevatā-saṁvādaḥ* (selected portion from the *Viṣkambhaka* part of 2nd act of *Uttararāmacaritam* of Bhavabhūti)]		• DQ: 10 Marks 2 questions out of 3 (1+1+1) each containing 5 marks to be answered in Sanskrit/Bengali/ English/ Hindi [ব্যাখ্যামূলক উত্তরের প্রশ্ন: তিনটি (১+১+১) ৫ নং-এর প্রশ্নের মধ্যে যেকোনো দু'টির সংস্কৃত/বাংলা/ইংরাজি/ হিন্দি-তে উত্তর করতে হবে]. **[5×2=10]**
Part II	**সংস্কৃত ব্যাকরণ ও সংস্কৃত সাহিত্যের ইতিহাস (Sanskrit Grammar & History of Sanskrit Literature)**	**40 (20+20)**	**20**

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: SAQ including DQ]
Unit – 4	**ব্যাকরণ (Grammar):** 1. প্রত্যয় [Suffix]- ➢ সনাদি - সন্, যঙ্, ণিচ্ (*san*, *yaṅ*, *ṇic*) ➢ স্ত্রী - টাপ্, ঙীপ্ (*strī*: *ṭāp*, *ṅīp*) 2. কারক-বিভক্তি ও সমাস[Case-ending and Compound] - ➢ কারক-বিভক্তি - সম্প্রদান, অপাদান, অধিকরণ ও সম্বন্ধপদ (Case-endings: *sampradāna*, *apādāna* and *sambandhapada*) ➢ সমাস – সাধারণ-কর্মধারয়, দ্বিগু (সমাহার), দ্বন্দ্ব, বহুব্রীহি (সমানাধিকরণ, ব্যধিকরণ, নঞ্) (Compounds: *sādhāraṇa-karmadhāraya*, *samāhāra-dvigu*, *dvandva*, *bahuvrihi* - *samānādhikaraṇa*, *vyadhikaraṇa*, *nañ*)	**20**	SAQ: 10 Marks 5 questions out of 6/7(covering all the topics of this unit) each containing 2 marks to be answered as per given instructions [সংক্ষিপ্ত উত্তরের প্রশ্ন: (এই অংশের সকল বিষয় অবলম্বনে প্রদত্ত) ছয়/সাতটি ২ নং-এর প্রশ্নের মধ্যে যেকোনো পাঁচটির প্রদত্ত নির্দেশানুসারে উত্তর করতে হবে]. **[2×5=10]**
Unit – 5	**লৌকিক ও আধুনিক সংস্কৃত সাহিত্যের ইতিহাস (History of Classical and Modern Sanskrit Literature):** 1. গদ্য - দণ্ডী ও বাণভট্টের সাহিত্যকৃতি (সংক্ষিপ্ত পরিচয়) [Brief Introduction to Daṇḍī and Bāṇabhaṭṭa and their literary works] 2. চম্পূ - নলচম্পূ ও ভারতচম্পূ (সংক্ষিপ্ত ধারণা) [Brief Introduction to *Nalacampū* and *Bhāratacampū*] 3. আয়ুর্বেদ - চরক ও সুশ্রুত (গ্রন্থকার ও গ্রন্থের সংক্ষিপ্ত পরিচয়) [Brief Introduction to Caraka and Suśruta and their works] 4. আধুনিক বাঙালি সংস্কৃতসাধক ও সাহিত্যকৃতি (সংক্ষিপ্ত পরিচয়) [Bengalee authors of Modern Sanskrit literary works: a brief Introduction] - ➢ সিদ্ধেশ্বর চট্টোপাধ্যায়, সীতানাথ আচার্য, তারাপদ ভট্টাচার্য, বীরেন্দ্রকুমার ভট্টাচার্য ও শ্রীজীব ন্যায়তীর্থ (Siddheswar Chattopadhyay, Sitanath Acharya, Tarapada Bhattacharya, Birendrakumar Bhattacharya, Srijeeb Nyayatirtha)	**20**	• SAQ: 6 Marks 3 questions out of 4 (covering all the topics of this unit) each containing 2 marks to be answered in Sanskrit/Bengali/ English/ Hindi [সংক্ষিপ্ত উত্তরের প্রশ্ন: (এই অংশের সকল বিষয় অবলম্বনে প্রদত্ত) চারটি ২ নং-এর প্রশ্নের মধ্যে যেকোনো তিনটির সংস্কৃত/বাংলা/ইংরাজি/ হিন্দি-তে উত্তর করতে হবে]. **[2×3=6]** • DQ: 4 Marks 1 question out of 2 each containing 4 marks to be answered in Sanskrit/Bengali/ English/ Hindi [ব্যাখ্যামূলক উত্তরের প্রশ্ন: দুটি ৪ নং-এর প্রশ্নের মধ্যে যেকোনো একটির সংস্কৃত/বাংলা/ইংরাজি/ হিন্দি-তে উত্তর করতে হবে]. **[4×1=4]**

CLASS: XII

SUBJECT: SANSKRIT (SNSK)

COURSE CODE : PRACTICAL/PROJECT

FULL MARKS : 20 **CONTACT HOURS : 20 HOURS**

	Sub Topic (Project)	CONTACT HOURS	MARKS
1.	সংস্কৃত মনীষায় বিজ্ঞানচেতনা [Scientific thoughts in Sanskritic intellectual tradition]	**20**	1. Pictorial and Informative Project work in Sanskrit language with Devanāgarī script on any one from first two topics & 2. Dialogue/Debate in Sanskrit in any relevant topic ১. ছবি ও তথ্যসহ সংস্কৃত ভাষায় দেবনাগরী লিপিতে প্রথম দুটি বিষয়ের মধ্যে যে কোনো একটি বিষয় অবলম্বনে প্রকল্প-কর্ম এবং ২. সংস্কৃত বার্তালাপ/বিতর্ক – যেকোনো প্রাসঙ্গিক বিষয়ে] **[10 + 10 = 20]**
2.	প্রথম ও দ্বিতীয় সেমেস্টার-এর পাঠ্যান্তর্গত বিষয়সমূহ (সংস্কৃত সাহিত্য ও সাহিত্যের ইতিহাস) থেকে একটি বিষয় [Any one topic from the syllabus of Semester III or IV (Sanskrit Literature and History of Sanskrit Literature)]		
3.	বার্তালাপ/বিতর্ক – যেকোনো প্রাসঙ্গিক বিষয়ে [Dialogue/Debate in any relevant topic]		

SUGGESTED READING :

1.	*Helps to the Study of Sanskrit*, Janakinatha Sastri, Kolkata: Sanskrit Book Depot.
2.	*সংস্কৃত সাহিত্যের ইতিহাস ও সংস্কৃত ত্রিধারা*, শ্রীকৃষ্ণগোপাল গোস্বামী ও আলপনা গোস্বামী। কলকাতা : গোস্বামী প্রকাশনী।
3.	*সমগ্র ব্যাকরণ কৌমুদী*, ঈশ্বরচন্দ্র বিদ্যাসাগর, হেমচন্দ্র ভট্টাচার্য্য বিদ্যাবিনোদ সম্পাদিত। কলকাতা : চলন্তিকা প্রকাশক।
4.	*সমগ্র ব্যাকরণ কৌমুদী*, ঈশ্বরচন্দ্র বিদ্যাসাগর, দুর্গাচরণ সাংখ্য-বেদান্ততীর্থ সম্পাদিত। কলকাতা : দেব সাহিত্য কুটীর প্রাইভেট লিমিটেড।
5.	*নবরূপে ব্যাকরণ কৌমুদী*, শ্রীকৃষ্ণগোপাল গোস্বামী ও আলপনা গোস্বামী। কলকাতা : গোস্বামী প্রকাশনী।
6.	*সংস্কৃত সাহিত্যের ইতিহাস*, যুধিষ্ঠির গোপ। কলকাতা : সংস্কৃত বুকডিপো।
7.	*বেদের পরিচয়।* যোগীরাজ বসু। কলকাতা : ফার্মা কেএলএম প্রাইভেট লিমিটেড।
8.	*বৈদিক সাহিত্যের রূপরেখা।* শান্তি বন্দ্যোপাধায়। কলকাতা : সংস্কৃত পুস্তক ভাণ্ডার।
9.	*সংস্কৃত সাহিত্যের ইতিহাস (বৈদিক ও লৌকিক)*, জাহ্নবীচরণ ভৌমিক। কলকাতা : সংস্কৃত পুস্তক ভাণ্ডার।

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASS XI AND XII

SUBJECT: TELUGU(TELG)

CLASS - XI

SEMESTER – I

SUBJECT: TELUGU (TELG)

FULL MARKS: 40 **CONTACT HOURS: 96 Hours**

COURSE CODE: THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit 1	POETRY (Ancient And Modern)	24	15
Unit 2	PROSE (Ancient And Modern)	24	15
Unit 3	History of Telugu Literature	24	6
Unit 4	Grammar (Sandhi + Samas)	24	4
	Total	**96**	**40**

CLASS- XI

SEMESTER – II

SUBJECT- TELUGU (TELG)

FULL MARKS: 40 **CONTACT HOURS: 84 Hours**

COURSE CODE: THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit 1	POETRY (Ancient And Modern)	20	08
Unit 2	PROSE (Ancient And Modern)	20	08
Unit 3	History of Telugu Literature & Biography of a Poet	24	16
Unit 4	Grammar (Sandhi + Samas)	20	08
	Total	**84**	**40**

[Note:**20 Hours** reserved for Remedial classes, Tutorials and Home Assignments.]

CLASS- XII

SEMESTER – III

SUBJECT- TELUGU (TELG)

FULL MARKS: 40 **CONTACT HOURS: 96 Hours**

COURSE CODE: THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit 1	POETRY (Ancient And Modern)	24	15
Unit 2	PROSE (Ancient And Modern)	24	15
Unit 3	History of Telugu Literature	24	06
Unit 4	Grammar (Alankar&Chandassu)	24	04
	Total	**96**	**40**

CLASS- XII

SEMESTER – IV

SUBJECT- TELUGU (TELG)

FULL MARKS: 40 **CONTACT HOURS: 84 Hours**

COURSE CODE: THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit 1	POETRY (Ancient And Modern)	20	08
Unit 2	PROSE (Ancient And Modern)	20	08
Unit 3	History of Telugu Literature & Biography of a Poet	24	16
Unit 4	Grammar (Alankar&Chandassu)	20	08
	Total	**84**	**40**

[Note:**20 Hours** reserved for Remedial classes, Tutorials and Home Assignments.]

CLASS – XI + XII

PROJECT (TELUGU)

FULL MARKS: 20

Any two of the given topics per year

1. Life History of a Poet
2. Analytical Observation of aptness of title of a drama
3. Dramatization of any story from the textbook
4. Locality survey report preparation

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII

SUBJECT : URDU (URDU)

SYLLABUS-URDU

CLASS-XI, SEMESTER-I

FULL MARKS-40

Syllabus distributed by Topic and Unit wise with their Marks and Hours.

Full Marks: 40

Marks	Hours	TOPIC	UNIT
10	20	(1) داستان (i) میرامن دہلوی: سیر تیسرے درویش کی (انتخاب از باغ و بہار) **(1) Dastan** (i) Mir Amman Dehlvi: Sair Teesre Darwesh ki (From Bagh-o-Bahar) (2) طنز و مزاح (ii) پطرس بخاری: سویرے جو کل آنکھ میری کھلی (انتخاب از پطرس کے مضامین) **(2) Tanz-o-Mizah** (ii) Patras Bokhari: Sawere jo kal Aankh Meri Khuli (From Patras ke Mazameen)	UNIT-I PROSE منثورات
10	30	(1) غزلیں (i) ولی دکنی: وہ نازنیں ادا میں اعجاز ہے سراپا (ii) اعزاز افضل: ہم تو ڈوبیں گے یا پار اتر جائیں گے **(1) Ghazlen** (i) Wali Dakani: Wo Naznin Ada mein Ejaz hai Sarapa (ii) Ham to dubenge ya paar uter jaenge (2) نظمیں (i) چکبست: خاک ہند (انتخاب از صبح وطن) (ii) علقمہ شبلی: کلکتہ (انتخاب از بے چہرہ لمحے) **(2) Nazmen:** (i) Chakbast: Khak-e-Hind (From Subh-e-Watan) (ii) Alqama Shibli: Kalkatta (From Bechehra Lamhe) (3) رباعیات (i) امجد حیدر آبادی (a) کم ظرف اگر دولت و زر پاتا ہے (b) ہر قطرے میں بحر معرفت مضمر ہے **(3) Rubaiyaat** (i) Amjad Hyderabaadi (a) Kam zarf agar daulat-o-zar pata hai (b) Har qatre mein bahr-e-marfat muzmar hai	UNIT-2 POETRY منظومات
05	15	(1) افسانہ (i) سلام بن رزاق: ندی (انتخاب از شکستہ بتوں کے درمیان) **(1) Fiction** (i) Salam bin Razzaq: Naddi (From Shikasta Buton ke Darmiyaan)	UNIT-3 FICTION افسانہ

05	15	**(1) ڈراما** (i) ظہیرانور: مت سہل ہمیں جانو **(1) Drama** (i) Zahir Anwar: Mat sahl hamen jano	UNIT-4 DRAMA ڈراما
10	20	(i) فورٹ ولیم کالج (i) Fort William College	UNIT-5 HISTORY OF URDU LITERATURE تاریخ ادب اردو

SYLLABUS-URDU

CLASS-XI, SEMESTER-II

FULL MARKS-40

Syllabus distributed by Topic and Unit wise with their Marks and Hours.

Full Marks: 40

Marks	Hours	TOPIC	UNIT
10	20	(1) خط (i) غالب کا خط بنام مرزا تفتہ (انتخاب از اردوئے معلیٰ) **(1) Letter** (i) Ghalib ka khat banam Mirza Tafta (From Urdu-e-Mualla) (2) مقالہ (ii) سرسید احمد خاں: رسم و رواج کی پابندی کے نقصانات (انتخاب از مقالات سرسید) **(2) Maqala** (ii) Sir Syed Ahmad Khan: Rasm-o-Riwaj ki pabandi ke nuqsanaat (From Maqalat-e-Sir Syed)	UNIT-I PROSE منثورات
15	25	(1) غزلیں (i) میر تقی میرؔ: جس سر کو غرور آج ہے یاں تاج وری کا (ii) جگر مرادآبادی: اللہ اگر توفیق نہ دے انسان کے بس کا کام نہیں **(1) Ghazlen** (i) Mir Taqi Mir: Jis sar ko ghuroor aaj hai yaan taj wari ka (ii) Jigar Muradabaadi: Allah agar taufiq na de insan ke bas ka kaam nahi (2) نظمیں (i) نظیر اکبرآبادی: مکافاتِ عمل (انتخاب از نظیر کی نظمیں) (ii) پرویز شاہدی: دعوت (انتخاب از رقصِ حیات) **(2) Nazmen:** (i) Nazeer Akbarabaadi: Mukafat-e-Amal (From Nazeer ki Nazmen) (ii) Parwez Shahidi: Daawat (From Raqs-e-Hayat) (3) رباعیات (i) مرزا سلامت علی دبیرؔ (a) ادنیٰ سے جو سر جھکائے اعلیٰ وہ ہے (b) پروانے کو دھن شمع کو لو تیری ہے **(3) Rubaiyaat** (i) Mirza Salamat Ali Dabeer (a) Adna se jo sar jhukaae aala woh hai (b) Parwane ko dhun shama ko lau teri hai (4) مرثیہ (i) میر ببر علی انیس (a) صبح صادق کا ہوا چرخ پہ جس وقت ظہور **(4) Marsiya** (i) Mir Babbar Ali Anees (a) Subh-e-sadiq ka huwa charkh pe jis waqt zuhoor	UNIT-2 POETRY منظومات

05	10	**(1) افسانہ** (i) حیات اللہ انصاری: آخری کوشش **(1) Fiction** (i) Hayatullah Ansari: Aakhri Koshish	UNIT-3 FICTION افسانہ
05	15	انجمن پنجاب، لاہور Anjuman-e-Punjab, Lahore	UNIT-4 HISTORY OF URDU LITERATURE تاریخ ادب اردو
05	10	اصناف ادب اردو، صرف ونحو، اسم، ضمیر، صفت اور فعل کا تعارف اور ان کی قسمیں، محاورات وضرب الامثال	UNIT-5 GRAMMAR قواعد

SYLLABUS-URDU

CLASS-XII, SEMESTER-III

FULL MARKS-40

Syllabus distributed by Topic and Unit wise with their Marks and Hours.

Full Marks: 40

Marks	Hours	TOPIC	UNIT
10	20	(1) مضمون (i) مرزا فرحت اللہ بیگ: دلی کا آخری یادگار مشاعرہ **(1) Mazmoon** (i) Mirza Farhatullah Beg: Dilli ka aakhri yadgar mushaira (2) تمثیل (ii) محمد حسین آزاد: سچ اور جھوٹ کا رزم نامہ (انتخاب از نیرنگ خیال) **(2) Tamseel** (ii) Md Hussain Aazad : Such Aur Jhhut ka Razm Nama (From Nairang-e-Khayaal)	UNIT-I PROSE منثورات
10	30	(1) غزلیں (i) مظہر امام: تو ہے گر مجھ سے خفا خود سے خفا ہوں میں بھی (ii) پروین شاکر: وہ تو خوشبو ہے ہواؤں میں بکھر جائے گا **(1) Ghazlen** (i) Mazhar Imam : Tu hai gar mujh se khafa khud se khafa hun main bhi (ii) Parween Shakir: Woh to khushboo hai hawaon mein bikhar jayega (2)نظمیں (i) جمیل مظہری: اے مادر ہندوستاں (انتخاب از کلیات جمیل مظہری) (ii) قیصر شمیم: ہمارے اپنے لہو کا حصہ (انتخاب از پہاڑ کاٹتے ہوئے) **(2) Nazmen:** (i) Jameel Mazhari: Aei Madare Hindustan (From Kulliyat-e-Jamil Mazhari) (ii) Qaiser Shamim : Hamare Apne Lahu ka Hissa (From Pahad Kaatte Hue) (3) رباعیات (i) میر ببر علی انیس (a) دنیا بھی عجب سرائے فانی دیکھی (b) گوہر کو صدف میں آبرو دیتا ہے **(3) Rubaiyaat** (i) Mir Babbar Ali Anees (a) Duniya bhi ajab sara-e-fani dekhi (b) Gauhar ko sadaf mein aabru deta hai	UNIT-2 POETRY منظومات
05	15	(1) افسانہ (i) ترنم ریاض: مجسمہ (انتخاب از یمبرزل) **(1) Fiction** (i) Tarannum Reyaz: Mujassima (From Yemberzal)	UNIT-3 FICTION افسانہ

05	15	(1) ڈراما (i) آغا حشر کاشمیری: رستم وسہراب **(1) Drama** (i) Agha Hashr Kashmiri: Rustam-o-Sohraab	UNIT-4 DRAMA ڈراما
10	20	(i) علی گڑھ تحریک (i) Aligarh Tahreek (Aligarh Movement)	UNIT-5 HISTORY OF URDU LITERATURE تاریخ ادب اردو

SYLLABUS-URDU

CLASS-XII, SEMESTER-IV

FULL MARKS-40

Syllabus distributed by Topic and Unit wise with their Marks and Hours

Full Marks: 40

Marks	Hours	TOPIC	UNIT
10	20	(1) خط (i) مولانا ابوالکلام آزاد: چڑیا چڑے کی کہانی (انتخاب از غبار خاطر، خط نمبر ۱۹) **(1) Letter** (i) Maulana Abul kalam Azad: Chirya Chire ki kahani (From Ghubar-e-Khatir, Letter no. 19) (2) خاکہ (ii) رشید احمد صدیقی: محمد علی (انتخاب از گنج ہائے گراں مایہ) **(2) Khaka** (ii) Rasheed Ahmad Siddiqui: Md. Ali (From Ganj Hay-e-Giran Maya)	UNIT-I PROSE منثورات
15	25	(1) غزلیں (i) غالب: ہزاروں خواہشیں ایسی کہ ہر خواہش پہ دم نکلے (ii) وحشت: میں ہی فقط نہ خستۂ دردِ نہاں ہوا **(1) Ghazlen** (i) Ghalib: Hazaron khahishen aisi ke har khahish pe dam nikle (ii) Wahshat: Main hi faqat na khasta-e-dard-e-nihan huwa (2) نظمیں (i) اقبال: زندگی (خضر راہ از بانگ درا) (ii) فیض: مجھ سے پہلی سی محبت مری محبوب نہ مانگ (انتخاب از دستِ صبا) **(2) Nazmen:** (i) Iqbal: Zindagi (Khizr-e-Raah, From Bang-e-Dara) (ii) Faiz: Mujh se pahli si muhabbat meri mahboob na maang (From Dast-e-Saba) (3) رباعیات (i) حالی (a) ہندو سے لڑیں نہ گبر سے بیر کریں (b) کوشش میں ہے شرط ابتدا انساں سے **(3) Rubaiyaat** (i) Hali (a) Hindu se laren na gabr se bair karen (b) Koshish mein hai shart ibtada insaan se (4) مثنوی (i) پنڈت دیا شنکر نسیم: آوارہ ہونا بکاؤلی کا تاج الملوک گل چیں کی تلاش میں (انتخاب از گلزار نسیم) **(4) Masnawi** (i) Pandit Daya Shankar Nasim: Awarah hona Bakauli ka Tajul mulook gulcheen ki talaash mein (From Gulzar-e-Nasim)	UNIT-2 POETRY منظومات

05	10	**(1) افسانہ** (i) پریم چند: کفن **(1) Fiction** (i) Prem Chand: Kafan	UNIT-3 FICTION افسانہ
05	15	ترقی پسند تحریک Taraqqi Pasand Tahreek (Progressive Movement)	UNIT-4 HISTORY OF URDU LITERATURE تاریخ ادب اردو
05	10	اردو رسم الخط، مضمون نویسی، ترجمہ نگاری، مکتوب نگاری، کہانی نویسی Urdu script, Essay writing, Translation, Letter writing, Story writing	UNIT-5 GRAMMAR قواعد

PROJECT - XI

1.	File on any topic	10
2.	Viva	05
3.	Activities (Debate / Group discusssion / Recitation / Extempore speech etc)	05
	TOTAL	**20**

پروجکٹ برائے کلاس XI

10	کسی بھی موضوع پر فائل تیار کرنا	.1
05	زبانی امتحان	.2
05	سرگرمیاں (مباحثہ/غزل یا نظم خوانی/فی البدیہہ/کوئز وغیرہ)	.3
20	**کل**	

PROJECT - XII

1.	File on any topic	10
2.	Viva	05
3.	Activities (Debate / Group discusssion / Recitation / Extempore speech etc)	05
	TOTAL	**20**

پروجکٹ برائے کلاس XII

10	کسی بھی موضوع پر فائل تیار کرنا	.1
05	زبانی امتحان	.2
05	سرگرمیاں (مباحثہ/غزل یا نظم خوانی/فی البدیہہ/کوئز وغیرہ)	.3
20	**کل**	

نصاب کی تفصیلات
(Course overview)

مغربی بنگال ہائر سکنڈری کونسل نے گیارہویں اور بارہویں کلاس کے نصاب (2024) کی تیاری کی جو ذمہ داری ہمیں سونپی ہے، اس کے مدِ نظر ہم نے اس طرح کا نصاب تیار کرنے کی کوشش کی ہے جس سے طالب علموں کی فکر اور ذہانت کو جلا ملے اور اردو زبان وادب پر ان کی گرفت مضبوط ہو۔ اردو زبان وادب کے تعلق سے جتنی بھی بنیادی باتیں ہوسکتی تھیں اور جو ان سے گہرے طور پر منسلک ہیں وہ سب اس نصاب میں شامل ہیں مثلاً نثر، شاعری، فکشن، مضامین اور قواعد جیسے موضوعات جو اردو زبان وادب کے نہایت ہی اہم حصے ہیں، جن کی خواندگی سے طلبہ وطالبات کی ذہن سازی ہوسکتی ہے اور وہ قوم وملک کے اچھے شہری بن سکتے ہیں، تمام موضوعات اس نصاب میں شامل ہیں۔

سوچنے سمجھنے کے ساتھ ساتھ تخلیقی صلاحیتیں بھی ان کے اندر ارتقا پائیں اور ان کے اندازِ گفتگو اور لہجے میں بھی تبدیلی آئے۔ ان کا دماغ تیز ہو اور آپسی بھائی چارے، امن وآشتی، اتحاد ویگانگت اور محبت سے سماج میں رہ سکیں، وہ سب موضوعات اس میں شامل ہیں۔ اور کوئی بھی بات جس سے کسی فرد، سماج یا طبقے کی دل آزاری یا دل شکنی ہو، اس سے پرہیز کیا گیا ہے۔ غرض کہ اسے ملک کی تہذیبی، ثقافتی، سماجی، سیاسی، معاشی، جغرافیائی اور ادبی ولسانی خوبیوں کے مدنظر ہی یہ نصاب آپ کے سامنے ہے۔

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASSES XI AND XII

SUBJECT: ACCOUNTANCY(ACCT)

Course Overview:

The Accountancy Course is introduced at the senior secondary stage, to enable the specific learning of commerce, following ten years of general schooling. This formal commerce education is particularly relevant in the context of the rapidly changing economic landscape, where accounting has secured its place as a vital source of financial information at the senior secondary level.

The syllabus is designed to provide students with a solid foundation in fundamental accounting concepts and methodologies. It also familiarizes them with the evolving landscape of financial statement preparation and presentation in accordance with applicable accounting standards and the Companies Act of 2013. The emphasis is on equipping students with a comprehensive understanding of accounting as an information system.

Class XI of the course focuses on instilling basic concepts and processes of accounting, leading to the preparation of accounts for a sole proprietorship firm. The significance of Information and Communication Technology (ICT) is highlighted throughout the curriculum, acknowledging its integral role in various aspects of life and business operations. In Class XII, students are introduced to Computerized Accounting Systems, presented as an optional component alongside the Analysis of Financial Statements. This module aims to impart skills necessary for designing need-based accounting databases to maintain accurate and efficient bookkeeping.

The entirety of the senior secondary Accountancy Course is geared towards introducing students to the business world and strengthening their foundational knowledge of the subject. *The annual course duration spans 200 contact hours, with 100 hours allocated to Semester I & III, 80 hours to Semester II & IV, and the remaining 20 hours dedicated to Home Assignments, Projects and Tutorial / Remedial Classes.* This holistic approach ensures that students not only grasp theoretical concepts but also gain practical skills applicable in real-world business scenarios.

Objectives:

The main objectives of the Accountancy Course at the senior secondary level are to:

1. Introduce basic accounting concepts and standards to students.
2. Familiarize students with components of financial statements.
3. Instil an understanding of recording business transactions and preparing financial statements.
4. Enable students to handle accounting for Not-for-Profit organizations, Partnership firms, and Company accounts.
5. Empower students to conduct post-analysis of Balance Sheets and other financial statements using tools like Comparative and Common Size Statements and Ratios.
6. Develop students' skills in designing need-based accounting databases.
7. Emphasize the role of Information and Communication Technology (ICT) in business operations.

CLASS - XI
SEMESTER – I

SUBJECT: ACCOUNTANCY (ACCT)

FULL MARKS: 40

UNIT	TOPICS	MARKS
Unit 1	**Introduction & Theory Base of Accounting**	**12**
Unit 2	**Fundamental Accounting Process – I**	**16**
Unit 3	**Reserves & Provisions**	**6**
Unit 4	**Bills of Exchange (Excluding Retiring, Renewal and Accommodating Bills)**	**6**
	Total	**40**

Question Paper Typology			
Sl. No.	**Typology of Questions**	**Marks**	**In %**
1.	Remembering & Understanding	12	30
2.	Applying	20	50
3.	Analyzing, Evaluating and Critical Understanding	8	20

Weightage to form Questions						
Unit	**Topics**	**Unit Marks**	**Question type**	**No. of Questions**	**Marks of each question**	**Total Marks**
Unit 1	Introduction & Theory Base of Accounting	12	MCQ	12	1	12
Unit 2	Fundamental Accounting Process – I	16	MCQ	16	1	16
Unit 3	Reserves & Provisions	6	MCQ	6	1	6
Unit 4	Bills of Exchange (Excluding Retiring, Renewal &Accommodating Bills)	6	MCQ	6	1	6
	Total	**40**				**40**

CLASS - XI
SEMESTER – I

SUBJECT: ACCOUNTANCY (ACCT)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 1	**Introduction & Theory Base of Accounting** • ***Accounting:*** Meaning, Accounting as a source of information, Objectives and limitations.Users of accounting information and their needs.Sub-fields of Accounting (Financial Accounting, Cost Accounting and Management Accounting). • ***Basic Accounting Terms:*** Entity, Business Transaction, Capital, Drawings, Liabilities (Non-Current and Current), Assets (Non-Current, Current); Expense, Revenue, Income, Profit, Gain, Loss, Purchase, Sales, Goods, Stock, Debtor, Creditor, Voucher, Discount (Trade discount and Cash discount), Contingent Assets and Contingent Liabilities, Revenue and Capital Receipts, Revenue and Capital Expenditure, Deferred Revenue Expenditure. • ***GAAP (Generally Accepted Accounting Principles):*** Concept. • ***Basic Accounting Concept:*** Business Entity, Money Measurement, Going Concern, Accounting Period, Cost Concept, Dual Aspect, Revenue Recognition, Matching, Full Disclosure, Consistency, Conservatism, Materiality and Objectivity. • ***System of Accounting:*** Single Entry and Double Entry. • ***Basis of Accounting:*** Cash Basis and Accrual Basis. • ***Valuation Principles:*** Historical Cost, Current Cost, Realizable Value and Present Value. • ***Accounting Standards:*** Objectives of Accounting Standards (AS) and Indian Accounting Standards (Ind AS). Applicability of Ind AS. • ***Goods and Service Tax (GST):*** Characteristics and Advantages.	30	12

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 2	**Fundamental Accounting Process – I** • ***Voucher and Transactions:*** Source documents and Vouchers, Preparation of Vouchers • ***Fundamental Accounting Equation:*** Meaning and Analysis. • ***Rules of Debit and Credit*** • ***Book of Original Entry:*** Journal • ***Special Purpose Books:*** Purchases Book, Sales Book, Purchases Return Book, Sales Return Book, Journal Proper • ***Rectification of Errors (Before Preparation of Trial Balance):*** Classification of Errors: Errors of Omission, Errors of Commission, Errors of Principles, and Compensating Errors. Detection and Rectification of Errors.	40	16
Unit 3	**Reserves & Provisions** • ***Provisions, Reserves –*** Meaning • Difference Between Provisions and Reserves. • ***Types of Reserves:*** i. Revenue Reserve ii. Capital Reserve iii. General Reserve iv. Specific Reserve v. Secret Reserve ***Difference between Capital Reserve and Revenue Reserve***	15	6
Unit 4	**Bills of Exchange (Excluding retiring, renewal and accommodating Bills)** • ***Bills of Exchange and Promissory Note:*** Definition, features, parties, specimen and distinction. • ***Important Terms:*** Terms of Bill, Due Date, Days of Grace, Date of Maturity, Bill at Sight, Bill after Date, Discounting of Bill, Endorsement of Bill, Bill sent for Collection, Dishonour of Bill and Noting of Bill. • ***Accounting treatment of bills of exchange till dishonour of bill.***	15	6
	Total	**100**	**40**

CLASS-XI

SEMESTER – I

SUBJECT: ACCOUNTANCY (ACCT)

FULL MARKS: 40

Unit	Topics	Marks
Unit 1	Fundamental Accounting Process – II	20
Unit 2	Final Accounts of Sole Proprietor	10
Unit 3	Accounts of Non-Profit Seeking Organization	5
Unit 4	Accounts from Incomplete Records (Excluding conversion to Double Entry System)	5
	Total	**40**

Question Paper Typology			
Sl. No	**Typology of Questions**	**Marks**	**In %**
1.	Remembering & Understanding	12	30
2.	Applying	20	50
3.	Analyzing, Evaluating and Critical Understanding	8	20

Weightage to form Questions						
Unit	**Details**	**Unit Marks**	**Question type**	**No of Questions**	**Marks of each question**	**Total Marks**
Unit 1	Fundamental Accounting Process – II	20	Descriptive	2	5	[10+6+4=20]
			SAQ Type 2	2	3	
			SAQ Type 1	2	2	
Unit 2	Final Accounts of Sole Proprietor	10	Descriptive	1	5	[5+3+2=10]
			SAQ Type 2	1	3	
			SAQ Type 1	1	2	
Unit 3	Accounts of Non-Profit Seeking Organization	5	SAQ Type 2	1	3	[3+2=5]
			SAQ Type 1	1	2	
Unit 4	Accounts from Incomplete Records (Excluding conversion to Double Entry System)	5	Descriptive	1	5	5
	Total	**40**				**40**

CLASS-XI

SEMESTER – II

SUBJECT: ACCOUNTANCY (ACCT)

FULL MARKS: 40 **CONTACT HOURS: 80 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 1	**Fundamental Accounting Process – II** • ***Ledger:*** Format, Posting from Journal and Subsidiary Books, Balancing of Accounts. • ***Cash Book:*** Simple Cash Book, Cash Book with Cash and Bank Column and Petty Cash Book • ***Trial Balance:*** Objectives, Meaning and Preparation of Trial Balance from Balances only. • ***Bank Reconciliation Statement:*** Need; Preparation of Bank Reconciliation Statement**(excluding amended cash book)** • ***Rectification of Errors (After preparation of Trial Balance but excluding after preparation of Final Accounts):*** Preparation of Suspense Account • ***Depreciation:*** Meaning, Need for providing Depreciation, factors to be considered while computing Depreciation. • ***Methods of Depreciation:***i. Straight Line Method (SLM) ii. Written Down Value Method (WDV) • Difference between SLM and WDV; • Method of recording Depreciation by ***charging to asset account only***including purchase and sale of Depreciable Assets. ***Note – Excluding change of Method of Depreciation***	40	20

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 2	**Final Accounts of Sole Proprietor** • ***Meaning, Objectives and Importance*** • ***Preparation of Manufacturing Account*** • ***Trading and Profit and Loss Account:*** Concepts of Gross profit, Operating profit and Net profit. • ***Balance Sheet:*** Need, grouping and marshalling of assets and liabilities. • ***Preparation of Trading and Profit and Loss account and Balance Sheet of a sole proprietorship concern with adjustments:*** Closing Stock, Outstanding Expenses, Prepaid Expenses, Accrued Income, Income Received in Advance, Depreciation, Bad Debts, Provision for Doubtful Debts, Provision for Discount on Debtors,Abnormal Loss, Goods taken for personal use/Staff Welfare and Manager's Commission.	20	10
Unit 3	**Accounts of Non-Profit Seeking Organizations** • ***Non-Profit Seeking organizations:*** Concept • ***Receipts and Payments Account:*** Meaning and Features. • ***Income and Expenditure Account:*** Meaning and Features. • ***Preparation of Income and Expenditure Account from the given Receipts and Payments Account with additional information.***	10	5
Unit 4	**Accounts from Incomplete Records (Excluding conversion to Double Entry System)** • Features, reasons and limitations. • Preparation of Statement of Profit / Loss and Statement of Affairs.	10	5
	Total	**80**	**40**

[Note: **20 Hours** reserved for Remedial Classes, Tutorials and Home Assignments]

CLASS - XI

COURSE CODE: PROJECT

Full Marks: 20 [Project Report: 10 Marks; Viva Voce: 10 Marks]

*Students need to undertake any **one**project out of the four topics given below at the end of* Semester II of Class XI.

Topic 1	Preparation of at least 25 vouchers and recording of transactions with the help of these vouchers, posting the Journal Entries in Ledgers and preparation of Trial Balance therefrom.
Topic 2	Preparation of a Cash Book with cash and bank columns with at least 25 transactions including bank transactions.
Topic 3	Preparation of Bank Reconciliation Statement with the given Cash Book and the Pass Book with at least 25 transactions.
Topic 4	Preparation of Final Accounts of a Sole Trader from the given Journal Entries.

ACCOUNTANCY (ACCT)

Class XII

Semester -III

Full Marks: 40

Unit	Topic	Marks
Unit 1	Accounting for Partnership Firms – I	15
Unit 2	Accounting for Company – I	10
Unit 3	Analysis of Financial Statements *OR* Computerized Accounts – I	15
	Total	**40**

Question Paper Typology			
Sl. No.	**Typology of Questions**	**Marks**	**In %**
1.	Remembering & Understanding	12	30
2.	Applying	20	50
3.	Analyzing, Evaluating and Critical Understanding	8	20

Weightage to form Questions						
Unit	**Topics**	**Unit Marks**	**Question type**	**No. of Questions**	**Marks of each question**	**Total Marks**
Unit 1	Accounting for Partnership Firms – I	15	MCQ	15	1	15
Unit 2	Accounting for Company – I	10	MCQ	10	1	10
Unit 3	Analysis of Financial Statements *OR* Computerized Accounts - I	15	MCQ	15	1	15
	Total	**40**				**40**

CLASS XII

SEMESTER – III

SUBJECT: ACCOUNTANCY (ACCT

FULL MARKS: 40 **CONTACT HOURS: 100 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 1	**Accounting for Partnership Firms - I** • ***Partnership:*** Features, Partnership Deed. • ***Provisions of the Indian Partnership Act 1932*** *in the absence of partnership deed.* • ***Fixed v/s fluctuating capital accounts.*** • ***Preparation of Profit and Loss Appropriation account:*** Division of profit among partners, guarantee of profits. • ***Past Adjustments:*** Relating to interest on capital, interest on drawing, salary and profit-sharing ratio. • ***Goodwill:*** Meaning, nature, factors affecting and methods of valuation - average profit, super profit and capitalization. • ***Recommendations of Accounting Standards in relation to recognition of Goodwill.*** **Note:** ***Interest on partner's loan is to be treated as a charge against profits.***	35	15
Unit 2	**Accounting for Company – I** • ***Features and types of companies.*** • ***Share and Share Capital:*** Nature and types. • ***Debentures:*** Meaning and types. • ***Issue of Debentures*** at par, at a premium and at a discount. • ***Issue of Debentures*** for consideration other than cash. • ***Issue of Debentures*** with terms of redemption. • ***Writing off Discount / loss on issue of Debentures.*** ***Note: Discount or loss on issue of Debentures to be written off in the year Debentures are allotted from Security Premium Reserve (if it exists) and then from Statement of Profit and Loss as Financial Cost (AS 16)***	25	10

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 3	**Analysis of Financial Statements** • ***Financial Statement Analysis:*** Meaning, Significance, Objectives, Importance and Limitations. • ***Accounting Ratios:*** Meaning, Objectives, Advantages, Classification and computation. ✓ **Liquidity Ratios:** Current Ratio and Quick Ratio. ✓ **Solvency Ratios:** Debt to Equity Ratio, Total Asset to Debt Ratio, Proprietary Ratio and Interest Coverage Ratio, Debt to Capital Employed Ratio. ✓ **Activity Ratios:** Inventory Turnover Ratio, Trade Receivables Turnover Ratio, Trade Payables Turnover Ratio, Fixed Asset Turnover Ratio, Net Asset Turnover Ratio and Working Capital Turnover Ratio. ✓ **Profitability Ratios:** Gross Profit Ratio, Operating Ratio, Operating Profit Ratio, Net Profit Ratio and Return on Investment. • ***Tools for Financial Statement Analysis :***Comparative Statements, Common Size Statements, Ratio Analysis. ***OR*** **Computerized Accounts - I** ***Concept of Electronic Spreadsheet:*** • Concept, Data Entry, Text Management and Cell Formatting, Data Formatting, Output Reports, Preparation of Reports using Pivot Tables and Common Errors in Spreadsheet. • Payroll Accounting. • Data Graphs, Charts and Diagrams, Preparation of Graphs and Charts using Excel, Advantages of using Graphs and Charts.	40	15
	Total	**100**	**40**

CLASS-XII

SEMESTER – IV

SUBJECT: ACCOUNTANCY (ACCT)

Full Marks: 40

Unit	Topics	Marks
Unit 1	**Accounting for Partnership Firms – II**	25
Unit 2	**Accounting for Company – II**	10
Unit 3	**Cash Flow Statement** ***OR*** **Computerized Accounts – II**	5
	Total	**40**

Question Paper Typology			
Sl. No.	**Typology of Questions**	**Marks**	**In %**
1.	Remembering & Understanding	12	30
2.	Applying	20	50
3.	Analyzing, Evaluating and Critical Understanding	8	20

Weightage to form Questions						
Unit	**Topics**	**Unit Marks**	**Question type**	**No. of Questions**	**Marks of each question**	**Total Marks**
Unit 1	Accounting for Partnership Firms – II	25	Descriptive	2	5	[10+9+6=25]
			SAQ Type 2	3	3	
			SAQ Type 1	3	2	
Unit 2	Accounting for Company – II	10	Descriptive	1	5	[5+3+2=10]
			SAQ Type 2	1	3	
			SAQ Type 1	1	2	
Unit 3	Cash Flow Statement *OR* Computerized Accounts - II	5	Descriptive	1	5	[5]
	Total	**40**				**40**

CLASS XII

SEMESTER –IV

SUBJECT: ACCOUNTANCY (ACCT)

Full Marks: 40 **CONTACT HOURS: 80 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 1	**Accounting for Partnership Firms – II** • ***Change in the Profit-Sharing Ratio*** **among the existing partners**– Sacrificing Ratio, Gaining Ratio, Accounting for Revaluation of Assets and Reassessment of Liabilities and Treatment of Reserves, Accumulated Profits and Losses. • ***Admission of a partner:*** Effect of admission of a partner on change in the Profit-Sharing Ratio, Treatment of Goodwill, Treatment for Revaluation of Assets and Reassessment of Liabilities, Treatment of Reserves, Accumulated Profits and Losses, Adjustment of Capital Accounts and Preparation of Capital, Current Account and Balance Sheet.	50	25

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
	• ***Retirement and death of a partner:*** Effect of Retirement / Death of a Partner on change in Profit Sharing Ratio, Treatment of Goodwill, Treatment for Revaluation of Assets and Reassessment of Liabilities, Adjustment of Accumulated Profits, Losses and reserves, Adjustment of Capital Accounts and Preparation of Capital, Current Account and Balance Sheet, Preparation of Loan Account of the Retiring Partner, Calculation of deceased partner's Share of Profit till the date of death, Preparation of deceased partner's Capital Account and his Executor's Account. • ***Dissolution of Partnership Firm:*** Meaning of dissolution of partnership and partnership firm. Types of dissolution of a firm. Settlement of Accounts – Preparation of Realization Account, and other related accounts: Capital Accounts of Partners and cash/bank a/c (excluding piecemeal distribution, sale to a company and insolvency of partner(s)).		
Unit 2	**Accounting for Share Capital - II** • ***Accounting for share capital:*** Issue and allotment of equity and preferences shares including simple problems on prorata allotment. • ***Public subscription of shares:*** Over-subscription and under-subscription of shares; Issue at par and at premium, calls in advance and arrears (excluding interest), issue of shares for consideration other than cash. • ***Forfeiture and reissue of shares:*** Accounting treatment. • ***Disclosures:*** Disclosure of Share Capital in the Balance Sheet of a company as per Schedule III, Part I of the Companies Act, 2013.	20	10
Unit 3	**Cash Flow Statement** • ***Indirect Method of AS-3 (Revised) and without Adjustments:*** Meaning, Objectives, Benefits, Cash and Cash Equivalents, Classification of Activities and Preparation of Cash Flow Statement ***OR*** **Computerized Accounts - II** • ***Data Base Management System:*** Defining Data Base Requirements, Identification of Data to be stored in tables, Structure of Data. • Creating Data Table for Accounting, Using Queries, Forms and Reports for generating accounting information with the help of Microsoft Access Software.	10	5
	Total	**80**	**40**

[Note: **20 Hours** reserved for Remedial classes, Tutorials and Home Assignments.]

CLASS - XII

COURSE CODE: PROJECT

Full Marks: 20 [Project Report: 10 Marks; Viva Voce: 10 Marks]

*Students need to undertake any **one**project out of the four topics given below*

at the end of Semester IV of Class XII.

Topic 1	Analysis of Financial Statements of a concern applying the tools of Ratio Analysis from a given Balance Sheet.
Topic 2	Analysis of Financial Statements of two concerns applying the tools of Comparative and Common size Statements.
Topic 3	Preparation of Cash Flow Statement from given Financial Statement of at least two business enterprises.
Topic 4	Preparation of an imaginary Balance Sheet of any concern as per the Companies Act, 2013 along with Notes to Accounts from a given set of information.

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASSES XI AND XII

SUBJECT: AGRICULTURE (AGRI)

COURSE OVERVIEW

India is a developing nation and Agriculture is unquestionably its foundation. The country is leading in the production of food, fodder, fibre, fuel, fruit, flower, fish, and timber contributing raw materials to several large and small-scale industries. In a nutshell, Agriculture contributes a lion's share to the international trade. The mammoth population of the country is exclusively dependent on Agriculture, either directly or indirectly.BeingIndia'slargestprivateenterprise,itshares18.8%of the country's GDP (PRS India, 2021).We find a number of triumph tales that transformed the nation from the perception of a "beggingbowl" to one that is not only "self-sufficient" in food- grains but also a leading exporter of some Agricultural produces in the trans-boundary markets. In this laborious long voyage, the countryhas added a number of gems to her crown by impressive revolutions in the Agricultural sector -Green, White, Blue and Yellow; of which the "Green Revolution is considered as the mostastounding one at the global level thumping the population growth rate. Despite this glorious progress during the last few decades we can not ignore the grey part of the story as well. Although we have made commendable progress in food supply, 21.9% of our population now lives below the poverty line, and it is really ironical that a large portion of our society, mostly women and children goes to bed every night hungry (Asian Development Bank, 2020).The growth achieved in Agricultural sector has been attributed to the concerted efforts of skilled human resource developed through Agricultural Education System (AES).

Success of a curriculum is rated not only based on development of technologies and knowledge but also on demand and marketability of its product, i.e. student. Agricultural education must ensure employment of these 'products' to make it more relevant to the society and the nation.

There is a great demand and opportunities for Agriculture graduates in government departments and non-governmental organizations, banking & insurance sectors, retailing industry, multi-national companies.

It is estimated that, more than 16000 scientific manpower would be required to cater to the needs of R&D in the country. Meagre production of Agriculture graduates vis-a-vis Masters and Doctorates would not suffice this demand. So, the country along with its States would have to produce ample skilled manpower holding diploma, certificate or any other supporting degrees. This would satisfy the prescribed norm of one Agriculture extension person for every 1,000 population as against current availability of one per 10,000. At present day, there is a huge gap between the demand and supply of manpower in this sector. This data clearly show that the importance of AGRICULTURE in the school level is escalating day by day.

That means sincere efforts are required to attract a greater number of students towards Higher Agricultural Education. There is a vast scope for young graduates to undertake Agriculture as their profession which is directly or indirectly contributing to the economic and social sectors.

Agriculture as a subject at Higher Secondary level can play a crucial role in this context. There is a vast scope for young graduates to undertake Agriculture as their profession which is directly or indirectly contributing to the economic and social domains.

The new syllabus may help to reduce the gap between demand and supply of skilled manpower in this sector.

This course and lessons are designed in such a manner that the students will have both knowledge and skills of Agriculture.

COURSE OBJECTIVE

The course is a planned sequence of instructions consisting of units meant for developing the knowledge as well as skills regarding this course.

- To introduce the students with the new subject of Agriculture. They can understand the importance of Agriculture and other associated occupation related to Agriculture in Indian economy.
- To expose the relationship of crop growth with weather to the students. They will get a clear conception about different Agro climatic regions of West Bengal.
- To familiarize the students with soil and physical, chemical and biological properties of soil.
- To develop familiarity with the basic concept of Genetics and Plant Breeding in Agriculture. They will get basic idea about different selection methods like hybridisation, different types of modern crop varieties.
- To introduce the students with varied cultivation practices including handling of different manures, fertilisers, pesticides, fungicides and herbicides.
- To expose the students to different package of practices (POP) of important Agricultural and horticultural crop along with crop protection. They will get a comprehensive idea about IPM, INM, IDM and IWM.
- To help the students to comprehend the facts and importance of livestock management.
- To develop knowledge about different farming systems, cropping pattern, dry land Agriculture as well as different important schemes and policies related to Agriculture.
- The major objective of practical course is to expose students with first-hand knowledge about different aspects. They will be able to run important machines, solve practical mathematical problems, handle semi-sophisticated tools like pH meter, barometer etc.
- To make the students acquainted with the health and environmental management with special reference to Agricultural systems management.
- This course may enlighten rather steer the students in mining their future occupations / jobs through escalating their skills and knowledge. There remains wide opportunity of selecting entrepreneurship too.

CLASS - XI

SEMESTER – I

SUBJECT: AGRICULTURE (AGRI)

FULL MARKS: 35 **CONTACT HOURS: 100 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
I : An Introduction to Agriculture	▪ Agriculture and Its Different Branches, Relationship of Agriculture with other Disciplines ▪ Importance of Agriculture in Indian Economy, Green Revolution ▪ Allied Agriculture (Lac Culture, Apiculture, Sericulture, Pisciculture)–a brief concept, Subsidiary occupation related to Agriculture	12	09
II : Weather, Climate and Crop Seasons	▪ Weather and Climate– A Brief Concept ▪ Factors Affecting Weather and Crop Growth (Temperature, Sunshine, Cloud, Rainfall, Humidity, Fog, Frost, Wind and Storm) ▪ Cropping Seasons ▪ Broad Classification of Crops According to Use ▪ Agro-Climatic Regions of West Bengal ▪ Climate Change, Global Warming, and Its Effecton Agriculture	25	10
III : Soil and Physical Properties of Soil	▪ Definition of Soil, Components of Soil, Formation of Soil Weathering (Physical, Chemical and Biological), Factors of Soil Formation ▪ Soil Texture and Soil Structure ▪ Density of Soil (Bulk Density, Particle Density, Porosity and their Inter-Relationship) ▪ Soil Profile, Soils of India (Name, Area, Basic Properties) ▪ Soil Water, Types of Soil Water and their Characteristics, Soil Moisture Conservation, Calculation of Soil Moisture	25	10
IV : Genetics and Plant breeding in Agriculture – An Introduction	▪ Mendel's Law of Inheritance ▪ Concept of Gene, Allele, Mutation ▪ Role of Genetics in Plant Breeding ▪ Selection Methods of Plant Breeding (Bulk selection, Pure line selection, Mass selection and Pedigree selection) ▪ Hybridization and Tissue Culture Technique– Basic Concept ▪ Crop Varieties- Indigenous, HYV, Hybrid, G.M,	18	06

	and Transgenic– only definition with examples		
	Contact Hours	80	
	Practical Work	20	
	Total Hours	100	

CLASS - XI

SEMESTER – II

SUBJECT: AGRICULTURE (AGRI)

FULL MARKS: 35 **CONTACT HOURS: 100 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
V : Cultivation Practices	▪ Tillage (Definition, Objectives, Types) ▪ Seeds– Categories of Seeds, Seed Germination, Seed Treatment ▪ Land Preparation and Seed Bed Preparation, Sowing, Transplanting and intercultural Operations, Harvesting, Winnowing and Storage ▪ Different Kinds of Farm Implements and Their Uses	10	06
VI : Crop Production	▪ Package and Practices of Jute, Potato, Onion, Maize, Pulse (Gram), Oil seed(Mustard and Groundnut), Millet (Jowar, Bajra) Fodder crop(Berseem), Fruits (Papaya, Guava)	25	11
VII : Irrigation and Drainage	▪ Irrigation–Concepts, Sources, Types of Irrigation with Special Emphasis on Micro-Irrigation, Fertigation ▪ Water requirement of crops, Irrigation Requirements, Irrigation Efficiency and Scheduling of Irrigation. Drainage–concept, types and importance.	15	09
VIII: Farming System	▪ Farming System–Concept,Objectives, Components/ Enterprises ▪ Mixed Farming, Subsistance Farming, Specialized Farming, Crop Rotation, Mixed Cropping, Inter-Cropping, Relay Cropping, Paira Cropping, Multiple Cropping, Multi-Storied Cropping, Cropping Intensity	20	09
	Contact Hours	70	
	Practical Work	10	
	Home Assignment, Remedial and Tutorial Class	20	
	Total Hours	100	

CLASS: XI

SUBJECT: AGRICULTURE (AGRI)

COURSE CODE: PRACTICAL

GROUP: A (20 Marks)

1. Measurement and record of temperature, rainfall, air pressure.
2. Determination of soil texture by feel method.
3. Study of a soil profile.
4. Acquaintance with common farm implements and their operation (Country plough, mould board plough, seed drill, sprayer and duster).
5. Determination of Test Weight, Germination Percentage.
6. Preparation of seed bed, sowing of seeds.
7. Seed treatment.
8. Calculation of the seed requirement for a particular crop related to theory syllabus.

GROUP: B (10 Marks)

1. Project work related to theory course
2. Practical notebook
3. Viva voce

CLASS - XII

SEMESTER – III

SUBJECT: AGRICULTURE (AGRI)

FULL MARKS: 35 **CONTACT HOURS: 100 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
I : Growth of Crops	• Concept of Growth and Development • C3,C4,CAM Plants –in brief • Yield Components and Yield Calculation	12	06
II : Soil Chemical and Biological Properties	• Different Plant Nutrients and Their Availability to Plants • Mobility of Plant Nutrients in Soil and Plant • Soil Fertility and Productivity • Soil Colloid • Soil Reaction • Problem of Soil (Acid soil, Saline soil, Alkaline soil) • Soil MicroOrganism-Important Bacteria, Algae, Fungi, Actinomycetes (in brief) • Soil Organic Matter, Mineralization and Emmobilization • Soil Erosion and Its Control	25	10
III: Manures and Fertilizers	• Role of Manures and Fertilizers in Crop Production • Important Manures and Fertilizers– Compost, Farm Yard Manure (FYM), Green Manure, Vermicompost, Oil Cake, Bone meal, Ammonium Sulphate, Urea, Calcium, Ammonium Nitrate, Super-Phosphate, Potassium Sulphate, Potassium Chloride • Mixed Fertilizers - Their Properties and Uses • Bio-Fertilizers • Application of Fertilizers • Law of diminishing return in fertiliser use • INM (Integrated Nutrient Management)	25	10
IV: Livestock Management	• Importance of Livestock in Agriculture and Industry, White Revolution in India • Important Breeds of Cows, Buffaloes,	18	09

	Goats and Poultry in India • Signs of Sick Animals, Symptoms of Common Diseases in Cattle and Poultry- Rinderpest, Black Quarter, Foot-and-Mouth, Mastitis, Hemorrhagic Septicemia, Foul Pox, Ranikhet and Bird Flu– Their Control • Artificial Insemination– Brief Concept		
	Contact Hours	80	
	Practical Work	20	
	Total Hours	100	

CLASS - XII

SEMESTER – IV

SUBJECT: AGRICULTURE (AGRI)

FULL MARKS: 35 **CONTACT HOURS: 100 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
V : Crop Production	▪ Package and Practices – Land Preparation, Time of Sowing, Suitable Varieties, Cultivation Procedures, Manures and Fertilizers Application, Irrigation and Drainage, Intercultural Operations and Yield of Rice, Wheat, Sugarcane, Brinjal, Tomato, Mango and Banana (In tabular form-Cabbage, Cauliflower, Bottle Gourd, Bitter Gourd)	20	11
VI : Crop Protection	▪ Concept of Pests and Pesticides (with Special Reference to Target Pests and Mode of Action – Basic Idea) ▪ Concept of IPM, IDM and IWM ▪ Control of Different Insects, Diseases and Weeds of Different Crops (Rice, Wheat, Jute, Potato, Sugarcane, Brinjal, Mango, Banana, Mustard, Gram) ▪ Control of Rodents ▪ Handling of Pesticides	20	10

VII : Food Processing and Preservation	▪ Principles and Methods of Fruits and Vegetables preservation ▪ Preparation of Jelly, Jam, Ketchup, Chips and Their Packing	15	07
VIII : Dry land AGNM culture and Important Policies	▪ Special Features of Dryland Farming / Rainfed Agriculture ▪ Different Important Schemes: Crop Insurance, Kishan Credit Card	15	07
	Contact Hours	70	35
	Practical Work	10	
	Home Assignment, Remedial and Tutorial Class	20	
	Total Hours	100	

CLASS: XII

SUBJECT: AGRICULTURE (AGRI)

COURSE CODE: PRACTICAL

GROUP: A (20 Marks)

1. Collection of Soil sample and preparation of the soil samples for laboratory experiment.
2. Determination of soil pH by pH meter.
3. Identification of different manures and fertilisers.
4. Preparation of compost pit.
5. Identification of crop seeds (related to syllabus only), different farm weeds, important insect pests and diseases and their damages.
6. Mathematical calculation for the formulation of spraying chemicals.
7. Calculation of yield of different crops by studying yield attributes of crop related to theory portion.
8. Mathematical calculation for the requirement of fertiliser in the crop field.
9. Determination of cropping intensity.
10. Cost of cultivation of different crops related to theory portion.
11. Students practice air layering, budding, inarching and Gooti making.

GROUP: B (10 Marks)

1. Project work related to theory course.
2. Practical notebook or laboratory notebook.
3. Viva voce.

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII
SUBJECT : ANTHROPOLOGY (ANTH)

Course overview :

Anthropology is the study of human beings in time and space. This course is based on an integrated approach to the subject which incorporates insights from physical, social and archaeological anthropology. The course attempts to provide an in-depth understanding which involves a holistic approach of Anthropology using theoretical and practical techniques.

Course objective :

The course aims to develop competence among students to explore key questions about human diversity in the past, present, and future. It would also equip the learners to employ anthropological insights to understand and relate contemporary bio-social shifts.

CLASS - XI

SEMESTER – I

SUBJECT : ANTHROPOLOGY (ANTH)

FULL MARKS : 35 **CONTACT HOURS : 80 Hours**

COURSE CODE : THEORY

Subject Topics : Introducing Anthropology :

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit -1	**1. Introduction to Anthropology** i. Definition, concept of Anthropology, history, development of Anthropology in India [Major stages]. ii. Branches of Anthropology, relationship of Anthropology with other disciplines [Biology, Geography, Geology, Psychology, Sociology, Economics, Political Science and History].	8	3
Unit -2	**2. Biological Anthropology** i. Concept, aim, scope and branches. ii. How can we identify ourselves in the animal kingdom, in order primates following the classification of Simpson. iii. How some of our living ancestors Indian monkeys and apes (like Macaque, Langur, Gibbon) and African ape (like Chimpanzee) are similar and different in morphological, skeletal and behavioural features and distribution.	20	9
Unit -3	**3. Social-Cultural Anthropology** i. History, branches and scope of Social-Cultural Anthropology ii. Why do we study society and culture? iii. Concept of society, community, institution, association and social groups. iv. Concept of culture (material and non-material culture), acculturation, social change, enculturation, diffusion and assimilation. Cultural relativism and ethnocentrism.	20	9
Unit -4	**4. Archaeological anthropology** i. Introduction to Archaeological anthropology – aim and scope and its relation to palaeoanthropology and prehistoric archaeology. ii. Geological time scale, palaeo-environment [Glacial, inter-glacial, pluvial and inter-pluvial phases] iii. Evidences of palaeoenvironment – biotic and abiotic components. Paleoenvironment and human interface.	20	9
Unit -5	**5. Theories of organic evolution and basic genetics** i. Lamarckism, Darwinism and Neo-Darwinism and the criticisms ii. Laws of Mendel. Concept of chromosome and allele. Significance of crossing over and recombination. Application of Mendel's laws in human [PTC tasting ability, ABO blood groups system, albinism and colour blindness].	12	5

CLASS - XI

SEMESTER – II

SUBJECT : ANTHROPOLOGY (ANTH)

FULL MARKS : 35 **CONTACT HOURS : 70 Hours**

COURSE CODE : THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit -1	**1. Evolutionary trends** i. Evolutionary trends of Primates, locomotory changes, encephalization. ii. External morphological features of humans, skeletal morphology [only name, number and position of bones].	14	7
Unit -2	**2. Human biological evolution** i. Who are humans? How and why we evolved? Role of genetics and environment in human evolution. [Distribution and salient features only of the following specimens] ii. *Australopithecus* [afarensis and africanus variety] iii. *Homo erectus* [Java man and Peking man] iv. *Homo sapiens neanderthalensis* [La-Chapelle-aux-saints] v. *Homo sapiens sapiens* [Cro Magnon man].	14	7
Unit -3	**3. Cultural evolution** i. Geological time scale, salient features and distribution of the following] ii. Why do we study prehistoric culture? How can we reconstruct the life and livelihood of our ancestors by studying prehistoric culture? iii. Three age paradigm: Distribution, general characteristic features and typical tool types and technology iv. Palaeolithic [Lower, Middle and Upper] v. Mesolithic vi. Neolithic.	14	7
Unit -4	**4. Indian Tribal populations** i. Concept of tribe. Colonial construct and postcolonial construct of tribal population. ii. Tribal population and Particular Vulnerable Tribal Groups (PVTGs) in India. Distribution, traditional economic pursuits and changes in subsistence economy iii. Constitutional provisions and safeguards for Indian Tribal populations. Why are these safeguards required ?	14	7
Unit -5	**5. Social stratification** i. Concept of social stratification. ii. Emergence of stratified society iii. Caste, Class and Clan [definition, features] iv. Origin of Indian Caste system, debates and changes in the Indian caste system.	14	7

[20 contact hours for remedial teaching, tutorials and home assignment for Semester I and II]

CLASS - XI

SEMESTER-I & SEMESTER-II

SUBJECT : ANTHROPOLOGY (ANTH)

FULL MARKS : 30 **CONTACT HOURS : 20 hours (1st sem) + 10 hours (2nd sem)**

COURSE CODE : PRACTICAL

Subject Topic : Practical in Biological Anthropology :

a. Identification of the following tools [handaxe, cleaver, scraper, point, harpoon, one microlith, celt] with salient features from original/cast/photograph. Drawing and labelling of the tools, their features, cultural age, technology and probable use need to be documented in the laboratory note book. (6 Marks)

b. Identification of the following human bones with salient features from original/cast/photograph [scapula, humerus, ulna, radius, innominate, femur and tibia]. Drawing and labelling of these bones need to be documented in the laboratory note book. (8 Marks)

c. Identification of the skull cap/cranium of the following fossil remains from cast/photograph based on salient features. Drawing and labelling of these fossils need to be documented in the laboratory note book. (6 Marks)

   i. Australopithecus (africanus)

   ii. Java man

   iii. Neanderthal man

   iv. Cro Magnon man

d. Laboratory Note Book (5 marks)

e. Viva-voce (5 Marks)

CLASS - XII

SEMESTER – III

SUBJECT : ANTHROPOLOGY (ANTH)

FULL MARKS : 35 **CONTACT HOURS : 80 Hours**

COURSE CODE : THEORY

Subject Topics : Introducing Anthropology :

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit -1	**Indian prehistory** Study of the following prehistoric sites of India [Location, general features, tool typology and technology and other associated findings and significance] i. Sohan and Attirrampakkam ii. Nevasa iii. Bhimbetka iv. Birbhanpur v. Burzahom	12	5
Unit -2	**Human Biological diversity** i. Historical concept of race and racial criteria (skin colour, head hair, nose form, stature, ABO blood group), concept of typological (Blumenbach and Hooton; for Indian population H.H. Risley, B.S. Guha and S.S. Sarkar) and evolutionary models (Garn) of race. ii. Racism, inequality; UNESCO statement on race, concept of ethnic group and ethnicity. Contemporary relevance of studying ethnic diversity [prehistoric migration, ethnicity and disease]	16	8
Unit -3	**Anthropology and Religion** i. Concept of religion. Religion and society. ii. Supernatural Beliefs, Animism, Animatism, Naturism, Manaism, Totemism, Taboo, Sacred and Profane, Myth, Cult iii. Ancestor Worship, religion and magic, Witchcraft and Sorcery, Evil Eye iv. Religious beliefs and practices of tribal communities with respect to Santal, Chenchu, Garo, Toda	16	8

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit -4	**Overview of some applied areas of anthropology** i. Forensic anthropology: Definition, Basic Concept, evidences generally used for personal identification (like use of ABO blood group, skeletal remains and finger prints) and paternity diagnosis (use of ABO blood group) ii. Nutritional Anthropology: Concept, Ecology and food, culture and food; effect of globalization on dietary habit, gender and food, measures of nutritional status (BMI and waist-hip ratio) . iii. Anthropology and Museum Studies: Notion of Museum, types of museum, material conservation and documentation, and cataloging, museum as education and public engagement. iv. Anthropology and Development: Concept of development, anthropological insights on development, relevance and contribution of anthropology to development, outline of tribal development in India.	26	10
Unit -5	**Contribution of some Indian Anthropologists** S.C. Roy, H.D. Sankalia, Dharani Sen, Nirmal K. Bose, Ashok Ghosh, P.K. Bhowmik, D.P. Mukherjee, Amitabha Basu, B.M. Das.	10	4

CLASS - XII

SEMESTER – IV

SUBJECT : ANTHROPOLOGY (ANTH)

FULL MARKS : 35 **CONTACT HOURS : 70 Hours**

COURSE CODE : THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit -1	**Subsistence economy** i. Define modes of subsistence. Concept of surplus, exchange, reciprocity and market economy. ii. Describe the general elements of all modes of subsistence. iii. Distribution of Indian tribal populations on the basis of subsistence economy. iv. Subsistence economy of tribal populations [Garo , Toda, Santal and Chenchu] v. Subsistence economy of Particularly Vulnerable Tribal Groups [Toto and Lodha].	14	7
Unit -2	**Social Organisation of some Indian tribal populations** Santal, Toda, Lodha, Chenchu, Garo	14	7
Unit -3	**Indian Protohistory** i. Chalcolithic period: Definition, Geographical distribution, Characteristic features, Chalcolithic pottery, Chalcolithic settlements [Ahar culture, Malwa culture, Pandurajar Dhibi] ii. Indus valley civilization (IVC): Concept of civilization, geographical distribution of IVC, town planning, art and craft, religion, trade, possible causes of decline.	14	7
Unit -4	**Human Growth and Adaptation** i. Basic concepts of growth, development and maturation; overview of prenatal and postnatal growth, factors affecting growth ii. Definition, concept and significance of studying human adaptation, biological adaptation, cultural adaptation and developmental adjustment iii. Adaptation to cold iv. Adaptation to hot and humid v. Adaptation in high altitude.	14	7
Unit -5	**Fieldwork in Anthropology** i. Anthropological fieldwork: Definition, concept and prospect ii. Field work tradition in Anthropology from colonial to contemporary period. iii. Steps and techniques of fieldwork [site selection, rapport establishment, ethnography (participant and non-participant observations), interview (structured and unstructured), case study, bias in fieldwork, culture shock.	14	7

[20 contact hours for remedial teaching, tutorials and home assignment for Semester III and IV]

CLASS - XII

SEMESTER-III & SEMESTER-IV

SUBJECT : ANTHROPOLOGY (ANTH)

FULL MARKS : 30 **CONTACT HOURS : 20 hours (1st sem) + 10 hours (2nd sem)**

COURSE CODE : PRACTICAL

Subject Topics : Fieldwork

A. Fieldwork in Social-cultural Anthropology **25 Marks**

a. Training of students in carrying out local fieldwork. The candidates are required to collect census data [age, sex, marital status, occupation, education] on 15 households, conduct interviews from at least 10 adult individuals about their perception and attitudes towards any one of the following social issues: child marriage, dowry system, domestic violence, child labour.

Field report (handwritten or typed to be submitted at the time of examination), the report should contain (i) Introduction to fieldwork, (ii) utility of fieldwork, (iii) selection of study area, (iv) description of the study area, (v) process of rapport establishment, (vi) method of data collection, (vii) presentation of census data in the form of tables (viii) documentation of interview excerpts (ix) Conclusion and references. (20 marks)

b. Viva-voce (5 Marks)

B. Estimation of the nutritional status based on BMI **5 Marks**

a. Students should collect data (measurements of height and weight) at least from 10 individuals and calculate BMI and finally assess their nutritional status based on WHO (1995) standard.

b. A report should be prepared (handwritten or typed) duly signed by the teacher for examination (3 marks)

c. Viva voce. (2 marks)

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASS XI AND XII
SUBJECT : ARTIFICIAL INTELLIGENCE (ARTI)

Course Objectives :

The objectives of this course are:

- To impart knowledge about basic computer fundamentals and programming environments required for implementing Artificial Intelligence (AI) systems.
- To enable the students to understand the history of AI and the basic principles of modern AI.
- To enable students to learn the informed and uninformed search methods, and a simple evolutionary algorithm for solving problems.
- To enable students to understand the fundamentals of knowledge representation, building of simple knowledge-based systems, and to apply knowledge representation and reasoning
- To enable the students to understand important machine learning(ML) algorithms used for improving various components of an AI agent
- To enable the students to understand the uses of AI and ML in various applications.
- To enable the student to understand ethics in AI
- To gain practical experience in developing various AI and ML models

Course outcomes:

Upon successful completion of this course, the student shall be able to:

- Demonstrate an understanding of the history of AI and its foundations.
- Apply basic principles of AI in problem-solving that require perception, knowledge representation , inference, and learning.
- Demonstrate awareness and a fundamental understanding of various applications of AI and Machine Learning techniques in real-world problem solving.
- Demonstrate proficiency in developing various real-world AI and ML applications using the latest programming languages and software tools.
- Demonstrate an ability to share in discussions of AI and ML, its current scope and limitations, and its impact on society.

CLASS - XI

SEMESTER – I

SUBJECT: ARTIFICIAL INTELLIGENCE (ARTI)

FULL MARKS: 35 **CONTACT HOURS: 60 Hours**

COURSE CODE: THEORY

UNIT NO.	SUB UNIT	TOPICS	CONTACT HOURS	MARKS
Unit -1 Computer Fundamental (15)	1a	History of computer, Basic Computer hardware, input and output devices, Basic computer architecture, input output devices, memory and CPU, networking of machines (overview of LAN, MAN, WAN, Internet, Wifi etc), types of computer (workstation, desktop, Smartphone, embedded system, etc.), Overview of Software (system software and application software with examples (mention names only), Definition of Operating System and functions (mention names of some popular operating systems like Windows, Linux, Android, etc).	8	5
	1b	Bit, Byte and Word, Number System (Base, Binary, Decimal, Octal, Hexadecimal), Conversion of number systems, Boolean logic (Boolean Gates), Boolean operators (OR, AND and NOT), ASCII code, Concept of Algorithm and Flowchart.	6	5
	1c	Basics of Computer Programming (three levels: high level language, assembly language, machine language, definition and block diagrams), Overview of Compiler and Interpreter (definition and mention name of major compiled (e.g., C, C++) and interpreted languages (e.g., Python), Overview of procedural and object oriented programming (key features and just the basic differences, mention names of some popular procedural (e.g., BASIC, FORTRAN, C) and object oriented programming languages (e.g., C++, Java, Python).	10	5

UNIT NO.	SUB UNIT	TOPICS	CONTACT HOURS	MARKS
Unit -2 Introduction to Python Programm-ing (15)	2a	Basics of Python programming (with a simple 'hello world' program, process of writing a program, running it, and print statement), Concept of class and object, Data-types (integer, float, string), Notion of a variable, Operators (assignment, logical, arithmetic etc.), accepting input from console, conditional statements (If else and Nested If else), Collections (List, Tuple, Sets and Dictionary), Loops (For Loop, While Loop & Nested Loops), Iterator, String and fundamental string operations (compare, concatenation, sub-string etc.), Function, Recursion.	12	5
	2b	Overview of linear and non-linear data structure (definition, schematic view and difference), array (1D, 2D and its relation with matrix, basic operations: access elements using index, insert, delete, search), stack (concept of LIFO, basic operations: Push, Pop, peek, size), queue (concept of FIFO, basic operations: Enqueue, Dequeue, peek, size), use of List methods in python for basic operations on array, stack and queue, overview of NumPy library and basic array operations (arrange(), shape(), ndim(), dtype() etc.), binary tree (definition and schematic view only) .	12	6
	2c	Linear search and binary search algorithm, sorting algorithm (bubble sort only)	4	4
Unit -3 Introduction to Linear Algebra (5)	3	Basic matrix operations like matrix addition, subtraction, multiplication, transpose of matrix, identity matrix. A brief introduction to vectors, unit vector, normal vector, Euclidean space Probability distribution, frequency, mean, median and mode, variance and standard deviation, Gaussian distribution, Distance function, Euclidean norm, distance between two points in 2D and 3D and extension of idea to *n* dimensions	8	5

NB : Additional 10 hours for Remedial and/or Tutorial classes

CLASS - XI

SEMESTER – II

SUBJECT: ARTIFICIAL INTELLIGENCE (ARTI)

FULL MARKS: 35 **CONTACT HOURS: 60 HOURS**

COURSE CODE: THEORY

UNIT NO.	SUB UNIT	TOPICS	CONTACT HOURS	MARKS
Unit -4 Foundation of AI & Search as Optimization (18)	4a	History of AI: Alan Turing and cracking enigma, mark 1 machines, 1956-the birth of the term AI, AI winter of 70's, expert systems of 1980s, skipped journey of present day AI. Distinction between terms AI, Pattern recognition and Machine Learning **Note: should be taught as a story more than flow of information World war 2, Enigma and Alan Turing, the birth of modern computers.**	6	3
	4b	Search as optimization: how to search for the best answer to a question? playing tic-tac-toe ● State Space Search, different states as different solutions of a problem ● Mathematical equation for optimizing a result, example tic-tac-toe, the states of the board and equation to calculate score of the board with respect to a player ● Expanding possible states from a state and choosing the best state Uninformed search a) Breadth first search b) Depth first search Informed search a) Heuristic search strategy with tic tac toe example b) Greedy best-first search c) A* search - basic idea only**(without proof)** d) Hill climbing **(only basic idea with a small example)** e) Simulated Annealing **(No algorithm, Only basic idea)**	16	10
	4c	Evolution and Darwin's theory, inspiration of evolutionary algorithms, crossover and mutation, Russian roulette for random selection, optimization using genetic algorithm, one use of GA (to be chosen) practical: mention libraries and problem. ● Natural evolution theory, survival of the fittest ● Expressing a solution vector as gene, example of binary strings ● Crossover and mutation, its equivalent over binary strings ● Random selection of genes from pool and random mutation ● Fitness function ● Practical example by finding the root of a univariate equation.	10	5

UNIT NO.	SUB UNIT	TOPICS	CONTACT HOURS	MARKS
5 Knowledge representation and reasoning (10)	5	Logic in computer science, propositional logic, logic as expressions, truth table, conjunction, disjunction, syllogism, tautology, De Morgan's theorem. Use of logic to derive conclusions with practical examples [NO LAB COMPONENT] ● Statements as logical propositions ● Atomic and compound propositions ● Negation, conjunction and disjunction as NOT, AND and OR ● Implication and Biconditional statements ● Truth table as a way of proving propositions ● Commutativity and Associativity and Distributive rules ● De Morgan's theorem ● Practical examples to infer meanings from statements ● Simple concept of Unification (without details of MGU) ● Simple concept of clause **(With Simple example)** ● Basic concept of Inference **(With Simple example)** ● Example of Answer Extraction system ● A brief introduction to fuzzy logic **(Only basic idea)**	16	10
6 Uncertainty Management (5)	6	Handling Uncertain Knowledge Uncertainty and Rational decision Probabilistic Reasoning Bayes Rule Conditional probability Probabilistic inference using Bayes rule a. General method(Simple cases) b. Combining evidence	8	5
7 Preliminary Concept of Chatbots (2)	7	What is Chatbot? • Examples of different Chatbots • The flowchart describing basic working principle of Chatbots.	4	2

NB : Additional 10 hours for Remedial and/or Tutorial classes

CLASS: XI

SUBJECT: ARTIFICIAL INTELLIGENCE (ARTI)

COURSE CODE: PRACTICAL

FULL MARKS: 30 **CONTACT HOURS: 60 HOURS**

Sub Topic

SL NO	TOPICS	CONTACT HOURS	MARKS
1. Computer Fundamentals [No marks]			
1a	• Visit to Computer Lab and familiarization with computers and peripherals and different networking devices (e.g., modem, switch, router). • Opening of the CPU box/cabinet and identification of different parts (e.g., Motherboard, CPU/Processor, RAM, Hard Disk, power supply).	6	0
2. Introduction to Python Programming [15 Marks]			
2a	• Introduction to installation and running of python codes with hello world and simple accessing user inputs from console examples. • Menu driven arithmetic calculator • Simple logical and mathematical programs (e.g., printing patterns, Conversion of binary to decimal and vice versa, Computing GCD of two numbers, Finding prime numbers, Generating Fibonacci sequence, Computing factorial –iterative and recursive etc.) • Finding max, min, avg, sum, length of a list • Use of basic string methods like upper(), lower(), count(), find(), join(), replace(), split() etc.	12	3
2b	• Use of Python List methods for Stack and Queue implementation, for examples, append() and pop() • Use of NumPy array methods: arrange(), shape(), ndim(), size(), add(), subtract(), multiply(), divide(), mat() etc. • Use of NumPy matrix multiplication methods: dot(), matmul(), multiply() etc.	6	7

SL NO	TOPICS	CONTACT HOURS	MARKS
2c	• Linear search and binary search in an array • Bubble sort in an array	4	5
3. Foundation for AI [3 Marks]			
3a	• Generation of random numbers in python following a Gaussian distribution and filling up random arrays • Introduction to matplotlib to plot arrays as histograms • Computation of mean, median and mode • Plotting Gaussian distribution with a given mean and standard deviation	8	3
4. Search as Optimization (basic principles and example based understanding) [12 Marks]			
4a	• Implementing 8-puzzle problem using DFS and BFS • Use of class to denote state of a problem, example board state of tic tac toe • Expansion of possible states from a given state with all possible moves • Score function of each state and selection of highest score or least cost at each level, i.e. making game tree	20	7
4b	• Use of a class with an array and fitness score to define a solution of a problem, example root finding of a linear equation with the solution stored in binary. Basic genetic algorithm • Binary crossover and mutation, selection using CDF of random distribution, i.e Russian Roulette	4	5

NB : Additional 10 hours for Remedial and/or Tutorial classes

CLASS - XII

SEMESTER – III

SUBJECT: ARTIFICIAL INTELLIGENCE (ARTI)

FULL MARKS: 35 **CONTACT HOURS: 60 Hours**

COURSE CODE: THEORY

UNIT NO.	SUB UNIT	TOPICS	CONTACT HOURS	MARKS
1 Foundation of Statistics for Machine Learning (5)	1	Distance between distributions - Euclidean norm, Pearson correlation coefficient, basic concepts of (not in details) chi square distance, Bayes theorem and Bayesian probability ● Real *n* dimensional space (R^n) and Vector Algebra ,dot product of two vectors, vector projections. ● Product moment correlation coefficient (Pearson's coefficient) its use in determining relation between two sets of data ● Chi square and , use in finding distance between two distributions ● Conditional probability and Bayes theorem , conditional independence	10	5
2 Introduction to Machine Learning (15)	2a	• What is machine learning? • Difference between traditional programming and Machine Learning • Relation of Machine Learning with AI • Applications of machine learning • Why should machines have to learn? Why not design machines to perform as desired in the first place? • Types of Machine Learning (Supervised, Unsupervised, Semi-supervised and reinforcement learning) • Linear Regression with one variable • Hypothesis representation, hypothesis space • Learning requires bias • Concept of training examples • Concept of Loss function , • Training methods: Iterative trial-and-error process that machine learning algorithms may use to train a model, Disadvantages of iterative training method, Mean Squared Error(MSE), Gradient descent algorithm. Effect of learning rate on reducing loss, Importance of feature scaling (min-max normalization).	16	10
	2b	What is a feature or attribute? Some examples Types of features(continuous, categorical) Representation of training examples with multiple features Linear Regression with multiple attributes (**Only formula for finding weight vector without Derivation)** Feature cross and Polynomial Regression	8	5

UNIT NO.	SUB UNIT	TOPICS	CONTACT HOURS	MARKS
3. Supervised Learning (15)	3a	• Difference between regression and classification. • Examples of some real world classification problems, • Linear classification and threshold classifier, Concept of misclassification error, accuracy. • Concept of input space and linear separator • Drawback of threshold classifier • Logistic regression model (without derivation) • Use of logistic function in defining hypothesis function for logistic regression model. • Probabilistic interpretation of output of the logistic regression model • Use of logistic regression model in binary classification task. • Multi-class classification using One *vs.* all strategy. • Instance based learning, K-nearest neighbor classifier, curse of dimensionality	18	10
	3b	Measuring Classifier performance: confusion matrix, true positive, true negative, false positive, false negative, error, accuracy, precision, recall, F-measure, sensitivity and specificity, K-fold cross validation	8	5

NB : Additional 10 hours for Remedial and/or Tutorial classes

CLASS - XII

SEMESTER – IV

SUBJECT: ARTIFICIAL INTELLIGENCE (ARTI)

FULL MARKS: 35 **CONTACT HOURS: 60 HOURS**

COURSE CODE: THEORY

UNIT NO.	SUB UNIT	TOPICS	CONTACT HOURS	MARKS
4 Unsupervised Learning (15)	4a	What is supervised learning Name some of the supervised learning algorithm Probabilistic classifier: Basics of Bayesian Learning, Conditional independence, Naive Bayes classifier. Applications of Naive Bayes Classifier to sentiment classification task, add-one smoothing. Decision tree Learning: Concept of entropy for measuring purity (impurity) of a collection of training examples. and information gain as a measure of the effectiveness of an attribute in classifying the training data **(just basics and equation)** . Inducing decision tree from the training data using the ID3 algorithm , an illustrative example showing how the ID3 algorithm works. Concept of overfitting, reduced error pruning, Discretizing continuous-valued Attributes using information gain-based method **(binary split only)**	20	10
	4b	• What is unsupervised learning? • Difference between supervised and unsupervised learning. • What is clustering? • Why is clustering and unsupervised learning technique? • Some examples of real world application of clustering, • Difference between clustering and classification. • K-means clustering algorithm. Simple use cases	12	5

UNIT NO.	SUB UNIT	TOPICS	CONTACT HOURS	MARKS
5 Artificial Neural Network (17)	5a	● Biological motivation for Artificial Neural Networks(ANN) ● A simple mathematical model of a neuron (McCulloch and Pitts(1943)) ● Concept of activation function: threshold function and Sigmoid function, ● Perceptron as a linear classifier, perceptron training rule ● Representations of AND and OR functions of two inputs using threshold perceptron. ● Equation of a linear separator in the input space, Representational power of perceptrons ● Training unthresholded perceptron using Delta rule(with derivation) , Need for hidden layers , XOR example, ● Why do we need non-linearity? Network structures: feed forward networks and recurrent networks **(basic concept only)** ● Training multiplayer feed-forward neural networks using Back propagation algorithm **(Concepts only and no derivation).** ● Generalization, overfitting, and stopping criterion, overcoming the overfitting problem using a set of validation data ● An Illustrative example of an ANN architecture for handwritten digit recognition **(Only input representation, output representation and a block diagram of the network)** ● Need for automatic feature learning, difference between the conventional feed-forward neural networks and CNN, role of convolution layer in CNN, An example of 2D convolution, function of pooling layer ● A block diagram illustrating CNN applied to handwritten digit recognition task	26	17
6 Ethics in AI (3)	6a	Brief discussion on important ethical issues in AI	2	3

NB : Additional 10 hours for Remedial and/or Tutorial classes

CLASS: XII

SUBJECT: ARTIFICIAL INTELLIGENCE (ARTI)

COURSE CODE: PRACTICAL

FULL MARKS: 30 **CONTACT HOURS: 60 HOURS**

SL NO	TOPICS	CONTACT HOURS	MARKS
1. Foundation of Statistics for Machine Learning [2 Marks]			
1a	● Calculating Euclidean distance between two vectors using a python program without using any library. ● Consider a table of data about *n* persons with two attributes-age and income and find Pearson correlation coefficient using a python program. Do not use any ready -to-use library function that directly accepts the data table and produces the output.	8	2
2. Introduction to Machine Learning [6 Marks]			
2a	● Introduction to python libraries like scipy and statsmodel to various basic codes ● Revisit matrix operations using scipy (basic matrix operations of addition, subtraction, multiplication, transpose) ● Using Scipy for advanced matrix operations - inverse	12	3
2b	• Generation of random (x, y) pairs where y = f(x) + d (d varies from -r to +r , a random value), f being a linear function • Linear regression or line fitting of the data • Optimizing the function using gradient descent • Plotting the steps using matplotlib	6	3

SL NO	TOPICS	CONTACT HOURS	MARKS
3. Supervised Learning [13 Marks]			
3a	● Building linear regression-based threshold classifier and testing the model on Diabetes Data set downloadable from UCI Machine Learning Repository ● Building Logistic regression model for binary classification of Diabetes Data. Vary learning rate and verify the impact of learning rate on classification performance. ● Introduction to the IRIS dataset, building a logistic regression for multi-class classification and testing the model on the IRIS dataset downloadable from UCI Machine Learning Repository ● Building K-nearest neighbor classifier and testing on the IRIS dataset downloadable from UCI Machine Learning Repository (Use Scikit-learn open source data analysis library for implementing the models)	16	7
3b	• Building a naive Bayes classifier for sentiment analysis (Use Scikit-learn open source data analysis library)	4	3
3c	● Loading csv file based datasets using file read operation in python ● Introduction to pandas library and loading csv and json files ● Using Scikit-learn library to develop decision tree classifier in python.	4	3
4. Unsupervised Learning [3 Marks]			
4a	Using Scikit-learn library to use the K-means algorithm for clustering IRIS data and its visualization	4	3
5. Artificial Neural Network [6 marks]			
5a	● Using MLP from Scikit learn library, develop a handwritten digit recognition model using MLP and MNIST dataset ● Using CNN from keras library, develop a handwritten digit recognition model using CNN and MNIST dataset ● Compare the performance of the MLP based model and the CNN based model for the handwritten digit recognition task	6	6

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASS XI AND XII

SUBJECT : BIOLOGICAL SCIENCE (BIOS)

CLASS - XI

SEMESTER – I

FULL MARKS : 35 **CONTACT HOURS : 55 Hours**

COURSE CODE: THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT I (DIVERSITY OF LIVING ORGANISM)	Chapter-1: The Living World Biodiversity; need for classification; three domains of life; Taxonomy and Systematics; concept of species; and taxonomical hierarchy; binomial nomenclature; Tools for study of Biodiversity; Museums; Zoological and Botanical Gardens; Herbaria (Definition: World's largest herbarium, name of the herbarium in Bengal, Importance of herbarium)	2	19
	Chapter-2: Biological Classification Five Kingdoms of Classification; Salient features and classification of Monera; Protista and Fungi into major groups; Lichens, Viruses, Viroids and Prions.	5	
	Chapter-3: Plant Kingdom Classification of Plants into major Groups, Salient and distinguishing features and a few examples of Algae, Bryophyta, Pteridophyta, Gymnosperm.	5	
	Chapter-4: Animal Kingdom Salient features and classification of animals, non-chordates up to phyla level and chordates up to class level.	7	
UNIT II STRUCTURAL ORGANIZATIONS IN PLANTS AND ANIMALS)	Chapter-5: Morphology of Flowering Plants Morphology of different parts of flowering plants: root, stem, leaf, inflorescence, flower, fruit, and seed. Description of families : Malvaceae, Solanaceae, Brassicaceae, Compositae, Leguminosae (Dicots), Poaceae, Liliaceae (Monocots).	8	16
	Chapter-6: Anatomy of Flowering Plants Plant tissue systems including Mechanical tissue systems, anatomy and functions of tissue systems in dicots and monocots.	4	
	Chapter-7: Structural Organization in Animals Animal Tissue Systems: epithelial, connective, muscular and nervous systems (structure, organization and function); morphology, anatomy and functions of different systems; digestive, circulatory, respiratory, nervous, and reproductive systems of frog.	4	

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT III (CELL STRUCTURE AND FUNCTIONS)	Chapter-8: Cell- The Unit of Life Cell theory and cell as the basic unit of life; structure of prokaryotic and eukaryotic cells; Plant cell and Animal cell; cell envelope; cell membrane, cell wall; cell organelles — structure and function; endo-membrane system, nucleus, endoplasmic reticulum, golgi bodies, lysosomes, vacuoles, mitochondria, ribosomes, plastids, microbodies, cytoskeleton, cilia, flagella, centrioles (ultra-structure and function).	7	20
	Chapter-9: Biomolecules Chemical constituents of living cells: biomolecules; structure and function of proteins; carbohydrates; lipids; and nucleic acids; Enzyme — types; properties; enzyme action.	9	
	Chapter-10: Cell Cycle and Cell Division Cell cycle; mitosis; meiosis; and their significance.	4	

CLASS - XI

SEMESTER – II

SUBJECT : BIOLOGICAL SCIENCE (BIOS)

FULL MARKS : 35 **CONTACT HOURS : 97 HOURS**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT IV (PLANT PHYSIOLOGY)	Chapter-11: Photosynthesis in Higher Plants Photosynthesis as a means of autotrophic nutrition; site of photosynthesis, pigments involved in photosynthesis (structure of chlorophyll; empirical formula of chlorophyll a, b, c, d, e, bacteriochlorophyll, carotene and xanthophyll); photochemical and biosynthetic phases of photosynthesis; cyclic and non-cyclic photophosphorylation; chemiosmotic hypothesis, photorespiration, C3 and C4 pathways, CAM Cycle (schematic pathway only), factors affecting photosynthesis.	14	34
	Chapter-12: Respiration in Plants Exchange of gases; cellular respiration — glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); energy relations — number of ATP molecules generated; amphibolic pathways; respiratory quotient.	14	
	Chapter-13: Plant Growth and Development Seed germination; phases of plant growth and plant growth rate; conditions of growth; differentiation, dedifferentiation and redifferentiation; sequence of developmental processes in a plant cell; plant growth regulators — auxin, gibberellin, cytokinin, ethylene, ABA, Photoperiodism — Definition and different types.	6	

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT V (HUMAN PHYSIOLOGY)	Chapter – 14: Digestion and Absorption Introduction; Structure of human alimentary canal (drawing, labelling and function of different parts including dental arrangement and digestive glands); Role of digestive enzymes and the GI hormone in digestion; Peristalsis; Digestion, absorption and assimilation of protein, carbohydrate and fat; egestion; Nutritional and digestive disorders — PEM (protein energy malnutrition) indigestion, constipation, vomiting, jaundice, diarrhoea.	9	63
	Chapter-15: Breathing and Exchange of Gases Respiratory organs in animals (name only); Respiratory system in humans; mechanism of breathing and its regulation in humans - exchange of gases, transport of gases and regulation of respiration, respiratory volume; disorders related to respiration — asthma, emphysema, occupational respiratory disorders.	9	
	Chapter-16: Body Fluids and Circulation Composition of blood, blood groups, coagulation of blood; composition of lymph and its function; human circulatory system - Structure of human heart and blood vessels; cardiac cycle, cardiac output, ECG; double circulation; regulation of cardiac activity; disorders of circulatory system — hypertension, coronary artery disease, angina pectoris, heart failure.	9	
	Chapter-17: Excretory Products and their Elimination Modes of excretion — ammonotelism, ureotelism, uricotelism; human excretory system – structure and function; urine formation, osmoregulation; counter-current mechanism; regulation of kidney function — renin-angiotensin system, atrialnatriuretic factor, ADH and diabetes insipidus; role of other organs in excretion; disorders — uremia, renal failure, renal calculi, nephritis; dialysis and artificial kidney, kidney transplant.	7	
	Chapter-18: Locomotion and Movement Types of movement - ciliary, flagellar, muscular; skeletal muscle, contractile proteins and muscle contraction; skeletal system and its functions; joints; disorders of muscular and skeletal systems - myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout.	8	
	Chapter-19: Neural Control and Coordination Mechanism of neural control and co-ordination; Neuron and nerves; Nervous system in humans - central nervous system; peripheral nervous system and visceral nervous system; Brain and its major parts- cerebral cortex, thalamus, hypothalamus and limbic system; mid-brain, pons, medulla, cerebellum and spinal cord (function only); Modes of distribution and function of P.N.S. and autonomic nervous system; Generation and conduction of nerve impulse; reflex action and reflex arc; Sense organs – Sensory perception, outline structure and function of eye and ear; Disorders — Parkinson's and Alzheimer's diseases.	12	
	Chapter-20: Chemical Coordination and Integration Endocrine glands and hormones; human endocrine system — hypothalamus, pituitary, pineal, thyroid, parathyroid, adrenal, pancreas, gonads; mechanism of hormone action (protein and steroid hormones); role of hormones as messengers and regulators, hypo- and hyperactivity and related disorders; dwarfism, acromegaly, cretinism, goitre, exophthalmic goitre, diabetes, Addison's disease.	9	

CLASS: XI

SUBJECT : BIOLOGICAL SCIENCE (BIOS)

COURSE CODE : PRACTICAL

FULL MARKS : 30 **CONTACT HOURS: 30 HOURS**

Time allowed : 3 hours. **Max. Marks : 30**

EVALUATION SCHEME	MARKS
One major experiment Part A.(experiment no-1,3,7)	6
One minor experiment Part A.(experiment no-6,8,9,10,11)	5
Slide preparation Part A.(experiment no-2,4,5) (any one)	3
Spotting. Part – B (three)	6(2x3)
Practical record+Viva voce	5(3+2)
Investigatory project viva voce	5(3+2)
Total: SEM-I = 14 PRACTICAL CLASSES + SEM-II = 22 PRACTICAL CLASSES (24HRS.)	30

A. List of Experiments

1. Study and describe locally available common flowering plants from family Malvaceae, Solanaceae,Brassicaceae, Asteraceae,Leguminosae including dissection and display of floral whorls,Anther and Ovary to show number of chambers(Placentation).(Floral formula and floral diagrams.),Type of root.(Tap and adventitious.);Type of stem.(Herbaceous and woody); Leaf (Arrangement,shape,venation,simple and compound)
2. Preparation and study of TS of dicot and monocot roots and stems.(Primary.)
3. Study of osmosis by Potato Osmometer.
4. Study of plasmolysis in epidermal peels (e.g..Rheo/lily or fleshy scale leaves of onion bulb)
5. Study of distribution of stomata on the upper and lower surfaces of leaves.
6. Comparative study of the rates of transpiration in the upper and lower surfaces of leaves.
7. Test for the presence of sugar. starch, proteins and fats in suitable plant and animal materials.
8. Test for presence of urea in urine.
9. Test for presence of sugar in urine.
10. Test for presence of Albumin in urine.
11. Test for presence of Bile salts in urine.

B. Study and observe the following (Spotting)

1. Parts of a compound microscope.
2. Specimens./Slides./Models. Identify with reasons.—Bacteria, Spirogyra,Rhizopus,mushroom,yeast,liverwort, moss, fern,pine cone: male and female,one monocotyledonous plant, one dicotyledonous plant, one lichen.Different types of inflorescence.(Racemose and Cymose)
3. Virtual specimens/Slides/Models. Identifying features of Amoeba, Hydra, Liver Fluke, Ascaris, Leech, Earthworm, Prawn, Silkworm, Honeybee, Snail, Starfish, Shark, Rohu, Frog, Lizard, Pigeon and Rabbit. Human blood, and Toad blood
4. Mitosis in onion root tip cells and animal cells (Grasshopper) from permanent slides.
5. Human skeleton and different types of joints with the help of Virtual image/Models only.

[Note:*18 **Hours** reserved for Remedial classes, Tutorials and Home Assignments.]

CLASS - XII

SEMESTER – III

SUBJECT : BIOLOGICAL SCIENCE (BIOS)

FULL MARKS : 35 **CONTACT HOURS : 90 Hours**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT VI REPRODUCTION	Chapter 1: Sexual Reproduction in flowering plants Flower structure;Development of male and female Gametophytes; Pollination — Types, Agencies and examples; Out breeding devices;Pollen pistil interaction; Double fertilization; Post-fertilization events-development of endosperm and embryo, development of seed and formation of fruit; Special modes — Apomixis; Parthenocarpy; Polyembryony; Seed dispersal and fruit formation and their significance.	15	33
	Chapter 2: Human reproduction Male and female reproductive systems; Anatomy and Histology of testis and ovary, Gametogenesis-Spermatogenesis and Oogenesis; Menstrual cycle; Fertilization,embryo development up to blastocyst, formation and implantation; Pregnancy and placenta formation and function;Parturition: mechanism and neuroendocrine system involved in this mechanism, Lactation.	15	
	Chapter 3: Reproductive health Need for reproductive health and prevention of sexually transmitted diseases (STDs); Birth control-need and methods, Contraception and medical termination of pregnancy(MTP); Amniocentesis;Infertility and Assisted reproductive technologies-IVF,ZIFT,GIFT(elementary idea for general awareness).	3	
UNIT-VII (GENETICS AND EVOLUTION)	Chapter 4: Principles of Inheritance and variation. Heredity and Variation: Mendelian inheritance, Deviations from Mendelism-Incomplete dominance, Co-dominance, Multiple alleles and inheritance of blood groups, Pleiotropy; Elementary idea of polygenic inheritance; Chromosome theory of inheritance; Chromosomes and genes, sex determination in humans, birds and honeybees; Linkage and crossing over; Sex linked inheritance-hemophilia,colour blindness; Mendelian disorders in humans-Thalassemia; Pedigree Analysis; chromosomal disorders in humans; Down's syndrome, Turner's syndrome and Klinefelter's syndrome.	20	57

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	Chapter 5: Molecular basis of inheritance Search for genetic material and DNA as genetic material(experiments on bacterial transformation by F. Griffith; Avery, MacLeod and McCarty; Experiment by Hershey and Chase; Structure of DNA and RNA, DNA packaging, DNA replication; Central Dogma; Genetic Code, Translation, gene expression and regulation-lac operon; Genome, Human and Rice genome projects; DNA fingerprinting.	25	
	Chapter 6: Evolution Origin of life;Biological evolution and evidences for biological evolution(Palaeontology, Embryology and molecular evidence); Darwin's contribution, modern synthetic theory; Mechanism of evolution – Variation (Mutation and Recombination) and Natural selection with examples, types of natural selection; Gene flow and genetic drift; Hardy-Weinberg Principle; Adaptive radiation; Human evolution.	12	

CLASS - XII

SEMESTER – IV

SUBJECT : BIOLOGICAL SCIENCE (BIOS)

FULL MARKS : 35 **CONTACT HOURS : 58 Hours**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT-VIII (BIOLOGY AND HUMAN WELFARE)	Chapter 7: Human health and diseases Basic concept of immunology.-Immune system, Antigen, Antibody, antigen-antibody reaction, Types of immunity - vaccine and vaccinations; Pathogens: Parasites causing human diseases: Malaria, Filariasis, Chikungunya, Dengue, Ascariasis, Typhoid, Pneumonia, Common Cold, Amoebiasis, Ringworm, SARS (COVID), Allergy and Autoimmune disorders –Symptoms of disease, Name of causative agents, Mode of transmission. Preventive measures. Cancer, HIV and AIDS — Symptoms of diseases; Causative agents, Mode of transmissions, Preventive measures. Adolescence: Drug and alcohol abuse.	13	20
	Chapter 8.Improvement In food production Plant breeding, Tissue culture, Single cell Protein.	2	
	Chapter 9: Microbes in Human Welfare Microbes in food processing, Industrial production, Sewage treatment, Energy generation, Microbes as bio-control agents and biofertilizers, Antibiotics: Production and judicious use.	5	
UNIT –IX (BIOTECHNO-LOGY AND ITS APPLICATION)	Chapter 10: Biotechnology and its applications Principle, Process of genetic engineering. (Recombinant DNA technology), Application of biotechnology in health and agriculture, Human Insulin and vaccine production, Stem cell therapy, Gene therapy; Genetically modified organisms: Bt Crops; Transgenic animals. Biosafety issues, Biopiracy and patents.	15	15
UNIT- X (ECOLOGY AND ENVIRON-MENT)	Chapter 11: Organisms and Populations Meaning of Environment. Habitat and niche, Population interactions – Mutualism; Competition; Predation; Parasitism. Population attributes – Growth, birth rate and death rate, age distribution.	10	23
	Chapter 12: Ecosystem. Ecosystem and its pattern; Components of ecosystem. Productivity and Decomposition. Energy flow, Pyramids of number, Biomass and energy, Ecological succession.	5	
	Chapter 13: Biodiversity and its conservation Biodiversity — concept, Patterns, Importance; Loss of biodiversity; Biodiversity conservation; Hotspots, Endangered organisms, Extinction, Red Data book. Sacred Groves, Biosphere reserves, National Parks, Wildlife Sanctuaries and Ramsar sites.	4	

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	Chapter 14: Environmental issues Solid waste management; Radioactive waste management; Success stories addressing environmental issues-Chipko movement, Dasholi Gram Swarajya Mandal movement (DGSM) Silent Valley movement, Amrita Devi Bishnoi (Jaipur)Movement.	4	

CLASS : XII

SUBJECT : BIOLOGICAL SCIENCE (BIOS)

COURSE CODE : PRACTICAL

FULL MARKS : 30 **CONTACT HOURS : 30 HOURS**

Time allowed : 3 hours. **Max. Marks : 30**

EVALUATION SCHEME.	MARKS
One major experiment. 5.	6
One minor experiment. 2 and 3.	5
Slide preparation. 1 and 4. (Any one)	3
Spotting. (three)	6(2x3)
Practical record+Viva voce	5(3+2)
Investigatory project viva voce	5(3+2)
Total : SEM-I= 12 PRACTICAL CLASSES + SEM-II = 10 PRACTICAL CLASSES (14.66 HRS).	30

A. List of experiments.

1. Prepare a temporary mount to observe pollen germination.
2. Study the plant population density by quadrat method.
3. Study the plant population frequency by quadrat method.
4. Prepare a temporary mount on onion root tip to study mitosis.
5. Isolate DNA from available plant material, such as Spinach, Green pea seeds, Papaya or any other suitable materials.

B. Study and observe the following. (Spotting)

1. Flowers adapted to pollination by different agencies (Wind, Insects, Birds,etc.).
2. Pollen germination on stigma through a permanent slide.
3. Identification of stages of gamete development i.e.,T.S. of Mammalian Testis and TS of Mammalian Ovary through permanent slides.

4. Meiosis in Onion Bud cell or Grasshopper testis through permanent slides.
5. TS of Blastula through permanent slides (Mammalian.)
6. Prepare pedigree charts of any one of the genetic traits, such as rolling of tongue, blood groups, ear lobes, Widow's peak and colour blindness.
7. Common disease causing organisms like *Ascaris, Entamoeba, Plasmodium* , any fungus causing ringworm through Permanent slides/Models or virtual images or specimens, Comment on symptoms of diseases that they cause
8. Models, specimen showing symbolic association in root nodules of leguminous plants, Cuscuta on host, Lichens.
9. Flash card models showing examples of homologous and analogous organs.

[Note:*22 **Hours** reserved for Remedial classes, Tutorials and Home Assignments.]

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASSES XI AND XII

SUBJECT : BUSINESS STUDIES (BSTD)

Course Overview:

The course in Business Studies is introduced at Higher Secondary Education as formal commerce education is provided after first ten years of schooling. Therefore, it becomes necessary that instructions in this subject are given in such a manner that students have a good understanding of the principles and practices bearing in business (trade and industry) as well as their relationship with the society.

Business is a dynamic process that brings together technology, natural resources and human initiative in a constantly changing global environment. To understand the framework in which a business operates, a detailed study of the organisation and management of business processes and its interaction with the environment is required. Globalisation has changed the way organizations transact their business. Information Technology is becoming a part of business operations in more and more organisations. Computerised systems are fast replacing other systems. E-business and other related concepts are picking up fast which need to be emphasized in the curriculum.

The course in Business Studies prepares students to analyse, manage, evaluate and respond to changes which affect business. It provides a way of looking at and interacting with the business environment. It recognizes the fact that business influences and is influenced by social, political, legal and economic forces. It allows students to appreciate that business is an integral component of society and develops an understanding of many social and ethical issues. Therefore, to acquire basic knowledge of the business world, a course in Business Studies would be useful. It also informs students of a range of study and work options and bridges the gap between school and work.

Objectives:

- To inculcate business attitude and develop skills among students to pursue higher education, world of work including self employment;
- To develop students with an understanding of the processes of business and its environment;
- To acquaint students with the dynamic nature and inter-dependent aspects of business;
- To develop an interest in the theory and practice of business, trade and industry;
- To familiarize students with theoretical foundations of the process of organizing and managing the operations of a business firm;
- To help students appreciate the economic and social significance of business activity and the social cost and benefits arising therefrom;
- To acquaint students with the practice of managing the operations and resources of business;
- To enable students to act more effectively and responsibly as consumers, employers, employees and citizens.

CLASS - XI
SEMESTER – I
SUBJECT : BUSINESS STUDIES (BSTD)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 1	**Nature and Purpose of Business:** • **History of Trade and Commerce in India:** Indigenous Banking System, Rise of Intermediaries, Transport, Trading Communities: Position of Indian Sub-Continent in the World Economy. • **Concept and characteristics of business.** • **Business, Profession and Employment –** Distinctive Features and Scope. • **Objectives of Business –** Economic and Social, Role of Profit in Business. • **Classification of Business Activities:** Industry and Commerce. • **Industry –** Types: Primary, Secondary and Tertiary. • **Commerce –** Trade: Types (Internal, External/ Foreign, Wholesale and Retail) and Auxiliaries to Trade: Banking, Insurance, Transportation, Warehousing, Communication and Advertising. **Business risks –** Nature and Causes.	20	8
Unit 2	**Forms of Business Organisation:** • **Sole proprietorship:** Meaning, Features, Merits and Limitations. • **Partnership:** Meaning, Features, Merits and Limitations, Types of Partnership and Types of Partners, Registration of a Partnership Firm, Partnership Deed. • **Limited Liability Partnership** • **Cooperative Societies:** Features, Types, Merits and Limitations. • **Company:** Private Company, Public Limited Company – Features, Merits and Limitations. • **Stages in the Organisation of a company** • **Starting a Business:** Basic factors/ steps. **Choice of form of Business Organisation.**	26	10

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 3	**Public, Private and Global Enterprises:** • **Private Sector and Public Sector Enterprises:** Concept. • **Forms of Public Sector Enterprises:** Departmental Undertakings, Statutory Corporations, Government Companies (Features, Merits and Limitations). **Global Enterprises, Joint Ventures, Public-Private Partnership**: Features.	20	6
Unit 4	**Business Services:** • **Banking:** Types of Bank Accounts – Savings, Current, Recurring, Fixed Deposit Accounts. • **Banking services with particular reference to –** Issue of Bank Draft, Banker's Cheque (Pay Order), RTGS (Real Time Gross Settlement), NEFT (National Electronic Funds Transfer), Bank Overdraft, Cash Credits, E-Banking. • **Insurance:** Principles, Concept of Life, Health, Fire and Marine insurance. **Postal and Telecom Services:** Mail (UCP, Registered Post, Parcel, Speed Post and Courier).	20	10
Unit 5	**Emerging Modes of Business:** • **E-Business –** Scope and benefits, Resources required for successful e-business implementation, online transactions, payment mechanism, security and safety of business transactions. **Outsourcing -** Concept, Need, and Scope of BPO (Business Process Outsourcing) and KPO (Knowledge Process Outsourcing).	14	6
	Total	**100**	**40**

CLASS - XI
SEMESTER – II
SUBJECT: BUSINESS STUDIES (BSTD)

FULL MARKS: 40 **CONTACT HOURS: 80 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 6	**Social Responsibility of Business and Business Ethics:** • Concept of Social Responsibility. • Case of Social Responsibility • **Responsibility towards** Owner, Investors, Consumers, Employees, Government and Community. • Environmental Protection and Business. • **Business Ethics** – Concept and Elements.	8	5
Unit 7	**Sources of Business Finance:** • Concept of Business Finance. • **Owner's Funds** – Equity Shares, Preference Shares and Retained Earnings. • **Borrowed Funds -** Debentures and Bonds, Loan from Financial Institutions, Loan from Commercial Banks, Public Deposits, Trade Credit, ICD (Inter-Corporate Deposits), Factoring.	26	10
Unit 8	**Small Business:** • **Entrepreneurship Development(ED):** Concept, Characteristics and Need. Process of Entrepreneurship Development: Start-up India Scheme, Ways to fund start-up. Intellectual Property Rights and Entrepreneurship. • **Small Scale Enterprise** as defined by MSMED Act 2006, (Micro, Small and Medium Enterprises Development Act). • **Role of Small Business in India** - With special reference to Rural Areas. **Government Schemes and Agencies for Small Scale Industries:** NSIC (National Small Industries Corporation) and DIC (District Industries Centre) with special reference to Rural & Hilly Areas.	12	7

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 9	**Internal Trade:** • Services of a Wholesaler and Retailer. • **Types of Retail trade –** Itinerants and Small scale fixed shops. • **Large Scale Retailers –** Departmental Stores, Chain Stores, Mail Order Business and concept of Automatic Vending Machine. • **Chambers of Commerce and Industry:** Basic functions • **Main Documents used in Internal trade:** Proforma Invoice, Invoice, Debit Note, Credit Note, LR (Lorry Receipt), RR (Railway Receipt) • **Terms of Trade:** COD (Cash on Delivery), FOB (Free on Board), CIF (Cost, Insurance and Freight), E&OE (Errors and Omissions Excepted). **GST (Goods and Services Tax):** Concept and Key Features.	24	10
Unit 10	**International Trade:** • Concept and complexities of International Trade. • Export-Import Procedure and Documents Required. • **World Trade Organisation (WTO):** Historical perspective, Functions of WTO and Agreements.	10	8
	Total	**80***	**40**

[Note: ***20 Hours** reserved for Remedial classes, Tutorials and Home Assignments.]

CLASS - XII
SEMESTER – III
SUBJECT: BUSINESS STUDIES (BSTD)

FULL MARKS : 40 **CONTACT HOURS: 100 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 1	**Nature and Significance of Management:** • **Management –** Concept, Objectives, Importance. • Management as Science, Art and Profession. • Levels of Management. • **Management Functions –** Planning, Organising, Staffing, Directing, Controlling. • **Coordination –** Characteristics and Importance	20	5
Unit 2	**Principles of Management:** • **Principles of Management –** Concept, Nature and Significance. • Fayol's Principles of Modern Management. • **Taylor's Scientific Management –** Principles and Techniques.	14	5
Unit 3	**Business Environment:** • **Business Environment –** Concept, Importance. • **Dimensions of Business Environment –** Economic, Social, Technological, Political and Legal. • **Concept of** Liberalisation, Privatisation and Globalisation. • **Impact of Government Policy** changes on Business and Industry with special reference to Liberalisation, Privatization and Globalization.	12	5
Unit 4	**Planning:** • Concept, Importance, Limitations. • Planning process. • **Types of Plans –** Objective, Strategy, Policy, Procedure, Method, Rule, Budget, Programme.	14	7
Unit 5	**Organising:** • Concept and Importance. • Steps in the Process of Organising. • **Structure of Organisation –** Functional and Divisional. • Formal and Informal Organisation. • **Delegation:** Concept, Elements and Importance. • **Decentralization:** Concept and Importance.	14	8

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 6	**Marketing Management:** • **Marketing –** Meaning, Functions, Marketing vs. Selling. • Marketing Management Philosophies. • **Marketing Mix –** Concept • **Product –** Concept, Branding, Labelling and Packaging. • **Price –** Factors determining Price. • **Physical Distribution –** Concept, Channels of Distribution: Types, Choice of Channels. • **Promotion –** Concept and Elements. • **Advertising –** Concept, Role, Objections against Advertising. • **Personal Selling –** Concept and Qualities of a Good Salesman. • **Sales Promotion –** Concept and Techniques. • **Publicity –** Concept and Role.	26	10
	Total	**100**	**40**

CLASS - XII
SEMESTER - IV
SUBJECT: BUSINESS STUDIES (BSTD)

FULL MARKS : 40 **CONTACT HOURS: 80 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 7	**Staffing:** • Concept and Importance of Staffing • Staffing as a part of Human Resource Management • **Staffing Process:** Recruitment – Meaning and Sources Selection – Process • **Training and Development –** Concept and Importance. Methods of Training **—** on the job and off the job- vestibule training, apprenticeship training and internship training.	13	7
Unit 8	**Directing:** • Concept and Importance • Elements of Directing • **Supervision –** Concept, Functions of a Supervisor. • **Motivation –** Concept, Maslow's Hierarchy of Needs. Financial and Non-Financial Incentives. • **Leadership –** Concept, Qualities of a Good Leader. • **Communication –** Concept, Formal and Informal Communication, Barriers to Effective Communication, Measures to overcome the barriers.	10	7

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit 9	**Controlling:** • Concept and Importance. • Relationship between Planning and Controlling. • Steps in the Process of Control.	9	5
Unit 10	**Financial Management:** • Concept, Objectives of Financial Management • Decisions relating to Investment, Financing and Dividend. • **Financial Planning:** Concept and Importance. • **Financial Structure:** Concept and Factors affecting Structure. • **Fixed and Working Capital:** Concept and Factors affecting their requirements.	20	8
Unit 11	**Financial Markets:** • **Financial Markets:** Concepts and Types. • Money Market and its Instruments. • Capital Market and its Types (Primary and Secondary). • **Stock Exchange –** Functions, Trading and Settlement Procedure. • Dematerialization and Depositories (NSDL and CDSL). • **NSEI:** Objectives, **BSE:** Objectives. • **Securities Exchange Board of India (SEBI):** Objectives and Functions.	20	8
Unit 12	**Consumer Protection:** • **Consumer Protection:** Concept and Importance • **The Consumer Protection Act, 2019:** Meaning of consumer Rights and Responsibilities of Consumers Who can file a complaint? Redressal machinery Remedies available • **Consumer Awareness-** Role of Consumer Organisations and Non-Governmental Organisations (NGOs)	8	5
	Total	***80**	**40**

[Note: ***20 Hours** reserved for Remedial classes, Tutorials and Home Assignments.]

GUIDELINES FOR PROJECT WORK (BOTH FOR CLASSES XI AND XII)

Students are required to make only **ONE** project for the entire year. [One Project for **20 marks**]

1. The teacher will help students to select any ONE topic for the entire year from the List of Projects.
2. The topic should be assigned after discussion with the students in the class and should then be discussed at every stage of the submission of the project.
3. The teacher should play the role of a facilitator and should closely supervise the process of project completion.
4. The teachers must ensure that the project work assigned to the students whether individually or in group are discussed at different stages right from assignment to drafts review and finalization.
5. Students should be facilitated in terms of providing relevant materials or suggesting websites or obtaining required permissions from business houses, malls etc for their project.

Presentation and Submission of Project Report:

At the end of the stipulated term, each student will prepare and submit his/her project report.

Following essentials are required to be fulfilled for its preparation and submission:

(i) The total length of the project will be of 15 to 20 pages.

(ii) The project should be handwritten.

(iii) The project should be presented in a neat folder.

(iv) The project report should be developed in the following sequence:

- The cover page should include the title of the Project, student information, school and year.
- List of contents.
- Acknowledgements and preface (acknowledging the institution, the places visited and the persons who have helped).
- Introduction.
- Topic with a suitable heading.
- Planning and activities done during the project, if any.
- Observations and findings of the visit.
- Conclusions (summarized suggestions or findings, future scope of study).
- Photographs (if any).
- Appendix
- Teacher's observation.
- Signatures of the teachers.

PROJECT WORK FOR CLASS- XI [20 MARKS]

[FILE – 4 MARKS + WRITTEN – 12 MARKS + VIVA – 4 MARKS]

LIST OF PROJECTS:

1)	**Auxiliaries to Trade:** Find out names of five companies each related to different auxiliaries i.e. banking, insurance, warehousing, transportation, communication and advertising from real life.
2)	**Cooperative Society:** Find out the names of five different types of cooperative societies around you. Also give details of business activities of any one of them.
3)	**Visit to an Industry:** The students are required to observe the following: a) Nature of the business organization. b) Determinants for location of business unit. c) Form of business enterprise. d) Auxiliaries involved in the production process. e) Workers employed, method of wage payment, training programmes and facilities available. f) Levels of management. g) Capital structure employed – borrowed vs. owned. h) Quality control, recycling of defective goods. i) Working conditions for labour in observation of Labour Laws. j) Storage of raw material and finished goods. k) Transport management for employees, raw material and finished goods. l) Any other observation.
4)	**Banking – SB account:** Visit a nearby bank to find out the procedure for opening a savings bank account. Collect the required documents and prepare a report on the same.
5)	**E – Banking (Digital Banking):** Find out the procedure for transferring funds through RTGS or NEFT.
6)	**Visit to a Wholesale Market: vegetables/fruits/flowers/grains/garments etc.:** The students are required to observe the following: a) Sources of merchandise. b) Local market practices. c) Any linked up business like transporters, packagers, moneylenders, agents etc. d) Nature of the goods dealt in. e) Types of buyers and sellers. f) Mode of goods dispersed, minimum quantity sold, types of packaging employed. g) Factors determining the price fluctuations. h) Seasonal factors (if any) affecting the business. i) Mode of payments. j) Wastage and disposal of dead stock. k) Warehousing facilities available/availed. l) Any other aspect.

7)	**External Trade:** Imagine yourself to be an Exporter or an Importer. Collect documents used in your trade, fill them and present them in a file.
8)	**Insurance (choose any one):** Life Insurance, Fire Insurance and Marine Insurance. The students are required to gather information on the following aspects: a) History of Insurance. b) Development of regulatory mechanism. c) Procedure for obtaining policy. d) Procedure for obtaining claim.
9)	**Social Responsibilities:** Select any two companies/firms and give an account of the steps taken by them for discharging their social responsibilities.

PROJECT WORK FOR CLASS- XII [20 MARKS]

[FILE – 4 MARKS + WRITTEN – 12 MARKS + VIVA – 4 MARKS]

LIST OF PROJECTS:

1)	**Principles of Management:** The students are required to visit any one of the following: i) A Departmental Store. ii) An Industrial unit. iii) A fast food outlet. iv) Any other organization approved by the teacher. The students are required to observe the application of the following General Principles of Management advocated by Fayol. a) Division of work. b) Unity of command. c) Unity of direction. d) Scalar chain. *e) Esprit de corps.* f) Fair remuneration to all. g) Order. h) Equity. i) Discipline. j) Subordination of individual interest to general interest. k) Initiative. l) Centralisation and decentralization. m) Stability of tenure. n) Authority and Responsibility. [This project may be done as a group activity.]
2)	**Marketing – Objectionable advertisements:** Collect information related to five objectionable advertisements presented through any media and explain the objections.

3)	**Marketing – Useful advertisements:** Collect five advertisements from Print or Electronic media and interpret their messages.
4)	**Marketing – Sales Promotion:** Select any two famous firms/companies and find out the sales promotion techniques generally adopted by them.
5)	**Stock exchange:** The students are expected to: a) Develop a brief report on History of Stock Exchanges in India. b) Prepare a list of at least 20 companies listed on a Stock Exchange. c) Observe and record the starting and closing prices of the above listed shares over a period of ten working days. d) Graphical presentation of the share prices of different companies on different dates. e) Identify the top ten companies out of the 20 selected on the basis of their market value of shares.
6)	**Consumer Protection – Role of NGOs:** As a consumer, contact an NGO for a complaint against any defective goods or deficient service and report the assistance provided by them.

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASSES XI AND XII

SUBJECT : CHEMISTRY (CHEM)

CLASS - XI

SEMESTER – I

SUBJECT : CHEMISTRY (CHEM)

FULL MARKS : 35 **CONTACT HOURS : 70 Hours**

COURSE CODE : THEORY

Sub-topics

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit - 1	**Some Basic Concepts of Chemistry:** Laws of chemical combination. Concept of elements, atoms and molecules. Atomic and molecular masses. Mole concept and molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on stoichiometry. Different concentration terms of solutions and related calculations.	**07**	**03**
Unit - 2	**Structure of Atom:** Bohr's model and its limitations, concept of shell and sub-shells, the dual nature of matter and light, de Broglie's relationship. Heisenberg uncertainty principle, Schrödinger wave equation (elementary idea only). Concept of orbitals, quantum numbers, shapes of *s, p* and *d* orbitals, rules for filling electrons in orbitals: Aufbau principle, Pauli exclusion principle and Hund's rule, exchange energy, electronic configuration of atom, stability of half-filled, completely filled orbitals.	**12**	**06**
Unit - 3	**Classification of Elements and Periodicity in Properties:** Modern periodic law and the present form of the periodic table, periodic trends in properties of elements – atomic radii, ionic radii, van der Waals' radii, ionization enthalpy, electron gain enthalpy, electronegativity, valency. Nomenclature of elements with atomic number greater than 100.	**07**	**04**
Unit - 4	**Chemical Bonding and Molecular Structure:** Valence electrons, ionic bond, bond parameters, covalent bond, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridisation, involving *s, p* and *d* orbitals and shapes of some simple molecules, intermolecular interactions, Hydrogen bonding, Molecular orbital theory of homonuclear diatomic molecules (H_2, He_2, O_2, N_2, F_2 – qualitative idea only)	**13**	**06**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit - 5	**States of Matter — Solids and Gases:** Classification of solids (elementary idea): molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea), unit cell in two-dimensional and three-dimensional lattices, packing efficiency, calculation of density of unit cell, packing in solids, voids, number of atoms per unit cell in a cubic unit cell, point defects. Kinetic theory of gas, molecular speeds, Dalton's law of partial pressure, Graham's law, deviation of ideal behaviour and van der Waals' equation, Liquefaction of gases, critical temperature.	**09**	**04**
Unit - 6	***s*-Block Elements (Group 1 and Group 2 elements):** Electronic configuration, occurrence, trends in the variation of properties (such as ionization enthalpy, atomic and ionic radii), trends in chemical reactivity with oxygen, water, hydrogen and halogens, hydrides (ionic, covalent and interstitial), hydrogen peroxide (preparation, properties, structure & use.), hydrogen as a fuel. Biological importance of Na, K, Mg, Ca.	**10**	**05**
Unit - 7	***p*-Block Elements (Group 13 and Group 14 elements):** General introduction to *p*-block elements, electronic configuration, occurrence, variation in properties, oxidation states, and trends in chemical reactivity of group 13 and 14 elements. **Group 13**: Boron: physical and chemical properties of compounds of Boron: Boron oxides, boric acid, borates and B_2H_6 Aluminium: Reactions of Al with acid and alkali, uses of Al, Preparation and uses of $LiAlH_4$ and Al_2O_3. **Group 14:** Carbon: catenation, allotropic forms, nano carbon, graphene, physical and chemical properties of two oxides of carbon- CO and CO_2, Silicon: some compounds of silicon and their important uses – Silicon tetrachloride (Structure, preparation, hydrolysis and reduction reaction only), silicates [structure of open chain silicates constructing of $(SiO_3)_n^{2n-}$ ions], use of zeolites,	**12**	**07**

CLASS - XI

SEMESTER – II

SUBJECT : CHEMISTRY (CHEM)

FULL MARKS : 35 **CONTACT HOURS : 60 HOURS**

COURSE CODE : THEORY

Sub-topics

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit - 1	**Thermodynamics:** Concepts of system (including types of system), surroundings. Work, heat, energy, extensive and intensive properties, state function, Zeroth law of thermodynamics and definition of temperature. The first law of thermodynamics – internal energy change (ΔU) and enthalpy change (ΔH), Enthalpy of bond dissociation, combustion, formation, atomization, ionization, solution and sublimation. Transformation of state. Hess's law of constant heat summation, Born Haber Cycle and its application. 2^{nd} law of thermodynamics, the introduction of entropy as a state function, Gibbs energy change for spontaneous and non-spontaneous processes, criteria for equilibrium.	**12**	**07**
Unit - 2	**Equilibrium:** Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass reaction, equilibrium constant, factors affecting equilibrium – Le Chatelier's principle; ionic equilibrium, ionization of acids and bases, strong and weak electrolytes, degree of ionization of polybasic acids, acid strength, concept of pH Henderson Equation. Hydrolysis of salts (elementary idea). Buffer solutions, solubility product, common ion effect (with illustrative examples).	**10**	**06**
Unit - 3	**Redox Reactions:** Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions in terms of loss and gain of electrons and change in oxidation number, applications of redox reactions in permanganometry and dichromatometry	**05**	**03**
Unit - 4	**Organic Chemistry: Some basic principles:** General introduction, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, resonance and hyperconjugation. Homolytic and Heterolytic fission of a covalent bond: free radicals, carbocations, carbanions electrophiles and nucleophiles, types of organic reactions. Elementary idea of addition, elimination and substitution reactions.	**12**	**07**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit - 5	**Hydrocarbons: Classification of hydrocarbons** Alkanes – Nomenclature, isomerism, conformations (ethane only), physical properties (up to 6 carbons) and chemical reactions including halogenations, free radical mechanism, combustion and pyrolysis. Alkenes – Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties (up to 3 carbons) methods of preparation; chemical reactions; addition of hydrogen, halogen, water hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition. Alkynes – Nomenclature, structure of triple bond (ethyne), physical properties (up to 3 carbons) preparation, chemical reactions; acidic character of Alkynes, addition reaction of – hydrogen, halogens, hydrogen halides and water. Aromatic hydrocarbons; Introduction, IUPAC nomenclature; Benzene; resonance aromaticity; chemical properties; mechanism of electrophilic substitution – nitration, sulphonation, halogenations, Friedel-Crafts alkylation and acylation, carcinogenicity and toxicity.	**14**	**08**
Unit - 6	**Environmental Chemistry:** Environmental pollution – air, water and soil pollution (cause and effects), Primary and secondary pollutants (solid and liquid), chemical reactions in the atmosphere, smog, pollution due to industrial wastes; solid waste management (elementary idea only), SPM, RSPM, green chemistry as an alternative tool for reducing pollution. Water preservation and protection, Strategy for control of environmental pollution.	**07**	**04**

CLASS - XII

SUBJECT : CHEMISTRY (CHEM)

SEMESTER – III

FULL MARKS : 35 **CONTACT HOURS : 70 HOURS**

COURSE CODE : THEORY

Sub-topics

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit - 1	**Liquid State** Introduction, Solubility of gases in liquids, solid solutions, Vapour pressure and Raoult's law. Colligative properties; relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure. Determination of molecular mass using colligative properties. Abnormal molecular mass, van't Hoff factor and calculations involving it. Colloidal solution, the difference between true solutions, colloids and suspensions; lyophilic, lyophobic, multi-molecular colloids; properties of colloids; Tyndal effect, Brownian movement, electrophoresis, coagulation, emulsions and types of emulsions.	**16**	**08**
Unit - 2	***p*-Block Elements (Groups 15, 16, 17 and 18)** **Group 15 elements:** general introduction, electronic configuration, occurrence, oxidation states, Structure and reaction of NH_3, HNO_3, NCl_3, oxides of nitrogen (structure only); Phosphorus – allotropic forms(White and Red), preparation and properties of phosphine, phosphorus halides (PCl_3, PCl_5) and oxoacids (elementary idea only) **Group 16 elements:** General introduction, electronic configuration, occurrence, oxidation states; Oxygen: classification of oxides. Preparation and properties of Ozone. Sulphur: allotropic forms (rhombic and monoclinic). Properties and uses of oxides, oxoacids and peracids of sulphur. **Group 17 elements:** General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; Compounds of halogen; preparation, structure and uses of oxides, oxoacids of halogens, interhalogen compounds. Elementary idea of pseudohalogens and polyhalides. **Group 18 elements :** General introduction, electronic configuration, occurrence, uses of noble gases. Preparation, structure and chemical reactions of XeO_2, XeO_3, XeF_2, XeF_4, XeF_6, $XeOF_2$.	**18**	**08**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit - 3	**Haloalkanes and Haloarenes** **Haloalkanes:** Nomenclature, nature of C-X bond, physical and chemical properties, mechanism of substitution reactions. Stability of carbocations. *R/S* and *D/L* configurations Uses and environmental effects of – dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, **Haloarenes:** Nature of C-X bond, substitution reaction (directive influence of halogen for monosubstituted compounds only), stability of carbocations, *R/S* and *D/L* configurations. Uses and environmental effects of DDT.	**10**	**05**
Unit - 4	**Alcohols, Phenols and Ethers** **Alcohols:** Nomenclature, methods of preparation, physical and chemical properties (primary alcohols only); identification of primary, secondary and tertiary alcohols; mechanism of dehydration, uses of methanol and ethanol. **Phenols:** Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reaction, uses of phenol. **Ethers:** Nomenclature, methods of preparation, physical and chemical properties, uses.	**10**	**05**
Unit - 5	**Biomolecules :** **Carbohydrates** Classification (aldoses and ketoses), monosaccharides (glucose and fructose), D/L configuration, oligosaccharides (sucrose), polysaccharides (starch, cellulose) **Proteins** Elementary idea of α-amino acids, peptide bonds, polypeptides, structure of proteins (primary structure only), denaturation of proteins; enzymes. **Nucleic Acids:** DNA & RNA (introduction and basic concept)	**08**	**05**
Unit - 6	**Polymers:** Classification- (natural and synthetic), methods of polymerization (addition and condensation), copolymerization. Some important polymers; like polythene, nylon, polyesters, bakelite, and rubber. Biodegradable and non-biodegradable polymers	**08**	**04**

CLASS - XII

SUBJECT : CHEMISTRY (CHEM)

SEMESTER – IV

FULL MARKS : 35 **CONTACT HOURS : 60 HOURS**

COURSE CODE : THEORY

Sub-topics

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit - 1	**Electrochemistry** Redox reactions, conductance in electrolytic solutions, specific and molar conductivity, variation of conductivity with concentration, Kohlrausch's law, electrolysis and laws of electrolysis (elementary idea), dry cell – electrolytic cells and Galvanic cells, emf of a cell, standard electrode potential, Nernst equation and its application to chemical cells, relation between Gibbs energy change and emf of a cell, fuel cells, Li-ion battery.	**08**	**05**
Unit - 2	**Chemical Kinetics** Rate of a reaction (average and instantaneous), factors affecting rate of reactions- concentration, temperature and catalyst. Order and molecularity of a reaction; rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions); the concept of collision theory (elementary idea, no mathematical treatment) activation energy, Arrhenius equation Catalysis, homogeneous and heterogeneous catalysis, enzyme catalysis.	**10**	**07**
Unit - 3	***d* and *f* Block elements** General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first-row transition metals – ionic radii, ionization enthalpy, oxidation states, colour, catalytic property, magnetic property. Preparation and properties of $K_2Cr_2O_7$ and $KMnO_4$. **Lanthanoids** Electronic configuration, oxidation states, chemical reactivity, lanthanoid contraction and its consequences, uses. **Actinoids** Electronic configuration, oxidation states, comparison with lanthanoids, uses.	**10**	**06**
Unit - 4	**Coordination compounds** Introduction, ligands, classification of ligands based on denticity and field intensity, coordination number, colour, magnetic properties and shape, IUPAC nomenclature of mononuclear coordination compounds, EAN rule, Bonding (Werner's theory, VBT and CFT), CFSE, structural-isomerism and stereo-isomerism, importance of coordination compounds (in qualitative analysis, extraction of metals and biological systems)	**08**	**05**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit - 5	**Aldehydes, Ketones and Carboxylic Acids** **Aldehydes and Ketones:** Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes; uses. **Carboxylic Acids:** Nomenclature, acidic nature, methods of preparation, physical and chemical properties, uses	**10**	**05**
Unit - 6	**Organic compounds containing Nitrogen** **Nitro compounds:** General methods of preparation and reduction reactions. **Amines:** Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines. **Cyanides and Isocyanides –** Nomenclature, structure, methods of preparation, chemical reactions (hydrolysis and reduction reactions only). **Diazonium salts:** Preparations, chemical reactions and importance in synthetic organic chemistry	**14**	**07**

PRACTICAL FOR CLASSES XI AND XII

SUBJECT : CHEMISTRY (CHEM)

CLASS – XI

COURSE CODE : PRACTICAL

FULL MARKS : 30

Evaluation Scheme for Examination	**Marks**
Volumetric analysis	10
Environment-related experiments	08
Characterization and purification of chemical substances	06
Class Record, Project and Viva	06
Total	**30**

Practical Syllabus

A. Basic Laboratory Techniques

i. Cutting glass tube and glass rod
ii. Bending a glass tube
iii. Drawing out a glass jet
iv. Boring a cork

B. Characterization and purification of chemical substances

i. Determination of the melting point of an organic compound
ii. Determination of the boiling point of an organic compound
iii. Crystallization of impure sample of any of the following: Alum, Copper, Sulphate, Benzoic acid.

C. Environment-related experiments

i. Calculation of pH of soil sample.
ii. Determination of turbidity for a given sample of water
iii. Determination of dissolved oxygen in a given sample of water
iv. Determination of TDS of water sample

D. Quantitative estimation (Use of digital balance (precession up to 3 decimal points)**) (Volumetric analysis)**

i. Determination of strength of a given sodium hydroxide solution by titrating it against a standard oxalic acid solution.
ii. Determination of strength of a given hydrochloric acid solution by titrating it against standard sodium carbonate solution.
iii. Standardisation of $KMnO_4$ solution by using standard Oxalic acid solution.
iv. Estimation of Fe in Mohr's salt solution using standard $KMnO_4$ solution or standard $K_2Cr_2O_7$ solution.

Project Work

a) Preparation of standard solutions:

i) Preparation of (N/10) Oxalic acid solution.
ii) Preparation of (N/10) Mohr's salt solution.
iii) Preparation of (N/10) Sodium carbonate solution.
iv) Preparation of (N/10) Hydrochloric acid solution.
v) Preparation of (N/10) Sodium hydroxide solution.

b) Preparation of inorganic compounds:

i) Preparation of potash alum.

ii) Preparation of potassium ferric oxalate.

c) Study of acidity of-

i) Different samples of tea leaves.

ii) Fruit and vegetable juices.

CLASS – XII

COURSE CODE : PRACTICAL

FULL MARKS : 30

Evaluation Scheme for Examination	**MARKS**
Potentiometric Analysis	06
Salt Analysis	08
Detection of functional groups in Organic compounds	04
Content-Based Experiment (Chemical Kinetics/Thermochemistry/ Preparation of Organic Compounds)	06
Class record, Viva and Project work	06
Total	**30**

Practical Syllabus

A. Chemical kinetics

(i) Study of the rate of reaction of iodide ions with hydrogen peroxide at room temperature using different concentrations of iodide ions. (with Excel plot)

(ii) Study of the reaction rate of hydrolysis of ester in an acidic medium (with Excel plot)

B. Thermochemistry :

Any one of the following experiments :

(i) Enthalpy of dissolution of copper sulphate or potassium nitrate.

(ii) Enthalpy of neutralization of strong acid (HCl) and strong base (NaOH)

(iii) Determination of enthalpy change during interaction (hydrogen bond formation) between acetone and chloroform.

C. Electrochemistry

(i) Potentiometric titration of Fe^{3+}/Fe^{2+} system with Potassium dichromate and Potassium permanganate solutions.

(ii) Potentiometric determination of concentration of $AgNO_3$ solution (N/100 or N/200) using standard KCl solution (N/10).

D. Tests for the functional groups present in organic compounds:

Unsaturation, alcoholic -OH (1°), phenolic -OH, aldehyde, ketone, carboxylic acid and primary aromatic amine groups.

E. Preparation of Organic compounds:

Preparation of any two of the following compounds :

(i) Benzilic acid (From Benzil)

(ii) Aniline yellow or 2-Naphthol aniline dye.

(iii) Iodoform.

F. Characteristic test of carbohydrates, fats and proteins in pure samples and their detection in given foodstuffs.

G. Qualitative analysis

Determination of one cation and anion in a given salt.

Cations - $Pb^{2+}, Cu^{2+}, Al^{3+}, Fe^{3+}, Cr^{3+}, Mn^{2+}, Ni^{2+}, Zn^{2+}, Co^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, NH_4^+$

Anions – $CO_3^{2-}, S^{2-}, SO_4^{2-}, S_2O_3^{2-}, NO_2^-, NO_3^-, , Cl^-, Br^-, I^-, PO_4^{3-}$

(Note: Insoluble salts excluded)

Project work – where feasible may include

(i) Model preparation

(ii) Investigatory project

(iii) Science exhibits

(iv) Participation in science fairs

(v) Testing purity of food articles like butter, pulse, milk etc.

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII
SUBJECT:COMMERCIAL LAW AND PRELIMINARIES OF AUDITING (CLPA)

Course Overview:

This course introduces the student to the legal framework of business, and endeavours to induce them to appreciate the relevance of business law to individuals and businesses and to understand the applications of these laws to practical commercial situations. It intends to assist the students to gain knowledge of the branches of law which relate to contracts, negotiable instruments, the law of sales; study legal matters pertaining to partnerships and companies; identify the fundamental legal principles behind insurance agreements and examine the scope, exchange and regulation of electronic communication.

This course also aims at introducing the students to the field of auditing, by providing them a basic understanding of fundamental auditing concepts, the general procedures required in conducting an audit and audit reporting. While the focus is mainly on the practical application of an external financial audit that is regulated under legal legislation, the course also explores the wider audit framework; including a critical appreciation of contemporary issues and developments in the field of auditing.

The course provides a foundation for students who intend pursuing a specialised pathway in the legal profession, as well as those who will pursue careers in accounting and auditing.

Course Objectives:

This course strives to –

- Inculcate a sense of justice and integrity as well as develop skills among students to pursue higher education, and thereafter, work independently or in employment
- Develop students with an understanding of the legal system prevalent in India
- Assist students to identify various sources of law and the requirements to hold various rights under the prevalent laws of land
- Acquaint students with the dynamic nature and inter-dependent aspects of business and the judiciary
- Aid students to develop an interest in the theory and practice of law and auditing
- Help students to understand contractual obligations and consequences thereto
- Familiarize students with legal requirements of the process of managing the operations of different forms of business and maintenance of their financial records
- Enable students to analyse the impact of the electronic era on information and ethical issues thereon
- Make students conversant with the use and regulation of negotiable instruments in business
- Enable students to develop an understanding of the management of business risks through insurance
- Enable students to evaluate audit compliant documents, and consequences of default, if any
- Help students to achieve an understanding of the conduct of audit procedures suiting various requirements of a business

- Assist students to appreciate the legal and economic significance of business activities and the ramifications of non-compliance
- Enable students to act more responsibly and judiciously in every sphere of the society

Learning Hours (Total – 200 per year per subject):

- **180** hours allocated over the syllabus, to be distributed over each sub-topic –
  SEM I – 100 hours

  SEM II – 80 hours
- **20** hours for home assignments/remedial and/or tutorial classes

CLASS - XI

SEMESTER – I

SUBJECT: COMMERCIAL LAW ANDPRELIMINARIES OF AUDITING (CLPA)

Unit	Details	Marks
Unit 1	Introduction to Law	04
Unit 2	Law of Contract	16
Unit 3	Introduction to Auditing	10
Unit 4	Errors and Frauds	05
Unit 5	Different Types of Audits – I	05
	Total	**40**

Question Paper Typology

Sl. No.	Typology of Questions	Marks	%
1.	Remembering and Understanding (Simple)	12	30
2.	Applying (Average)	20	50
3.	Analysing, Evaluating and Critical thinking	08	20
	Total	**40**	**100**

Weightage to Questions

Unit	Details	Marks Allotted	Question Type	Marks per Question	No. of Questions	Total Marks
Unit 1	Introduction to Law	04	MCQ	1	4	**04**
Unit 2	Law of Contract	16	MCQ	1	16	**16**
Unit 3	Introduction to Auditing	10	MCQ	1	10	**10**
Unit 4	Errors and Frauds	05	MCQ	1	5	**05**
Unit 5	Different Types of Audits – I	05	MCQ	1	5	**05**
	Total	**40**				**40**

CLASS - XI

SEMESTER – I

SUBJECT: COMMERCIAL LAW ANDPRELIMINARIES OF AUDITING (CLPA)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE:THEORY

PART – A (Commercial Law)

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 1 **INTRODUCTION TO LAW**	Definition of Law – Features of Law – Rule of Law – Meaning of Commercial Law – Sources of Indian Commercial Law	**04 Hours**	**4 Marks**
Unit – 2 **LAW OF CONTRACT**	a) Meaning and Definition of Agreement and Contract – Essential elements of a contract b) Offer and Acceptance: Meaning and definition of offer, offerer, offeree, promise, promisor, promise; Rules regarding offer – Meaning and definition of acceptance; Rules regarding acceptance – Methods of communication of offer and acceptance – Revocation of offer and acceptance c) Consideration: Meaning and definition of consideration – Types of consideration – Rules regarding consideration – "No consideration, no contract", Exceptions to the rule – Rights and liabilities of a stranger to a contract d) Void and Voidable Agreements: Void agreement – Voidable agreement – Unenforceable agreement – Illegal agreement – Distinction between Void agreement and Illegal agreement – Valid contract e) Capacity of Parties: Definition of 'capacity' – Minority and law regarding Minor's Agreement – Persons of unsound mind; Effects of agreement made by persons of unsound mind – Disqualified persons f) Free Consent: Definition of free consent – Coercion – Undue influence – Misrepresentation – Fraud – Distinction between Fraud and Misrepresentation – Contracts of *Uberrimae fidei* – Mistake – Unilateral mistake – Distinction between Mistake and Misrepresentation – Mistake and Consent g) Legality of Object and Consideration: Unlawful object and consideration – Agreements against public policy – Void agreements – Objects or Consideration unlawful in part	**46 Hours**	**16 Marks**

	TOTAL (A)	**50 Hours**	**20**

PART – B (Preliminaries of Auditing)

TOPIC	SUB TOPIC	CONTACT HOURS	MARKS
Unit – 3 **INTRODUCTION TO AUDITING**	Definition of Auditing – Evolution of Auditing – Nature of Auditing – Objectives of Auditing: Primary and Secondary – Importance of Auditing – Advantages and Limitations of Auditing – Relation and Distinction between Accounting and Auditing – An Auditor is not an Accountant – Qualifications of Auditor: Professional and General – Disqualifications.	**34 Hours**	**10 Marks**
Unit – 4 **ERRORS AND FRAUDS**	Errors in Accounting: Types of errors; Detection of errors by Auditor – Fraud: Misappropriation and Manipulation; Detection of frauds by Auditor – Duties of Auditor in relation of errors and frauds.	**08 Hours**	**5 Marks**
Unit – 5 **DIFFERENT TYPES OF AUDITS – I**	On the Basis of Time: Continuous Audit; Periodical Audit; Interim Audit – Advantages and limitations of each type – Distinction between Continuous Audit and Periodical Audit.	**08 Hours**	**5 Marks**
	TOTAL (B)	**50 Hours**	**20**
	GRAND TOTAL (A+B)	**100**	**40**

CLASS - XI

SEMESTER – II

SUBJECT: COMMERCIAL LAW ANDPRELIMINARIES OF AUDITING (CLPA)

Unit	Details	Marks
Unit 1	Sale of Goods Act	15
Unit 2	Cyber Law	05
Unit 3	Different Types of Audits – II	10
Unit 4	Internal Control System	10
	Total	**40**

Question Paper Typology

Sl. No.	Typology of Questions	Marks	%
1.	Remembering and Understanding (Simple)	12	30
2.	Applying (Average)	20	50
3.	Analysing, Evaluating and Critical thinking	08	20
	Total	**40**	**100**

Weightage to Questions

Unit	Details	Marks Allotted	Question Type	Marks per Question	No. of Questions	Total Marks
Unit 1	Sale of Goods Act	15	SAQ	2	1	**15**
			SAQ	3	1	
			Descriptive	5	2	
Unit 2	Cyber Law	05	SAQ	2	1	**05**
			SAQ	3	1	
Unit 3	Different Types of Audits – II	10	SAQ	2	1	**10**
			SAQ	3	1	
			Descriptive	5	1	
Unit 4	Internal Control System	10	SAQ	2	1	**10**
			SAQ	3	1	
			Descriptive	5	1	
	Total	**40**				**40**

CLASS - XI

SEMESTER – II

SUBJECT: COMMERCIAL LAW ANDPRELIMINARIES OF AUDITING (CLPA)

FULL MARKS: 40 **CONTACT HOURS: 80 Hours**

COURSE CODE:THEORY

PART – A (Commercial Law)

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 1 **SALE OF GOODS ACT**	a) Definitions: Buyer, Seller and Goods – Classification of Goods (existing, future, contingent, ascertained, unascertained) – Sale and Agreement to Sell – Difference between Sale and Agreement to Sell – Essential elements of a contract of sale – Destruction of goods – Hire-purchase agreements – Sale and other contracts b) Conditions and Warranties: Definitions – Implied Conditions – Doctrine of Caveat Emptor – Implied Warranties – Circumstances where condition to be treated as warranty – Liabilities of the seller apart from the contract of sale c) Transfer of Ownership: When does property pass from the seller to the buyer? – Reservation of the right of Disposal – Transfer of ownership – Transfer of title by non-owner	**30 Hours**	**15 Marks**
Unit – 2 **CYBER LAW**	a) Introduction: What is Cyber Law? – Need for Cyber Law – History of Cyber Law in India b) Meaning and Definitions: Electronic transactions, E-commerce, E-banking, Electronic Signature, Hacking, Phishing, Malware, Cookies, Spam and Firewall. c) Scope of Cyber Law – Online contracts, E-commerce regulation, Consumer rights – Identity/data/funds theft, Fraud, Forgery, Hacking d) Cyber safety and security – Meaning and steps e) Information Technology Act 2000 – an overview, with emphasis to Section 66A	**10 Hours**	**5 Marks**

PART – B (Preliminaries of Auditing)

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 3 **DIFFERENT TYPES OF AUDITS – II**	a) On the Basis of Law: Statutory Audit; Non-statutory Audit; Government Audit – Advantages and limitations of each type – Distinction between Statutory Audit and Non-statutory Audit b) On the Basis of Scope of Work: Complete Audit, Partial Audit; Internal Audit – Advantages and limitations of each type – Distinction between Internal Audit and Interim Audit – Difference between Statutory Audit and Internal Audit	**20 Hours**	**10 Marks**
Unit – 4 **INTERNAL CONTROL SYSTEM**	Internal Control System: Definition, Features, Advantages and Limitations – Internal Checking System: Definition, Objectives, Advantages and Limitations – Duties of an Auditor in respect of Internal Check – Distinction between Internal Control System and Internal Check System – Relevance of Internal Control System in Auditing – Difference between Internal Check and Internal Audit – Internal Check regarding certain transactions: Cash Receipts; Cash Payments	**20 Hours**	**10 Marks**
	TOTAL (B)	**40 Hours**	**20**
	GRAND TOTAL (A+B)	**80**	**40**

CLASS - XI

PROJECT WORK

FULL MARKS – 20

Sub Topic:

1	Imagine yourself a buyer. Write a report of the steps you should follow in case of breach of conditions in a contract of sale of goods.
2	Visit a bank and draft a report on the measures to protect against online banking fraud
3	A firm has reported misappropriation of goods by employees. Prepare a report on your duties as an auditor regarding such misappropriation.
4	Visit big shopping mall and prepare a report on its internal control/ internal checking system.
5	Visit an audit firm and write a report on the benefits of and the limitations faced by an auditor in conducting a Statutory Audit.

Overview:

The course in Commercial Law and Preliminaries of Auditing has been introduced at the Senior Secondary level of schools, to provide students with a sound understanding of the legal framework prevalent in the commercial world, as well as the intricacies of guidelines that govern them. Commercial operations are acts carried out by a business and are governed by a set of principles and regulations. Such principles and regulations cover a business's actual existence and structure as well as its operations and interactions. With a view to help the students to have a better understanding of the activities of business and what governs them, financially, legally and socially, Project Work has been introduced in the curriculum. The projects have been designed to allow students to appreciate that business is an integral component of society and help them develop an understanding of the economic, legal and ethical issues concerning them.

Objectives:

After doing the Project Work, the students will be able to do the following:

1. develop a practical approach by using modern technologies in the business world;
2. collection, processing, analysing and synthesizing of relevant information as well as inculcating important skills of problem solving, time management, to derive meaningful conclusions
3. get involved in the process of research work; demonstrate their capabilities while working independently and
4. make project work an enriching learning experience.

General Guidelines:

Students are supposed to select any one of the topics given and are required to make only ONE project from the selected topic (carrying 20 marks).

The following steps might be followed:

1. Students must take any ONE topic during the academic session of Class XI, from the topics given.
2. The topic should be assigned after discussion with the students in the class and should then be discussed at every stage of submission of the draft/final project work.
3. Students should be facilitated in terms of being provided with relevant materials or suggesting websites, or obtaining required permissions from business houses, etc. for the purpose of their project.
4. The teacher should play the role of a facilitator and should closely supervise the process of project completion, and MUST ensure that the students actually go through the rigors and enjoy the process of doing the project rather than depending on any readymade material available commercially.
5. At the end of the stipulated term, each student will prepare and submit their project report in the prescribed format, to be evaluated, signed and preserved by the teacher.

CLASS - XII

SEMESTER – III

SUBJECT: COMMERCIAL LAW ANDPRELIMINARIES OF AUDITING (CLPA)

Unit	Details	Marks
Unit 1	Law of Partnership	10
Unit 2	Company Law	10
Unit 3	Audit Procedure	14
Unit 4	Routine Checking and Test Checking	06
	Total	**40**

Question Paper Typology

Sl. No.	Typology of Questions	Marks	%
1.	Remembering and Understanding (Simple)	12	30
2.	Applying (Average)	20	50
3.	Analysing, Evaluating and Critical thinking	08	20
	Total	**40**	**100**

Weightage to Questions

Unit	Details	Marks Allotted	Question Type	Marks per Question	No. of Questions	Total Marks
Unit 1	Law of Partnership	10	MCQ	1	10	**10**
Unit 2	Company Law	10	MCQ	1	10	**10**
Unit 3	Audit Procedure	14	MCQ	1	14	**14**
Unit 4	Routine Checking and Test Checking	06	MCQ	1	6	**06**
	Total	**40**				**40**

CLASS - XII

SEMESTER – III

SUBJECT: COMMERCIAL LAW ANDPRELIMINARIES OF AUDITING (CLPA)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE: THEORY

PART – A (Commercial Law)

UNIT No	TOPICS	CONTACT HOURS	MARKS
Unit – 1 **LAW OF PARTNERSHIP**	a) Definitions: Partnership, Partner, Firm – Essential elements of a Partnership – Mutual Agency – Who can be a partner? – Legal status of partnership firms – Classification of Partnership and Partners – Partnership Deed b) Registration of Partnership Firms: The formalities of Registration – Consequences of non-registration c) Rights and Liabilities of Partners: Mutual rights and duties u/s 12, 13 – Authority of a partner; Expressed and Implied Authority; Limitations of Implied Authority, Alteration of Authority; Authority in an emergency – Liability of Partners to outsiders – Rights and Duties of Partners – Position of a Minor in a partnership firm	**24 Hours**	**10 Marks**
Unit – 2 **COMPANY LAW**	a) Introduction: Definition of Company – Body Corporate – Essential Features of Company – Types of Companies: Chartered Company; Statutory Company; Registered Company; Private Company; Public Company; Government Company; Holding Company; Subsidiary Company; Foreign Company – Difference between Private Company and Public Company – Conversion of Private Company into Public Company and vice versa b) Incorporation of a Company: Formation – Memorandum and Articles of Association – Distinction between Memorandum and Articles – Incorporation of Company – Effect of Registration – Commencement of Business – Alteration of Memorandum and Articles c) Prospectus: Public offer and Private placement – Definition of Prospectus – Matters to be stated in Prospectus – Shelf Prospectus – Red-herring Prospectus – Mis-statements in Prospectus d) Accounts of Companies: Books of Accounts – Financial Statements – Periodical Financial Statements – Internal Audit – Auditor: Appointment – Eligibility – Auditor's Report	**26 Hours**	**10 Marks**
	TOTAL (A)	**50 Hours**	**20**

PART – B (Preliminaries of Auditing)

UNIT No	TOPICS	CONTACT HOURS	MARKS
Unit – 3 **AUDIT PROCEDURE**	a) Preparatory steps before commencement of a new Audit b) Preparation by the Auditor: Audit Planning – Audit Programme: Definition; Objectives; Features; Advantages and Limitations – Audit Notebook: Definition; Contents and Advantages – Audit Working Papers: Definition; Contents; Ownership; Protection and Preservation – Audit File: Definition; Types and their Contents – Audit Memorandum: Definition; General Contents	**40 Hours**	**14**
Unit – 4 **ROUTINE CHECKING AND TEST CHECKING**	a) Routine Checking: Definition – Scope – Objectives – Advantages – Limitations b) Test Checking: Definition – Factors to be considered before Test Checking – Advantages – Limitations – Difference between Routine Checking and Test Checking – Transactions not suitable for Test Checking	**10 Hours**	**6**
	TOTAL (B)	**50 Hours**	**20**
	GRAND TOTAL (A+B)	**100**	**40**

CLASS - XII

SEMESTER – IV

SUBJECT: COMMERCIAL LAW ANDPRELIMINARIES OF AUDITING(CLPA)

Unit	Details	Marks
Unit 1	Negotiable Instruments	14
Unit 2	Law of Insurance	06
Unit 3	Vouching	10
Unit 4	New Branches of Auditing	10
	Total	**40**

Question Paper Typology

Sl. No.	Typology of Questions	Marks	%
1.	Remembering and Understanding (Simple)	12	30
2.	Applying (Average)	20	50
3.	Analysing, Evaluating and Critical thinking	08	20
	Total	**40**	**100**

Weightage to Questions

Unit	Details	Marks Allotted	Question Type	Marks per Question	No. of Questions	Total Marks
Unit 1	Negotiable Instruments	14	SAQ	2	2	**14**
			Descriptive	5	2	
Unit 2	Law of Insurance	06	SAQ	3	2	**06**
Unit 3	Vouching	10	SAQ	2	1	**10**
			SAQ	3	1	
			Descriptive	5	1	
Unit 4	New Branches of Auditing	10	SAQ	2	1	**10**
			SAQ	3	1	
			Descriptive	5	1	
	Total	**40**				**40**

CLASS - XII

SEMESTER – IV

SUBJECT: COMMERCIAL LAW ANDPRELIMINARIES OF AUDITING (CLPA)

FULL MARKS: 40 **CONTACT HOURS: 80 Hours**

COURSE CODE: THEORY

PART – A (Commercial Law)

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 1 **NEGOTIABLE INSTRUMENTS**	a) Introduction: Concept of Negotiable Instruments – Essential features of Negotiable Instruments – Types of Negotiable Instruments – Promissory Note: Definition and Essential elements – Bill of Exchange: Definition; Essential elements and Types – Cheque: Definition; Features and Types – Difference between Promissory Note and Bill of Exchange – Difference between Bill of Exchange and Cheque – Meaning of Holder and Holder in Due Course – Rights of a Holder in Due Course b) Acceptance, Negotiation, Endorsement: Meaning of Acceptance; Types; When acceptance is not necessary; Time and Place of presentment for Acceptance – Meaning of Negotiation; Negotiation by Delivery; Negotiation by Endorsement; Who can negotiate – Meaning and Definition of Endorsement; Effects; Types; Rules regarding Endorsement	**28 Hours**	**14**
Unit – 2 **LAW OF INSURANCE**	a) Introduction: Advantages and the Object of Insurance – Contact of Insurance: Essential Elements – Types of Insurance – Meaning of the terms: Insurer; Insured; Insurance Policy; Risk; Premium; Cover Note – Duties and Rights of Policy Holders – Double Insurance and Reinsurance – Distinction between Double Insurance and Reinsurance b) Life Insurance: Definition; Features; Types – Meaning of Surrender Value; Nomination – Difference between Life Insurance and General Insurance – Effect of Suicide c) General Insurance: Marine Insurance – Definition; Features; Types – Fire Insurance – Definition; Features; Types	**12 Hours**	**6**
	TOTAL (A)	**40 Hours**	**20**

PART – B (Preliminaries of Auditing)

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 3 **VOUCHING**	Vouching: Definition; Features; Objectives; Importance; Factors to be considered in Vouching – Voucher: Definition; Classification; Features – Comparison between Routine Checking and Vouching – Vouching of Specific Transactions: Cash Purchases; Cash Sales; Cash Payments; Cash Collections; Loans taken from outsiders	**20 Hours**	**10**
Unit – 4 **NEW BRANCHES OF AUDITING**	a) Cost Audit: Definition – Objectives – Advantages – Limitations b) Management Audit: Definition – Objectives – Advantages – Limitations c) Performance Audit: Definition – Objectives – Advantages – Limitations d) Social Audit: Definition – Objectives – Advantages – Limitations e) Tax Audit: Definition – Objectives – Who are mandatorily subject to Tax Audit? (Section 44AB of IT Act, in accordance with the latest govt. regulations)	**20 Hours**	**10**
	TOTAL (B)	**40 Hours**	**20**
	GRAND TOTAL (A+B)	**80**	**40**

CLASS - XII

PROJECT WORK
FULL MARKS – 20

Sub Topic:

1	Imagine you and two friends are forming a partnership firm. Draw up a Partnership Deed clearly specifying the relevant matters to be included therein.
2	Visit the registered office of a company, and inspect the Articles of Association of the company. Prepare a report on the provisions regarding Accounts of the company as mentioned in the Articles.
3	With the help of your teacher, draw up a bill of exchange/ promissory note, and write up a report on the salient features of the same, and its significance in business.
4	Imagine you have asked to audit a small company. Prepare a report on the steps you would follow before you conduct the audit procedure.
5	Visit a trader and examine the process of vouching of cash sales, and prepare a report on the same.

General Guidelines:

Students are supposed to select any one of the topics given, and are required to make only ONE project from the selected topic (carrying 20 marks).

The following steps might be followed:

1. Students must take any ONE topic during the academic session of Class XII, from the topics given.
2. The topic should be assigned after discussion with the students in the class and should then be discussed at every stage of the project work.
3. The teacher should play the role of a facilitator and should closely supervise the process of project completion. The teachers must ensure that the project work assigned to the students whether individually or in group are discussed at different stages right from assignment to drafts review and finalization.

   Students should be facilitated in terms of providing relevant materials or suggesting websites, or obtaining required permissions from business houses, malls etc. for their project.
4. The periods assigned to the Project Work should be suitably spaced throughout the academic session. The teachers MUST ensure that the student actually, goes through the rigors and enjoys the process of doing the project rather than depending on any readymade material available outside.
5. At the end of the stipulated term, each student will prepare and submit their project report in the prescribed format, to be evaluated, signed and preserved by the teacher, for final submission to the WBCHSE.

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII

SUBJECT : MODERN COMPUTER APPLICATION (COMA)

COMA

Course Overview:

This course covers the fundamental concepts of computer system organization, programming, efficient mechanism for storing and retrieving data on main memory, data management and visualization techniques, computer networks along with HTML page designing, the value of technology in societies, e-commerce, database management system, artificial intelligence, and data warehouse and data mining technique for the students from all academic backgrounds.

Course Objective:

This course enables students to-

- develop an understanding of how computer system works; the components of computer systems and how they interrelate, including software, data, hardware, communications and users.
- analyze a computing problem and to apply principles of computing to identify solutions.
- use of efficient data storing and retrieval technique along with basic programming skill.
- gather the fundamental knowledge on computer networks and web page designing.
- gain proficiency in data management, visualization, analysis, and presentation using a widely-used open source spreadsheet software application such as Open Office, Libre Office, or Google Spreadsheets.
- appreciate the ethical implications relating to the use of computing technology and information and identify the impact of technology on personal life and society.
- develop the knowledge, skills, and competencies needed to leverage the opportunities presented by the digital economy and to navigate the challenges and risks associated with online business operations.
- understand the basics of artificial intelligence and its subfields.
- develop an understanding of database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively.
- extract knowledge from data repository for data analysis, frequent pattern, classification and prediction.

Class XI

Total Contact Hours: 200 (Theory & Practical: 180 ; Remedial & Home Assignment:20)

SEMESTER – I

Course Code: COMA (Theory)

Full Marks: 35 **Contact Hours: 100**

Unit – 1	**Computer System and Organisation** **15 Marks**	**Total 30 Hours**
	• Basic Computer Organisation ➢ CPU, Primary Memory (RAM, ROM, Cache), Secondary storage device, I/O devices, units of memory (bit, byte, KB, MB, GB, TB, PB). • Classification of Computers ➢ Super, Mainframe, Mini, PC.	**4 Hours**
	• Concepts of Software ➢ Definition of software, types of software – System Software (Translator: assembler, interpreter, compiler, Loader, Linker, Operating System: Definition and functions, types of OS- Single use, Multiuse, Multiprogramming, Multiprocessing, Time sharing), Application Software (Definition and example), Utility Software, concept of GUI and CUI with examples using LINUX (Basic Commands).	**7 Hours**
	• Number System ➢ Binary, Octal, Decimal, Hexadecimal number system, conversion between number system, Weighted Code (BCD, Binary, 84-2-1 code), non-weighted code (GREY, Excess-3), encoding schemes (ASCII, ISCII, uni code), 1's complement, 2's complement.	**9 Hours**
	• Boolean Algebra ➢ Postulates, logic gates: NOT, AND, OR, NAND, XOR, XNOR, truth tables, De Morgan theorem, SOP, POS, Simplifications using KMap and Boolean algebra, logic circuits.	**10 Hours**
Unit – 2	**Programming Fundamentals** **10 Marks**	**Total 20 Hours**
	• Concept of Programming ➢ Instruction (Definition, Example), Program (definition, example), Programming Language (concept of high level, low level and assembly language), Procedural and Non-procedural programming, Concept of Structured Programming, Object Oriented Programming.	**2 Hours**
	• Algorithm fundamentals ➢ Definition, characteristic of algorithm, recursive and non-recursive algorithms, representation of algorithm using flowchart, pseudo code, efficiency of algorithm, space complexity, time complexity, Asymptotic Notation- big O, big Omega, big Theta.	**15 Hours**

	• Introduction to Problem Solving ➢ Steps for Problem Solving (analysing the problem, developing an algorithm, coding, testing, debugging).	**3 Hours**
Unit – 3	**Data Visualization using Spreadsheet** **10 Marks**	**Total 50 Hours**
	• Introduction to Spreadsheets ➢ Spreadsheets and their applications, overview of spreadsheet software (e.g., Open office, Google Sheets, Excel), creating workbooks, modifying workbook, zooming in on a worksheet, arranging multiple workbook windows, adding buttons to the quick access toolbar, customizing the ribbon, maximizing usable space in the program window navigating the spreadsheet interface, entering and editing data in cells saving, opening, and closing spreadsheet files.	**6 Hours**
	• Working with Data and Tables ➢ Entering and revising data, moving data within a workbook, finding and replacing data, correcting and expanding upon worksheet data, defining tables.	**5 Hours**
	• Performing Calculations on Data ➢ Naming groups of data, creating formulas to calculate values (e.g., SUM, AVERAGE, COUNT), summarizing data that meets specific conditions (e.g., AVERAGEIF, COUNTA, COUNTBLANK, COUNTIFS, SUMIF, IFERROR etc), finding and correcting errors in calculations.	**5 Hours**
	• Changing Workbook Appearance ➢ Formatting Cells, defining styles, workbook themes and table styles, making numbers easier to read, changing the appearance of data based on its value, adding images to worksheets.	**4 Hours**
	• Data Analysis and Manipulation ➢ Limiting data appearance on screen, working with text functions for data cleaning, Splitting and combining data, Data normalization and standardization, working with ranges and named ranges, conditional formatting, data validation and error checking, using logical functions (e.g., IF, AND, OR), sorting and filtering data.	**10 Hours**
	• Advanced Spreadsheet Features ➢ Creating and managing tables, working with charts and graphs, importing and exporting data, using goal seek.	**10 Hours**
	• Reporting and Presentation of Results ➢ Designing informative reports and summaries, creating interactive dashboards for data presentation, data visualization best practices, documenting data analysis processes presenting findings to stake holders.	**8 Hours**
	• Collaboration and Sharing ➢ Protecting worksheets and workbooks, sharing spreadsheets with others, tracking changes and commenting,	**2 Hours**

SEMESTER – II

Course Code: COMA (Theory)

Full Marks: 35 **Contact Hours: 80**

Unit – 1	**Data Structure** **10 Marks**	**Total 30 Hours**
	• Definition, types of data structure-linear and non-linear.	**2 Hours**
	• Arrays: 1D, 2D and their applications.	**3 Hours**
	• Linked List: Basic concepts of Single, circular and double link list.	**6 Hours**
	• Stack ➢ Stack operations (push and pop), applications of Stack.	**4 Hours**
	• Queue ➢ Queue operations, applications of queue, basic concepts of circular queue and priority queue.	**4 Hours**
	• Recursion ➢ Definition. ➢ Advantages and limitations of recursion.	**4 Hours**
	• Searching and Sorting ➢ Linear Search, Binary Search, and their comparison. ➢ Bubble Sort and its Implementation.	**7 Hours**
Unit – 2	**Computer Networks** **15 Marks**	**Total 35 Hours**
	>Introduction to Networking >>Analogue and digital Communication >>Mode of Communication- Simplex, half duplex and full duplex >>Network Architecture- Client server, Peer to Peer >>Serial and Parallel Communication >>Measuring Capacity of Communication Media (bandwidth, channel capacity, baud) >>Synchronous and asynchronous Transmission Mode >>Baseband and Broadband network.	**6 Hours**
	>Transmission Media >>Wired Communication Media (Twisted Pair, Co-axial cable, Fiber Optic). >>Wireless Communication Media (Radio wave, Microwave, Infrared, Satellite).	**3 Hours**
	>Network Connecting Devices >>Modem, Ethernet Card, RJ45, Repeater, Hub, Switch, Router, Gateway, Wifi card.	**2 Hours**
	>Network Type and Topologies >>Types of Network-LAN, MAN, WAN. >>Network Topologies- Bus, Star, Ring, Tree.	**3 Hours**

	>Network Protocols -HTTP, FTP, PPP, SMTP, TCP/IP, POP3, TELNET, HTTPS, VolP.	**2 Hours**
	>Referential Model- OSI Model (Basic Concept, use of devices and protocols at different layers).	**1 Hours**
	>Introduction to Web Services: WWW, HTML, XML, IP Addresses, Domain names, URL, ISP, Website, Web browser, Web Server, Web Hosting.	**3 Hours**
	>HTML Basic Tags and Document structure, HTML Tags, Head Tags, Title Tags, Introduction to HTML and Web design, how to create simple Web page, how to format text, Create Table, Adding Web link and Images, Forms, adding styles and classes to web pages, Borders and Background, Adding Video and Graphics.	**15 hours**
Unit – 3	**Ethics** **10 Marks**	**Total 15 Hours**
	• **Digital Footprints.**	**1 Hour**
	• **Data Protection:** Intellectual property rights (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark infringement), open-source software and licensing (Creative Commons, GPL and Apache).	**5 Hours**
	• **Cyber Crime:** Definition, hacking, eavesdropping, phishing and fraud emails, ransomware, cyber trolls, cyber bullying.	**3 Hours**
	• **Cyber safety:** Safely browsing the web, identity protection, confidentiality.	**2 Hours**
	• **Malware:** Viruses, trojans, adware.	**1 Hour**
	• **E-waste management:** Proper disposal of used electronic gadgets.	**2 Hours**
	• **Information Technology Act:** (IT Act).	**1 Hour**

Class XII

Total Contact Hours: 200 (Theory & Practical: 180 ; Remedial & Home Assignment:20)

SEMESTER – III

Course Code: COMA(Theory)

Full Marks: 35 **Contact Hours: 100**

Unit – 1	**Python Programming** **25 Marks**	**Total 80 Hours**
	• **Familiarization with the basics of Python programming** ➢ Introduction to Python, Features of Python, executing a simple "hello world" program, execution modes: interactive mode and script mode, Python character set, Python tokens (keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r - value, use of comments.	**4 Hours**
	• **Knowledge of data types** ➢ Number (integer, floating point, complex), Boolean, sequence (string, list, tuple), None, Mapping(dictionary), mutable and immutable data types.	**2 Hour**
	• **Operators** ➢ Arithmetic operators, relational operators, logical operators, assignment operators, augmented assignment operators, identity operators (is, is not), membership operators (in not in).	**3 Hours**
	• **Expressions, statement, type conversion, and input/output** ➢ Precedence of operators, expression, evaluation of an expression, type-conversion (explicit and implicit conversion), accepting data as input from the console and displaying output.	**3 Hours**
	• **Errors: S**yntax errors, logical errors, and run-time errors.	**2 Hours**
	• **Flow of Control** ➢ Introduction, use of indentation, sequential flow, conditional and iterative flow.	**4 Hours**
	• **Conditional statements** ➢ if, if-else, if-elseif-else.	**5 Hours**
	• **Iterative Statement** ➢ for loop, range (), while loop, break and continue statements, nested loops.	**7 Hours**
	• **Strings** ➢ Introduction, string operations (concatenation, repetition, membership and slicing), traversing a string using loops, built-in functions/methods–len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(),lstrip(), rstrip(), strip(), replace(), join(), partition(), split().	**10 Hours**

	• **Lists** ➢ Introduction, indexing, list operations (concatenation, repetition, membership and slicing), traversing a list using loops, built-in functions/methods–len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists.	**14 Hours**
	• **Introduction to Python modules** ➢ Importing module using 'import <module>' and using from statement, importing math module (pi(), sqrt(), ceil(), floor(), pow(), fabs(), sin(), cos(), tan()); random module (random(), randint(), randrange()), statistics module (mean(), median(), mode()).	**12 Hours**
	• **Functions** ➢ Types of function (built-in functions, functions defined in module, user defined functions), creating user defined function, arguments and parameters, default parameters, positional parameters, function returning value(s), flow of execution, scope of a variable (global scope, local scope).	**14 Hours**
Unit – 2	**E-Commerce** **10 Marks**	**Total 20 Hours**
	• **An introduction to Electronic Commerce** ➢ What is E-Commerce (Introduction and Definition), Main activities E-Commerce, Goals of E-Commerce, Technical Components of E-Commerce, Functions of E-Commerce, Advantages and disadvantages of E-Commerce, Scope of E-Commerce, Electronic Commerce Applications, Electronic Commerce and Electronic Business (C2C, C2G, G2G, B2G, B2P, B2A, P2P, B2A, C2A, B2B, B2C). ➢ Internet, Intranet & Extranet, Role of Internet in B2B Application, Web promotion, Banner, Exchange, Shopping Bots.	**8 Hours**
	• **Electronic Payment System** ➢ Introduction, Types of Electronic Payment System, Payment Types, Value Exchange System, Credit Card System, Electronic Fund Transfer, Paperless bill, Modern Payment Cash, Electronic Cash.	**6 Hours**
	• **Internet Marketing** ➢ The PROS and CONS of online shopping, The cons of online shopping, Justify an Internet business, Internet marketing techniques, The E-cycle of Internet marketing, Personalization e-commerce.	**6 Hours**

SEMESTER – IV

Course Code: COMA (Theory)

Full Marks: 35 **Contact Hours: 80**

Unit – 1	**Database Management System** **15 Marks**	**Total 35 Hours**
	• **Introduction** ➢ Drawbacks of Legacy System, Advantages of DBMS, Layered Architecture of Database, Data Independence, Data Models, Schemas and Instances, Database Languages, Database Users, DBA, Data Dictionary.	**3 Hours**
	• **Entity Relationship (ER) Modeling** ➢ Entity, Attributes and Relationship, Structural Constraints, Keys (Super Key, Key, Candidate Key, Alternate Key, Primary Key), ER Diagram of Some Example Database, Weak and strong Entity Set, Specialization and Generalization, Constraints of Specialization and Generalization, Aggregation.	**7 Hours**
	• **Relational Model** ➢ Basic Concepts of Relational Model, Relational Algebra.	**8 Hours**
	• **Integrity Constraints** ➢ Domain Constraints, Referential Integrity, View.	**2 Hours**
	• **SQL** ➢ Introduction, Data Definition Language and Data Manipulation Language, Data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key), create database, use database, show databases, drop database, show tables, create table, describe table, alter table (add and remove an attribute, add and remove primary key), drop table, insert, delete, select, operators (mathematical, relational and logical), aliasing, distinct clause, where clause, in, between, order by, meaning of null, is null, is not null, like, update command, delete command, aggregate functions (max, min, avg, sum, count), group by, having clause, joins: cartesian product on two tables, equi-join and natural join .	**15 Hours**
Unit – 2	**Data Warehousing and Data Mining** **10 Marks**	**Total 20 Hours**
	• **Introduction:** ➢ What is Data Warehouse? Data Warehouse Modelling. Data Cude and OLAP, Data Warehouse Implementation, Data Mining, what kind of data can be mined, what kind of patterns can be mined, Data cleaning, Data Transformation: Strategies, Overview.	**10 Hours**
	• **Data Mining Applications and Trends:** ➢ Mining Sequence Data, Time Series, Symbolic, Biological, Statistical Data Mining, Visual and audio Data Mining, Data Mining Application, Data Mining trends.	**10 Hours**

Unit – 3	**Foundation of Artificial Intelligence (AI)** **10 Marks**	**Total 25 Hours**
	• **Introduction to Artificial Intelligence** ➢ Definition and scope of AI. ➢ Historical overview and key milestones. ➢ Differentiating AI from human intelligence.	**4 Hours**
	• **AI Subfields and Technologies** ➢ Machine learning: Supervised, unsupervised, and reinforcement learning. ➢ Deep learning and neural networks. ➢ Natural language processing (NLP) and computer vision.	**10 Hours**
	• **Applications of AI** ➢ AI in finance: Fraud detection, algorithmic trading, and risk assessment. ➢ AI in customer service and chatbots. ➢ AI in education: Personalized learning and intelligent tutoring systems.	**8 Hours**
	• **Ethical and Social Implications of AI** ➢ Bias and fairness in AI systems. ➢ Impact of AI on employment and the workforce. ➢ AI and social inequality.	**3 Hours**

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII

SUBJECT : COMPUTER SCIENCE (COMS)

COMS

Course Overview:

This course covers the fundamental concepts of computer system organization, programming fundamental along with its theoretical analysis, data structure, computer networks, the value of technology in societies, e-commerce, python programming, database management system, and artificial intelligence for the students from science background only.

Course Objective:

This course enables students to-

- develop an understanding of how computer system works; the components of computer systems and how they interrelate, including software, data, hardware, communications and users.
- analyse a computing problem and to apply principles of computing to identify solutions.
- use of efficient data storing and retrieval technique along with basic programming skill.
- gather the fundamental knowledge on computer networks and web page designing.
- appreciate the ethical implications relating to the use of computing technology and information and identify the impact of technology on personal life and society.
- develop the knowledge, skills, and competencies needed to leverage the opportunities presented by the digital economy and to navigate the challenges and risks associated with online business operations.
- understand the basics of artificial intelligence and its subfields.
- develop an understanding of database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively.

Class XI

Total Contact Hours: 200 (Theory & Practical: 180 ; Remedial & Home Assignment:20)

SEMESTER – I

Course Code: COMS (Theory)

Full Marks: 35 **Contact Hours: 100**

Unit – 1	**Computer System and Organisation** **15 Marks**	**Total 30 Hours**
	• Basic Computer Organisation ➢ CPU, Primary Memory (RAM, ROM, Cache), Secondary storage device, I/O devices, units of memory (bit, byte, KB, MB, GB, TB, PB). • Classification of Computers ➢ Super, Mainframe, Mini, PC.	**4 hours**
	• Concepts of Software ➢ Definition of software, types of software – System Software (Translator: assembler, interpreter, compiler, Loader, Linker, Operating System: Definition and functions, types of OS- Single use, Multiuse, Multiprogramming, Multiprocessing, Time sharing), Application Software (Definition and example), Utility Software, concept of GUI and CUI with examples using LINUX (Basic Commands).	**9 hours**
	• Number System ➢ Binary, Octal, Decimal, Hexadecimal number system, conversion between number system, Weighted Code (BCD, Binary, 84-2-1 code), non-weighted code (GREY, Excess-3), encoding schemes (ASCII, ISCII, unicode), 1's complement, 2's complement.	**7 Hours**
	• Boolean Algebra ➢ Postulates, logic gates: NOT, AND, OR, NAND, XOR, XNOR, truth tables, De Morgan theorem, SOP, POS, Simplifications using K-Map and Boolean algebra, logic circuits.	**10 Hours**
Unit – 2	**Programming Fundamentals** **10 Marks**	**Total 25 Hours**
	• Concept of Programming ➢ Instruction (Definition, Example), Program (definition, example), Programming Language (concept of high level, low level and assembly language), Procedural and Non-procedural programming, Concept of Structured Programming, Object Oriented Programming	**2 Hours**
	• Algorithm fundamentals ➢ Definition, characteristic of algorithm, recursive and non-recursive algorithms, representation of algorithm using flowchart, pseudo code, efficiency of algorithm, space complexity, time complexity, asymptotic notation- big O, big Omega, big Theta.	**18 Hours**
	• Introduction to Problem Solving ➢ Steps for Problem Solving (analysing the problem, developing an algorithm, coding, testing, debugging).	**5 Hours**

Unit – 3	**Introduction to C** **10 Marks**	**Total 45 Hours**
	• Basic Structure ➢ Character set, keywords, identifiers, constants, variables and type declaration, Sample programs, pre-processor.	**2 Hours**
	• Operators ➢ Arithmetic, Relational, Logical, Assignment, Increment and Decrement, Conditional, comma; operator precedence and associatively; arithmetic expression-evaluation and type conversion. Character I/O, Escape sequence and formatted I/O.	**3 Hours**
	• Branching and Looping ➢ if, if-else, while, do-while, for.	**3 Hours**
	• Arrays and Structure ➢ One-dimensional and Two-dimensional, Different types of uses. String handling with arrays – read and write, concatenation, comparison, string functions. ➢ Structures: Initialization; arrays of a structure, arrays within structures, structure within structure.	**12 Hours**
	• User defined functions ➢ Need, Call by Reference, call by value, return value and types, nesting of functions, recursion.	**10 Hours**
	• Pointers ➢ Declaration and initialization, operators, pointer arithmetic's, accessing variables, pointer & arrays, strings, functions.	**15 Hours**

SEMESTER – II

Course Code: COMS (Theory)

Full Marks: 35 **Contact Hours: 80**

Unit – 1	**Data Structure** **15 Marks**	**Total 45 Hours**
	• Definition, types of data structure-linear and non-linear.	**1 Hour**
	• Abstract Data types.	**1 Hour**
	• Arrays: 1D, 2D and their applications.	**7 Hours**
	• Linked List: Single, circular and double link list.	**10 Hours**
	• Stack ➢ Stack operations (push and pop), implementation using array and list, application of Stack.	**6 Hours**
	• Queue ➢ Queue operation implementation using array and list, circular queue, de-queue, priority queue.	**6 Hours**
	• Recursion ➢ Definition. ➢ Advantages and limitations of recursion. ➢ Understanding what goes behind recursion (internal stack implementation), tail recursion.	**4 Hours**
	• Searching and Sorting ➢ Linear Search, Binary Search and their comparison. ➢ Bubble Sort and its implementation.	**10 Hours**
Unit – 2	**Computer Networks** **10 Marks**	**Total 20 Hours**
	• Introduction to Networking ➢ Analogue and digital Communication. ➢ Mode of Communication- Simplex, half duplex and full duplex. ➢ Network Architecture- Client server, Peer to Peer. ➢ Serial and Parallel Communication. ➢ Measuring Capacity of Communication Media (bandwidth, channel capacity, baud). ➢ Synchronous and asynchronous Transmission Mode. ➢ Baseband and Broadband network.	**6 Hours**

	• Transmission Media ➢ Wired Communication Media (Twisted Pair, Co-axial cable, Fiber Optic). ➢ Wireless Communication Media (Radio wave, Microwave, Infrared, Satellite).	**3 Hours**
	• Network Connecting Devices ➢ Modem, Ethernet Card, RJ45, Repeater, Hub, Switch, Router, Gateway, Wifi card.	**2 Hours**
	• Network Type and Topologies ➢ Types of Network-LAN, MAN, WAN. ➢ Network Topologies- Bus, Star, Ring, Tree.	**3 Hours**
	• Network Protocols -HTTP, FTP, PPP, SMTP, TCP/IP, POP3, TELNET, HTTPS, VoIP.	**2 Hours**
	• Referential Model- OSI Model (Basic Concept, use of devices and protocols at different layers).	**1 Hour**
	• Introduction to Web Services: WWW, HTML, XML, IP Addresses, Domain names, URL, ISP, Website, Web browser, Web Server, Web Hosting.	**3 Hours**
Unit – 3	**Ethics** **10 Marks**	**Total 15 Hours**
	• Digital Footprints.	**1 Hour**
	• Data Protection: Intellectual property rights (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark infringement), open-source software and licensing (Creative Commons, GPL and Apache).	**5 Hours**
	• Cyber Crime: Definition, hacking, eavesdropping, phishing and fraud emails, ransomware, cyber trolls, cyber bullying.	**3 Hours**
	• Cyber safety: Safely browsing the web, identity protection, confidentiality.	**2 Hours**
	• Malware: Viruses, trojans, adware.	**1 Hour**
	• E-waste management: Proper disposal of used electronic gadgets.	**2 Hours**
	• Information Technology Act: (IT Act).	**1 Hour**

Class XII

Total Contact Hours: 200 (Theory & Practical: 180; Remedial & Home Assignment:20)

SEMESTER – III

Course Code: COMS (Theory)

Full Marks: 35 **Contact Hours: 100**

Unit – 1	**Python Programming** **25 Marks**	**Total 80 Hours**
	• **Familiarization with the basics of Python programming** ➢ Introduction to Python, Features of Python, executing a simple "hello world" program, execution modes: interactive mode and script mode, Python character set, Python tokens (keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments.	**2 Hours**
	• **Knowledge of data types** ➢ Number(integer, floating point,complex), boolean, sequence(string, list, tuple), None, Mapping(dictionary), mutable and immutable data types.	**1 Hour**
	• **Operators** ➢ Arithmetic operators, relational operators, logical operators, assignment operators, augmented assignment operators, identity operators (is, is not), membership operators (in not in).	**2 Hours**
	• **Expressions, statement, type conversion, and input/output** ➢ Precedence of operators, expression, evaluation of an expression, type-conversion (explicit and implicit conversion), accepting data as input from the console and displaying output.	**3 Hours**
	• **Errors: S**yntax errors, logical errors, and run-time errors.	**2 Hours**
	• **Flow of Control** ➢ Introduction, use of indentation, sequential flow, conditional and iterative flow.	**4 Hours**
	• **Conditional statements** ➢ if, if-else, if-elif-else, flowcharts, simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number.	**5 Hours**
	• **Iterative Statement** ➢ For loop, range(), while loop, flowcharts, break and continue statements, nested loops, suggested programs: generating pattern, summation of series, finding the factorial of a positive number, etc.	**7 Hours**
	• **Strings** ➢ Introduction, string operations (concatenation, repetition, membership and slicing), traversing a string using loops, built-in functions/methods–len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(),lstrip(), rstrip(), strip(), replace(), join(), partition(), split().	**10 Hours**

	• **Lists** ➢ Introduction, indexing, list operations (concatenation, repetition, membership and slicing), traversing a list using loops, built-in functions/methods–len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists, suggested programs: finding the maximum, minimum, mean of numeric values stored in a list; linear search on list of numbers and counting the frequency of elements in a list.	**10 Hours**
	• **Tuples** ➢ Introduction, indexing, tuple operations (concatenation, repetition, membership and slicing); built-in functions/methods – len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple.	**5 Hours**
	• **Dictionary** ➢ Introduction, accessing items in a dictionary using keys, mutability of a dictionary (adding a new term, modifying an existing item), traversing a dictionary, built-in functions/methods – len(), dict(), keys(), values(), items(), get(), update(), del(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), sorted().	**5 Hours**
	• **Introduction to Python modules** ➢ Importing module using 'import <module>' and using from statement, importing math module (pi, e, sqrt(), ceil(), floor(), pow(), fabs(), sin(), cos(), tan()); random module (random(), randint(), randrange()), statistics module (mean(), median(), mode()).	**10 Hours**
	• **Functions** ➢ Types of function (built-in functions, functions defined in module, user defined functions), creating user defined function, arguments and parameters, default parameters, positional parameters, function returning value(s), flow of execution, scope of a variable (global scope, local scope).	**7 Hours**
	• **Exception Handling** ➢ Introduction, handling exceptions using try-except-finally blocks.	**7 Hours**
Unit – 2	**E-Commerce** **10 Marks**	**Total 20 Hours**
	• **An introduction to Electronic Commerce** ➢ What is E-Commerce (Introduction And Definition), Main activities E-Commerce, Goals of E-Commerce, Technical Components of E-Commerce, Functions of E-Commerce, Advantages and disadvantages of E-Commerce, Scope of E-Commerce, Electronic Commerce Applications, Electronic Commerce and Electronic Business (C2C, C2G,G2G, B2G, B2P, B2A, P2P, B2A, C2A, B2B, B2C). ➢ Internet, Intranet & Extranet, Role of Internet in B2B Application, Web promotion, Banner, Exchange, Shopping Bots.	**8 Hours**
	• **Electronic Data Exchange** ➢ Introduction, Concepts of EDI and Limitation, Applications of EDI, Disadvantages of EDI, EDI model.	**4 Hours**

	• **Electronic Payment System** ➢ Introduction, Types of Electronic Payment System, Payment Types, Value Exchange System, Credit Card System, Electronic Fund Transfer, Paperless bill, Modern Payment Cash, Electronic Cash.	**4 Hours**
	• **Internet Marketing** ➢ The PROS and CONS of online shopping, The cons of online shopping, Justify an Internet business, Internet marketing techniques, The E-cycle of Internet marketing, Personalization e-commerce.	**4 Hours**

SEMESTER – IV

Course Code: COMS (Theory)

Full Marks: 35 **Contact Hours: 80**

Unit – 1	**Database Management System** **20 Marks**	**Total 50 Hours**
	• **Introduction** ➢ Drawbacks of Legacy System, Advantages of DBMS, Layered Architecture of Database, Data Independence, Data Models, Schemas and Instances, Database Languages, Database Users, DBA, Data Dictionary.	**3 Hours**
	• **Entity Relationship (ER) Modelling** ➢ Entity, Attributes and Relationship, Structural Constraints, Keys (Super Key, Key, Candidate Key, Alternate Key, Primary Key), ER Diagram of Some Example Database, Weak and strong Entity Set, Specialization and Generalization, Constraints of Specialization and Generalization, Aggregation.	**10 Hours**
	• **Relational Model** ➢ Basic Concepts of Relational Model, Relational Algebra.	**10 Hours**
	• **Integrity Constraints** ➢ Domain Constraints, Referential Integrity, View.	**2 Hour**
	• **SQL** ➢ Introduction, Data Definition Language and Data Manipulation Language, Data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key), create database, use database, show databases, drop database, show tables, create table, describe table, alter table (add and remove an attribute, add and remove primary key), drop table, insert, delete, select, operators (mathematical, relational and logical), aliasing, distinct clause, where clause, in, between, order by, meaning of null, is null, is not null, like, update command, delete command, aggregate functions (max, min, avg, sum, count), group by, having clause, joins: cartesian product on two tables, equi-join and natural join .	**25 Hours**
Unit – 2	**Foundation of Artificial Intelligence (AI)** **15 Marks**	**Total 30 Hours**
	• **Introduction to Artificial Intelligence** ➢ Definition and scope of AI. ➢ Historical overview and key milestones. ➢ Differentiating AI from human intelligence.	**4 Hours**
	• **AI Subfields and Technologies** ➢ Machine learning: Supervised, unsupervised, and reinforcement learning. ➢ Deep learning and neural networks. ➢ Natural language processing (NLP) and computer vision.	**10 Hours**

	• **Search as Optimization (only Basic Concepts)** ➢ Strategies for State Space Search. ➢ Data Driven and Gold Driven Search. ➢ Heuristic Search, Breadth First Search and Depth First Search. ➢ A* Search.	**10 Hours**
	• **Applications of AI** ➢ AI in finance: Fraud detection, algorithmic trading, and risk assessment. ➢ AI in customer service and chatbots. ➢ AI in education: Personalized learning and intelligent tutoring systems.	**3 Hours**
	• **Ethical and Social Implications of AI** ➢ Bias and fairness in AI systems. ➢ Impact of AI on employment and the workforce. ➢ AI and social inequality.	**3 Hours**

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASSES XI AND XII

SUBJECT : COSTING AND TAXATION (CSTX)

COURSE OVERVIEW :

The Council of Higher Secondary Education has included 'Costing and Taxation' subject in the revised syllabus prescribed for higher secondary course of study. The matter has been divided into two volumes each for class-XI (Semester – I and Semester – II) and for class-XII (Semester – III and Semester – IV). Each chapter starts with a simple and lucid discussion of the topic followed by properly arranged for the benefit of the students of commerce stream. Council has all though tried to keep in mind the special needs of higher secondary students and hope effort will satisfy them. Council would consider it a great privilege to the students on the basis of recent trends of the society as well as business scenario and also make a link between basic knowledge as well as higher studies.

The course curriculum for the students is all set for another innings; the need for a good, effective that can help the students out of the maze can hardly be exaggerated. The syllabus of the subject 'Costing and Taxation' performed a marvel by carving out the salient features into a beautiful, workable for the students who have made a choice of career in the commerce stream. The division of the syllabus into theory, practical and project work appears to be logical as it would leave the students with an opportunity to learn the theory as well its application.

COURSE OUTCOMES:

After completion of this course, the students will be able to know regarding—

- Cost concept
- How to calculate total cost of a particular commodity
- Calculate the requirements of raw materials and their accounting procedure
- Calculate the valuation of closing stock of raw materials
- Concept of labour and calculation of remuneration of labourers
- Concept of Overhead and allocation among different departments
- History of Tax structure in India
- Concept of Income Tax
- Different incomes – Taxable or not Taxable
- Residential status of an individual
- Agricultural income related matter
- Concept of Income from salary – calculate salary income is taxable or not
- Concept of income from Capital Gains
- Concept of income from Other Sources
- Concept of income from House Property
- Concept of GST
- Practical application regarding project work.

LEARNING HOURS:

Total – 200 hours / year allocated over the syllabus

Semester I – 100 hours

Semester II – 80 hours

- 20 hours for assignments, remedial as well as tutorial classes.

CLASS - XI

SEMESTER – I

SUBJECT : COSTING AND TAXATION (CSTX)

FULL MARKS : 40 **CONTACT HOURS : 100 Hours**

COURSE CODE : THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
	COSTING		
Unit -1	**Introduction** Definition of Cost – Costing – Cost Accounting – Cost Centre – Cost Unit – Objectives of Cost Accounting – Features of Cost Accounting – Advantages of Cost Accounting – Limitations of Cost Accounting – Steps or Factors necessary for installation of a Costing System.	13	5
Unit -2	**Classification of Cost** i) Element – Based Classification: Raw Materials Cost – Labour Cost – Other Expenses – Overhead – Prime Cost. ii) Function – Based Classification: Factory Cost – Administration Cost – Selling Cost – Distribution Cost – Research and Development Cost. iii) Behaviour – Based Classification: Fixed Cost – Variable Cost – Semi-variable / Semi-fixed Cost – Distinctions between Fixed Cost and Variable Cost. iv) Preparation of Cost Sheet: Definition of Cost Sheet – Basic Components of Cost Sheet – Practical Problems on Cost Sheet (Simple Problems excluding Cost Estimation).	37	15
	TAXATION		
Unit -3	**Introduction of Taxation** **A :** A brief history of Income Tax in India, Tax structure in India – Direct Tax, Indirect Tax. **B :** Basic concepts and definitions under Income Tax Act: - Previous year, Assessment year, Assessee, Person, Sources of Income, Heads of Income, Gross Total Income, Total Income. **C :** Incomes which do not from part of Total Income: Receipts by a member from Hindu Undivided family [Section 10(2)], Share of profit from a Partnership firm[Section 10(2A)], Sums received under Life Insurance Policy [Section 10(10D)], Daily Allowance to MPs and MLAs [Section 10(17)], Awards [Section 10(17A)], Income of a Local Authority [Section 10(20)], Income from Dividend [Section 10(34)], Income from Units [Section 10(35)], Long term Capital Gains from transfer of equity shares or units [Section 10(38)]	25	10
Unit -4	Residential Status and Incidence of Tax of Individual Assessee.	25	10

CLASS - XI

SEMESTER – II

SUBJECT : COSTING AND TAXATION (CSTX)

FULL MARKS : 40 **CONTACT HOURS : 80 Hours**

COURSE CODE : THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
	COSTING		
Unit -1	**Cost of Materials** **A: Storing of Materials** i) Bin Card – Definition and Necessity ii) Stores Ledger – Definition and Necessity iii) Centralized Stores and Decentralized Stores **B: Materials Control** i) Necessity of Material Control ii) Fixation of Stock Levels of Materials: Re-order Stock Level – Maximum Stock Level – Minimum Stock Level – Average Stock Level – Danger Stock Level (with Simple Practical Problems) iii) Fixation of Economic Order Quantity(EOQ): Definition and Advantages of EOQ – Simple Problems on Determination of EOQ(with the help of formula) **C : Methods of Pricing Materials** Methods of Pricing Materials issued from Stores and Preparation of Stores Ledger Accounts – FIFO Method, LIFO Method, Simple Average Method, Weighted Average Method – Advantages and Limitations of FIFO Method, LIFO Method, Simple Average Method and Weighted Average Method.	40	20
	TAXATION		
Unit -2	**Agricultural Income: -** Definition, Taxability of Income from sale of tea and coffee grown and manufactured in India. Very common instances of agricultural income and non-agricultural incomes.	10	5
Unit -3	**Income under the head "Salaries"** **A :** Basis of charge (Section 15), Essential norms of salary income, Allowances:- Basic Salary, Dearness Allowance, City Compensatory Allowance, House Rent Allowance [Section 10(13A)], Medical Allowance, Bonus, Children Education Allowance, Transport Allowance. **B : Perquisites [Section 17(2)]** a) Valuation of rent free unfurnished accommodation provided to (i) Central and State Government Employee and (ii) Private Sector Employees [Rule 3(1)] – Valuation of rent free furnished accommodation. b) Valuation of perquisites in respect of (i) Free education to employee's children: (ii) Payment of school fees by the employer, (iii) Education facility in employee's institute. c) Very common examples of tax free perquisites. d) Deduction for professional tax or tax on employment [Section 16(iii)]	30	15

CLASS - XI

COURSE CODE : PROJECT

Full Marks : 20

Sub Topics :

1	Visit any manufacturing firm, collect real data and prepare a detailed Cost Sheet.
2	Visit any production unit, collect necessary data regarding raw materials of a particular commodity, prepare Bin Card and Stores Ledger.
3	Visit any production unit, collect necessary data regarding raw materials of a particular commodity, calculate Economic Order Quantity / Re-order Quantity for each and every raw material.
4	Collect data from any relative, who is a salaried person and compute his / her income from salary [excluding perquisites]
5	Visit any agricultural farm, collect data and prepare agricultural income and total income.
6	Meet ten individual persons, collect different information related to staying in India and abroad. Comment on Residential Status and their tax incidence.

Guidance to the Students regarding Project Work for Class - XI

The Council has included 'Project Design' in the new curriculum keeping in view the practical side of the students along with the theoretical knowledge. The following points should be arranged in sequence for project formulation —

On the first page:

(i)Name of project, (ii) Name of project maker, (iii) Name of supervisor *i.e.* name of the school teacher who supervised the preparation of project, (iv) Name of school, (v) Roll number, (vi) Class, (vii) Month and year of submission.

On the second page:

Acknowledgement means thanking all the teachers, parents and elder-friends and all the authoritative books that helped in shaping the project.

On the third page:

Table of contents / Index

Subject of the project:

(i)Introduction, (ii) Objectives of the project, (iii) Conceptual Framework, (iv) Collection of data for the Project, (v) Presentation of data collected for the project, (vi) Discussion and analysis of data collected for the project, (vii) Conclusion and recommendations; Limitations; Future work prospects.

CLASS - XII

SEMESTER – III

SUBJECT : COSTING AND TAXATION (CSTX)

FULL MARKS : 40 **CONTACT HOURS : 100 Hours**

COURSE CODE : THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
	COSTING		
Unit -1	**Concept of Labour:** **A : Cost of Labour** Time Keeping – Methods of Time Keeping (Manual and Mechanical) – Features of a Good Time Keeping System. Time Booking – Methods of Time Booking Idle Time – Causes of Idle Time. **B : Methods of Remuneration - I** i) Time Rate Wage – Advantages and Limitations. ii) Straight Piece Wages and Simple Problems, Limitations iii) Differential Piece Wage Rate: Taylor's Differential Piece Wage Rate – Advantages and Simple Problems, Limitation. Merrick's Differential Piece Wage Rate Method – Concept and Simple Problems.	50	20
	TAXATION		
Unit -2	**Income from "Capital Gains"** Basis of charge [Section 45(1)], Meaning of Capital Asset [Section 2(14)], Examples of Assets not treated as Capital Asset, Short term Capital Asset [Section 2(42A)], Long term Capital Asset [Section 2(29A)], Transfer of Capital Asset [Section 2(47)] – Simple problems on Capital Gains.	25	10
Unit -3	**Income from Other Sources** Basis of charge (Section 56), Some Examples of income generally taxable under this head, Tax treatment of winning from lotteries, horse race, card games, cross word puzzles [Section 56(2)i(b)], Interest on Securities [Section 56(2)i(d)]	25	10

CLASS - XII

SEMESTER – IV

SUBJECT : COSTING AND TAXATION (CSTX)

FULL MARKS : 40 **CONTACT HOURS : 80 Hours**

COURSE CODE : THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
	COSTING		
Unit -1	**Methods of Remuneration - II** Halsey and Rowan Premium Bonus Schemes – Concepts and Simple Problems.	20	10
Unit -2	**Basic Concept of Overhead** **A :** Definition of Overhead – Importance of Overhead – Classification of Overhead (only element – based, function – based and behavior – based classification) – Distinctions between Overhead and Prime Cost. **B :** Distribution of cost among different departments. Distinction between Allocation and Apportionment, Bases of primary distribution commonly used, Primary distribution of cost – Simple problems.	20	10
	TAXATION		
Unit -3	**Income from "House Property"** i) Chargeability – essential conditions (Section 22), Property income exempt from tax on Annual Value [Section 23(1)] ii) Computation of income from let out house property: adjustment of vacancy period, standard deduction under section 24(a), Interest on borrowed capital under section 24(b) (excluding interest for pre-construction period) iii) Computation of income from one self occupied house.	30	15
Unit -4	**Goods and Service Tax (GST)** Concept, Historical background of GST, Indirect Tax structure during pre-GST period, Indirect Tax structure after introduction of GST. Objectives, Structure, Types of GST, Salient features of GST, Benefits of GST for business and industry, Central and State Govts, Consumers. GST rules on goods and GST rules on services. GSTIN and GSTN.	10	5

CLASS - XII

COURSE CODE : PROJECT

Full Marks : 20

Sub Topics :

1	Select any manufacturing unit, Observe the wage payment system followed there and prepare a report on your observation.
2	Collect employees' remuneration data from a production unit – compare between Time rate wage system and Piece rate wage system – give a suggestion or recommendation.
3	Collect employees' remuneration data from a production unit – compare Differential Piece rate wage system between Taylor's and Merrick's - give a suggestion or recommendation.
4	Collect employees' remuneration data from a production unit – compare Bonus premium plan between Halsey and Rowan - give a suggestion or recommendation.
5	Collect Overhead cost of a particular period of time from a manufacturing / production unit – allocate these costs among different departments on the basis of primary bases.
6	Select any house having both let out and self occupied units, take the necessary information from the owner of the house and compute Income from House Property.

Guidance to the Students regarding Project Work for Class - XII

The Council has included 'Project Design' in the new curriculum keeping in view the practical side of the students along with the theoretical knowledge. The following points should be arranged in sequence for project formulation —

On the first page:

(i)Name of project, (ii) Name of project maker, (iii) Name of supervisor i.e. name of the school teacher who supervised the preparation of project, (iv) Name of school, (v) Roll number, (vi) Class, (vii) Month and year of submission.

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WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII
SUBJECT : DATA SCIENCE (DTSC)

Course Objectives

The objective of course is:

- To Impart knowledge about basic computer fundamentals and programming languages for data science.
- To Impart knowledge about mathematical and statistical methods for data analysis.
- To Empower students with data visualization techniques and tools.
- To impart knowledge about the basics of data management and Business Theory.
- To impart knowledge about various machine learning techniques used for data analysis.
- To enable students to develop data-based machine learning models for solving real-word applications.
- To enable students to gain practical experience in programming languages and statistical and machine learning tools for data sciences.

Course Outcomes

Upon completion of this course, the student should be able to:

- Explain the importance of and be able to formulate a data analysis problem
- Explain various data types, and data formats , and identify and appropriately acknowledge sources of various types of data
- Gain an ability to apply mathematical and statistical methods in data science applications
- Apply basic data cleaning techniques to prepare data for analysis
- Demonstrate proficiency in using appropriate tools and technology to collect, process, transform, summarize, and visualize data.
- Apply various machine learning algorithms in data-based decision-making applications , and draw accurate and useful conclusions through data analysis
- Demonstrate some skills in data retrieval using Structured Query language (SQL)
- Explain the basics of Business Theory
- Demonstrate skill in basic exploratory data analysis using unsupervised learning
- Demonstrate proficiency in implementing supervised machine learning algorithms for predictive data analysis using the latest programming languages and software tools.
- Differentiate between ethical and unethical uses of data science.

CLASS - XI

SEMESTER – I

SUBJECT: DATA SCIENCE (DTSC)

FULL MARKS: 35 **CONTACT HOURS: 60 Hours**

COURSE CODE: THEORY

UNIT NO.	SUB	TOPICS	CONTACT HOURS	MARKS
Unit -1 Computer Fundamentals (15)	1a.	History of computer, Basic Computer hardware, input and output devices, Basic computer architecture, input output devices, memory and CPU, networking of machines (overview of LAN, MAN, WAN, Internet, Wifi etc), types of computer (workstation, desktop, Smartphone, embedded system, etc.), Overview of Software (system software and application software with examples (mention names only)), Definition of Operating System and functions (mention names of some popular operating systems like Windows, Linux, Android, etc).	**8**	**5**
	1b.	Bit, Byte and Word, Number System (Base, Binary, Decimal, Octal, Hexadecimal), Conversion of number systems, Boolean logic (Boolean Gates), Boolean operators (OR, AND and NOT), ASCII code, Concept of Algorithm and Flowchart.	**6**	**5**
	1c.	Basics of Computer Programming (three levels: high level language, assembly language, machine language, definition and block diagrams), Overview of Compiler and Interpreter (definition and mention name of major compiled (e.g., C, C++) and interpreted languages (e.g., Python), Overview of procedural and object oriented programming (key features and just the basic differences, mention names of some popular procedural (e.g., BASIC, FORTRAN, C) and object oriented programming languages (e.g., C++, Java, Python).	**10**	**5**
Unit -2 Introduction to Python Programming (15)	2a.	Basics of Python programming (with a simple 'hello world' program, process of writing a program, running it, and print statement), Concept of class and object, Data-types (integer, float, string), notion of a variable, Operators (assignment, logical, arithmetic etc.), accepting input from console, conditional statements (If else and Nested If else), Collections (List, Tuple, Sets and Dictionary), Loops (For Loop, While Loop & Nested Loops), iterator, string and fundamental string operations (compare, concatenation, sub-string etc.), Function, recursion.	**12**	**5**

UNIT NO.	SUB	TOPICS	CONTACT HOURS	MARKS
	2b	Overview of linear and nonlinear data structure (definition, schematic view and difference), array (1D, 2D and its relation with matrix, basic operations: access elements using index, insert, delete, search), stack (concept of LIFO, basic operations: Push, Pop, peek, size), queue (concept of FIFO, basic operations: Enqueue, Dequeue, peek, size), use of List methods in Python for basic operations on array, stack and queue, overview of NumPy library and basic array operations (arrange(), shape(), ndim(), dtype() etc.), binary tree (definition and schematic view only) .	**12**	**6**
	2c	Linear search and binary search algorithm, sorting algorithm (bubble sort only)	**4**	**4**
Unit -3 History of AI and Introduction to Linear Algebra (5)	3a	History of AI: AlanTuring and cracking enigma, mark 1 machines, 1956- the birth of the term AI, AI winter of 70's, expert systems of 1980s, skipped journey of present day AI. Distinction between terms AI, Pattern recognition and Machine Learning. (Note: it should be taught as a story more than flow of information World war 2, Enigma and Alan Turing, the birth of modern computers)	**2**	**2**
	3b	Basic matrix operations like matrix addition, subtraction, multiplication, transpose of matrix, identity matrix. A brief introduction to vectors, unit vector, normal vector, Euclidean space.	**6**	**3**

NB : Additional 10 hours for Remedial and/or Tutorial classes

CLASS - XI

SEMESTER – II

SUBJECT: DATA SCIENCE (DTSC)

FULL MARKS: 35 **CONTACT HOURS: 60 HOURS**

COURSE CODE: THEORY

UNIT NO.	SUB	TOPICS	CONTACT HOURS	MARKS
Unit -4 History of data science and statistics (15)	4a	Brief history of data science, data science as conjunction of computer science statistics and domain knowledge. Definition of data science, data science life cycle - capture, maintain, process, analyze, communicate	**6**	**3**
	4b.	Probability distribution, frequency, mean, median and mode, variance and standard deviation, Gaussian distribution, Random sampling by uniform distribution and students-t distribution hypothesis testing, Distance function, Euclidean norm, distance between two points in 2D and 3D and extension of idea to *n* dimensions	**10**	**5**
	4c.	Basic ideas of different Data Science Toolkit: Excel, Weka, R	**12**	**7**
Unit - 5 Data Visualization(10)	5	Types of data: textual data (reviews, comments blogs), signal data (time series, audio, sensor data) visual data (image and video, remote sensing data, feeds etc.) Introduction to data dimension and modality, their representations in computer science. Data cleaning - Representation of data in textual form, tokens, sentences, word histograms, reading from web pages using crawlers - Representation format of audio data, uncompressed wav format and compressed mp3 format (just the description of the pipeline, no maths) - Representation of visual data in RGB pixels, storing in raw format and compressed format (just the description of the pipeline, no maths) - Representation of other forms of data like time series values from different sensors, remote sensing image data etc. - Introduction to the concept of multimodality *i.e*. different modes of data from the same information source (example audio and video generated when filming) - Data dimension (resolution for image, frequency bins and sampling rate for audio, word histograms for text) - Concept of data cleaning, removal of abnormal, incomplete and corrupted or garbage data as a preprocessing stage.	**16**	**10**

UNIT NO.	SUB	TOPICS	CONTACT HOURS	MARKS
Unit -6 Database Management (5)	6	Brief introduction to relational database, tables for keeping data, brief introduction to SQL - Introduction to the concept of database - Relational database, table, schema as columns and tuple as rows - Some basic SQL statements such as CREATE, SELECT, INSERT, UPDATE, DELETE (Simple query examples)	**8**	**5**
Unit -7 Basics of Business Theory (5)	7	Business theory basics: Different business models B2B, B2C. Aggregator type business, manufacturing type business, consultancy and turnkey service based businesses, social media type and general digital platform type business, content hosting businesses. Definitions of profit, loss, revenue, break-even, valuation etc. **[NO LAB COMPONENT]** - The basic business types, product based and service based - Business classification by clients, the B2B and B2C models - Types of business who use DS extensively: software product and service, aggregator (cab, food delivery, groceries, online market), manufacturing and banking - Consultancy type business and service profiling - Social media business and targeted advertising based business model - Basic business terminologies, refer (https://getsling.com/blog/business-terms/)	**8**	**5**

NB : Additional 10 hours for Remedial and/or Tutorial classes

CLASS: XI

SUBJECT: DATA SCIENCE (DTSC)

COURSE CODE: PRACTICAL

FULL MARKS: 30 **CONTACT HOURS: 60 HOURS**

Sub Topic

1. **Computer Fundamentals** [No marks]	● Visit to Computer Lab and familiarization with computers and peripherals and different networking devices (e.g., modem, switch, router). ● Opening of the CPU box/cabinet and identification of different parts (e.g., Motherboard, CPU/Processor, RAM, Hard Disk, power supply).	no marks (6 hours)
2. **Introduction to Python Programming [10 Marks]**		
2a.	● Introduction to installation and running of python codes with hello world and simple accessing user inputs from console examples. ● Menu driven arithmetic calculator ● Simple logical and mathematical programs (e.g., printing patterns, Conversion of binary to decimal and vice versa, computing GCD of two numbers, Finding prime numbers, Generating Fibonacci sequence, Computing factorial –iterative and recursive etc.) ● Finding max, min, avg, sum, length of a list ● Use of basic string methods like upper(), lower(), count(), find(), join(), replace(), split() etc.	3 Marks (4 hours)
2b.	● Use of Python List methods for Stack and Queue implementation, for examples, append() and pop() ● Use of NumPy array methods: arrange(), shape(), ndim(), size(), add(), subtract(), multiply(), divide(), mat() etc. ● Use of NumPy matrix multiplication methods: dot(), matmul(), multiply() etc. ● Linear search and binary search in an array ● Bubble sort in an array	5 Marks (4 hours)
2c.	Creating data frame from .csv file , excel sheet , python dictionary, python list, tuple operation on data frame.	2 Marks (4 hours)

3. **Foundation for AI and Data Science [5 Marks]**	● Generation of random numbers in python following a certain distribution and filling up random arrays ● Introduction to matplotlib to plot arrays as histograms ● Computation of mean, median and mode ● Computing CDF from PDF and plotting using matplotlib ● Plotting Gaussian distribution with a given mean and standard deviation ● Plotting mixture of Gaussian distributions	5 Marks (10 hours)
4. Data Visualization [10 marks]	Using Scipy, opencv and NLTK libraries run codes for the following ● Visualization of audio data as spectrogram ● Visualization of image data by zooming into pixels ● Visualization of word histograms	10 Marks (12 Hours)
5. Database Management [5 marks]	● Use of MySQL database for Creating tables ● Running retrieval, insertion, deletion and updation queries	5 Marks (8 hours)

NB : Additional 10 hours for Remedial and/or Tutorial classes

CLASS - XII

SEMESTER – III

SUBJECT: DATA SCIENCE (DTSC)

FULL MARKS: 35 **CONTACT HOURS: 60 Hours**

COURSE CODE: THEORY

UNIT NO.	SUB	TOPICS	CONTACT HOURS	MARKS
Unit 1: Foundation of statistics for machine learning(5)	1.	Distance between distributions - Euclidean norm, Pearson's correlation coefficient, basic concepts of (not in detail) chi-square distance, Bayes' theorem and Bayesian probability ● Real n-dimensional space (R^n) and vector algebra, dot product of two vectors, vector projections. ● Product moment correlation coefficient (Pearson's coefficient) its use in determining relation between two sets of data ● Chi-square and use in finding distance between two distributions ● Conditional probability and Bayes' theorem , conditional independence	**10**	**5**
Unit 2: Introduction to machine learning (15)	2a.	• **What is Machine Learning?** • Difference between traditional programming and machine learning • Relation of machine learning with AI • Applications of machine learning. • Why should machines have to learn? Why not design machines to perform as desired in the first place? ● Types of Machine Learning Supervised, Unsupervised, Semi-supervised and Reinforcement learning), ● Concept of training, testing and validation, Concepts of training examples, Linear Regression with one variable , hypothesis representation, hypothesis space, Learning Requires Bias, Concept of Loss function ● Training methods for linear regression model: Iterative trial-and-error process that machine learning algorithms may use to train a model, Disadvantages of iterative training method, gradient descent algorithm. ● Effect of learning rate on reducing loss. Importance of feature scaling(mini-max normalization)	**18**	**10**

UNIT NO.	SUB	TOPICS	CONTACT HOURS	MARKS
	2b.	• **<u>What is feature or attribute?</u>** • Definition and meaning of feature in various kinds of data (e.g., structured data, unstructured data(text data, image data)) • Types of features(continuous, categorical) • Representation of training examples with multiple features • Linear regression with multiple attributes (multiple features) • Feature cross and polynomial regression	**10**	**5**
Unit 3: Supervised learning (15)	3a.	● Difference between regression and classification. Examples of some real world classification problems ● Linear classification and threshold classifier, Concept of input space and linear separator, Drawback of threshold classifier, use of logistic function in defining hypothesis function for logistic regression model. ● Probabilistic interpretation of output of the logistic regression model, use of logistic regression model in binary classification task. Multi-class classification using One *vs* all strategy.	**12**	**7**
	3b.	Probabilistic classifier: Bayesian Learning, conditional independence Naive-Bayes classifier	**4**	**3**
	3c.	Measuring Classifier performance: ● Confusion matrix, true positive, true negative, false positive, false negative, error, accuracy, precision, recall, F-measure, sensitivity and specificity ● K-fold cross validation	**6**	**5**

NB : Additional 10 hours for Remedial and/or Tutorial classes

CLASS - XII

SEMESTER – IV

SUBJECT: DATA SCIENCE (DTSC)

FULL MARKS: 35 **CONTACT HOURS: 60 HOURS**

COURSE CODE: THEORY

UNIT NO.	SUB	TOPICS	CONTACT HOURS	MARKS
Unit 4: Decision tree learning and Unsupervised learning (10)	4a.	↬ Concept of entropy for measuring purity (impurity) of a collection of training examples. and information gain as a measure of the effectiveness of an attribute in classifying the training data (just basics and equation) . ↬ Inducing decision tree from the training data using ID3 algorithm, an illustrative example showing how the ID3 algorithm works. ↬ Concept of overfitting, reduced error pruning ↬ Discretizing continuous-valued attributes using information gain-based method (binary split only) ↬ Differences between supervised and unsupervised learning	**12**	**5**
	4b.	● What is unsupervised learning? ● Difference between supervised and unsupervised learning. ● What is clustering? ● Why is clustering an unsupervised learning technique? ● Some examples of real world application of clustering, ● Difference between clustering and classification ● K-means clustering algorithm. Simple use cases	**10**	**5**
Unit 5: Data visualization technique (10)	5.	↬ What is the need for data visualization? ↬ Visualization techniques: visualization of a small number of attributes (Stem and leaf plots, 1D Histogram and 2D Histogram, Box Plots, Pie chart, Scatter Plots) ↬ Visualizing Spatio -temporal Data (Contour plots, Surface plots) ↬ Visualizing higher dimensional data (Plot of data matrix) ↬ Heatmap visualization ↬ Introduction to data visual platform- Tableau and Google Chart	**12**	**10**
Unit 6: Artificial neural network (10)	6.	↬ Biological motivation for Artificial Neural Networks(ANN) ↬ A simple mathematical model of a neuron (McCulloch and Pitts(1943)) ↬ Concept of activation function: threshold function and Sigmoid function, ↬ Perceptron as a linear classifier, perceptron training rule ↬ Representations of AND and OR functions of two inputs using threshold perceptron. Equation of a linear separator in the input space, Representational power of perceptrons		

UNIT NO.	SUB	TOPICS	CONTACT HOURS	MARKS
		⊘ Training *unthresholded perceptron* using *Delta rule*, Need for hidden layers , XOR example, ⊘ Why do we need non-linearity? Network structures: feed forward networks and recurrent networks (basic concept only) ⊘ Training multiplayer feed-forward neural networks using *Backpropagation algorithm* (Concepts only and no derivation). ⊘ Generalization, overfitting, and stopping criterion, overcoming the overfitting problem using a set of validation data ⊘ An Illustrative example of an ANN architecture for handwritten digit recognition (Only input representation, output representation and a block diagram of the network) ⊘ Need for automatic feature learning, difference between the conventional feed-forward neural networks and CNN, role of convolution layer in CNN, An example of 2D convolution, function of pooling layer ⊘ A block diagram illustrating CNN applied to handwritten digit recognition task	**20**	**10**
Unit 7: Case studies in data science (5)	7.	Some case studies: ⊘ Weather forecasting using some statistical and machine learning tools (consider the ML algorithms covered in the theoretical subjects) ⊘ Sentiment Analysis using some machine learning tools (consider the ML algorithms covered in the theoretical subjects) ⊘ A simple collaborative filtering-based recommendation System	**6**	**5**

NB : Additional 10 hours for Remedial and/or Tutorial classes

CLASS: XII

SUBJECT: DATA SCIENCE (DTSC)

COURSE CODE: PRACTICAL

FULL MARKS: 30 **CONTACT HOURS: 60 HOURS**

Sub Topic

SUB	TOPICS	CONTACT HOURS	MARKS
1. Foundation of Statistics for Machine Learning [2 marks]	Consider a table of data about *n* persons with two attributes– age and income and find Pearson correlation coefficient using a python program. Do not use any built-in library function for directly calculating Pearson correlation coefficient.	4 hrs	2
2. Introduction to Machine Learning [5 Marks]			
2a.	● Introduction to python libraries like scipy ● Revisit matrix operations using scipy (basic matrix operations of addition, subtraction, multiplication, transpose)	4 hrs	2
2b.	• Generation of random (x, y) pairs where y = f(x) + d (d varies from -r to +r , a random value), *f* being a linear function • Linear regression or line fitting of the data • Optimizing the function using gradient descent	6 hrs	3
3. Supervised Learning [7 Marks]	● Loading csv file-based datasets using file-read operation in python ● Introduction to pandas library and loading csv and json files ● Building Logistic regression model for binary classification of Diabetes Data set downloadable from the UCI machine learning repository ● Building a decision tree classifier and testing on the Diabetes Data ● Introduction to the IRIS dataset, building a logistic regression model for multi-class classification and testing the model on the IRIS dataset downloadable from UCI Machine Learning Repository ● Building K-nearest neighbor classifier and testing on the IRIS dataset (Use Scikit-learn open source data analysis library for implementing the models)	10 hrs	7

SUB	TOPICS	CONTACT HOURS	MARKS
4. Unsupervised Learning [3 Marks]	Using Scikit-learn library to use k_means algorithm for clustering IRIS data and its visualization	8 Hrs	3
5. Data Visualization techniques [5 Marks]	Introduction to plotly library in python and plotting different types of plot using the library refer this(https://plotly.com/python/plotly-express/) • Stem and leaf plots • 1D Histogram of four attributes of the IRIS dataset • 2D Histogram(considering the IRIS dataset, plot 2D histogram of petal length and width) • Box Plots (Considering the IRIS dataset, show the Box plots of attributes for IRIS attributes and species) • Plot the Pie chart, showing the distribution of IRIS flowers (use IRIS dataset) • Scatter Plots for each pair of attributes of the IRIS dataset • Heatmap	12 Hrs	5
6. Artificial Neural Network [5 Marks]	● Using MLP from Scikit-learn library, develop a handwritten digit recognition model using MLP and MNIST dataset ● Using CNN from Keras library, develop a handwritten digit recognition model using CNN and MNIST dataset	10 Hrs	5
7. Case studies in Data Science [3 Marks]	Case Study: sentiment analysis of movie reviews. Use machine learning tools from Scikit-learn library and the IMDB dataset	6 Hrs	3

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASS XI AND XII
SUBJECT: ECONOMICS (ECON)

Course Objective:

The objective of any course is primarily twofold: first, to improve the understanding of the world around us, and to impart knowledge & develop skills in the students, which improves their employability. The HS Course in Economics has also been framed keeping these two primary objectives in mind.

The course is designed to ensure that the students develop a basic knowledge of the economic concepts, terms, theories and processes so that they can understand literatures and articles on economic issues. The course also aims at helping the students to understand the problems and challenges faced by the Indian economy as well as world economy in general and to apply the knowledge of the economics to make informed choices. The course is also intended to inculcate analytical, logical and statistical skills in a student so that they are able to analyse economic problems applying the concepts and processes they have learnt. The course should also equip them to draw conclusions and present the conclusions in an innovative way.

Course Overview:

The course consists of four modules. The first two modules offered in class XI are Microeconomics and Statistics. The next two modules offered in class XII are Macroeconomics and Indian Economic Development.

The course on Microeconomics familiarizes the students with different basic concepts of choice, demand, supply, revenue, cost and profit. The course is intended to develop an understanding about different forms of market structures their working process as well as basic concepts and processes about international trade.

The course on Statistics introduces the students to the basic concepts and techniques used in Statistical analysis of data. The course is developed with the aim of equipping the students to apply the statistical techniques in analyzing economic problems. This course will be particularly useful in conducting the project work, which is also part of the course. The students can apply statistical techniques on economic data along with the theories and concepts they learn in theoretical courses to analyse problems relating to economic issues.

The course on Macroeconomics likewise introduces the basic concepts of national income accounting and simple Keynesian Economic system to the students. The course also includes topics on Balance of payments, money & banking, government budget and taxation. All these topics are introduced at a basic level with the aim of enabling the students to understand and analyse Macroeconomic issues in an integrated framework.

Finally, the course on Indian Economic Development attempts to provide the students with an overall view of Indian Economy, the nature and path of development that the Economy has experienced and the factors that have contributed to the process of development. The topics include sectoral distribution of income and occupation, evolution of the structure of Agricultural sector, Industrial sector and Services sectorand the topical issue of inclusive growth. The necessary concepts like poverty, inequality, unemployment, human development have been introduced to provide the necessary perspective for understanding and analysing Indian Economic problems.

All the courses are structured in such a way that the student can understand, remember and apply the different concepts, processes and theories. The ultimate aim is to develop the students' analytical skills and ability to develop innovative ways to address the economic problems.

CLASS - XI

SUBJECT: ECONOMICS (ECON)

COURSE CODE: THEORY

FULL MARKS: 40 **CONTACT HOURS: 100 HOURS**

SEMESTER – I

Sub Topics

Microeconomics & Statistics

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 1: Microeconomics	**1. Microeconomics** Unit 1: Introduction a. Problems addressed in Economics (both Micro & Macro): Basic Problems: for whom to produce, How to Produce, what to produce; Problems of Economic Growth, Economic Development and Problems of Sustainable Development. b. How the Problems are addressed: Free Market Economy; Government Intervention; Socialist Economic system; Mixed Economic system; Broad Social Goals: Efficiency, Equity, Freedom of Choice, Economic Growth, Sustainable Development. c. Indicators - Indicators of Economic Growth (Only definition) a. Income, per capita income b. Savings c. Investment i. Physical Capital ii. Human Capital d. Development Indicators (Concepts & Definitions) a. Inequality b. Poverty c. Unemployment d. Gender Inequality e. Environment	**10**	**4**
Unit – 2 Microeconomics	Consumer Behaviour a. Demand & Supply-Concept of Equilibrium Price-Invisible Hand –laissez faire b. Concept of Elasticity of Demand – Price Elasticity of Demand; Income Elasticity of Demand; Cross Price Elasticity of Demand; Elasticity of Supply (Numerical	20	8

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	Problems can be Introduced); Comparative Statistics- Price Ceiling& Price Floor. c. Basics of Theory of Consumer Behaviour, Cardinal Utility, Ordinal Utility; Budget Constraint, Indifference Curve & Its Properties, Utility Maximization Using Indifference Curve; Derivation of Demand Function.		
Unit – 3 Microeconomics	Producer Behaviour a. Short Run and Long Run Production Function, Law of Variable Proportions ,Returns to Scale, Economies of Scale b. Basic Concepts of Cost: STC, SAC, SMC, LTC, LAC, LMC, Implicit Cost, Opportunity Cost c. Concepts of Revenue and Profit: TR, AR, MR, Profit	20	8
Unit – 4 Statistics	Introduction to Data a. Scope of Statistics b. Introduction to Different Types of Data: Primary vs Secondary, Time Series vs Cross-Section, Qualitative vs Quantitative; Features of a Good Questionnaire c. Data Sources for the Indian Economy	10	4
Unit – 5 Statistics	Organization & Representation of Data a. Classification of Data: Continuous & Discrete Variables b. Textual Presentation of Data c. Tabular form Presentation of Data d. Graphical Representation of Data:-Bar Chart,Histogram,Frequency Curve, Pie Chart,Ogive, Arithmetic Line Graph	20	8
Unit- 6 Statistics	Measures of Central Tendency a. Mean: Arithmetic Mean, Geometric Mean b. Quartile &Median, Percentile (definition only) c. Mode	20	8

CLASS - XI

SUBJECT: ECONOMICS (ECON)

COURSE CODE: THEORY

FULL MARKS: 40 **CONTACT HOURS: 80 HOURS**

SEMESTER – II

Sub Topics

Microeconomics & Statistics

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 1 Microeconomics	Introduction to Concepts of Market Structure a. Basic Concepts of Forms of Markets: Perfect Competition, Monopoly, Natural Monopoly, Monopolistic Competition, Oligopoly. (Definition & Features) b. TR, AR &MR under Fixed Price & Variable Price, Equilibrium Condition under Perfect Competition & Monopoly c. Financing through Debt & Equity: Basics of Financial Instruments (Stocks & Bonds)(Definitions & Differences) d. Problems of Externality: Social Cost & Private Cost, Problems of Market Failure, with special reference to Environmental Problems e. Public Goods & Private Goods	20	10
Unit – 2 Microeconomics	Basics of International Trade a. Difference Between Internal Trade & International Trade b. Concept of Absolute Advantage &Concept of Comparative Advantage c. Gains from Trade d. Concepts of Tariff & Quota (Only Definition) e. Basic Ideas about Trade Liberalization, Bilateral Trade Agreements, Regional Trade Agreements.	20	10
Unit – 3 Statistics	Measures of Dispersion a. Absolute Measures of Dispersion Range, Standard Deviation and Variance Quartile Deviation b. Relative Measure of Dispersion: Coefficient of Variation	17	8

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 4 Statistics	Correlation a. Concept b. Scatter Diagram c. Spearman's Rank Correlation d. Pearson's Correlation Coefficient	17	8
Unit – 5 Statistics	Index Numbers: a. Concept & Use b. CPI & WPI	6	4

CLASS - XII

SUBJECT: ECONOMICS ECON)

COURSE CODE: THEORY

FULL MARKS: 40 **CONTACT HOURS: 100 HOURS**

SEMESTER – III

Sub Topics

Macroeconomics & Indian Economic Development

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 1 Macroeconomics	National Income Accounting: a. Concept of Stocks & Flows, Concept of Transfer Payments, Concept of Closed Economy & Open Economy, Concepts of GDP, GNP, NDP, NNP, NI at Market Price, NI at Factor Cost, Real Income vs Nominal Income b. Methods of Measuring NI: Product Census Method, Value Added Method-Concept of Intermediate Goods & Final Goods, Income Method, Expenditure Method (Simple Numerical)	20	8
Unit – 2 Macroeconomics	Simple Keynesian system (Closed Economy Model with Government) a. Consumption Function & Savings Function b. Cross-Diagonal Model, Introduction to Government Budget & Taxation c. Alternative Forms of Multiplier: Investment Multiplier, Government Expenditure Multiplier, Tax Multiplier	20	8
Unit–3 Macroeconomics	Balance of Payments & Exchange Rate a. Concepts of BOP: Balance of Trade, Balance of Current Account, Balance of Capital Account, Causes & Solutions of BOP Disequilibrium, Autonomous & Accommodating Transactions. b. Basic Concepts and Types of Exchange Rates	10	4

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 4 Indian Economic Development	Brief Reference to Colonial Past: Advantages and Disadvantages	10	4
Unit – 5 Indian Economic Development	Evolving Features of Indian Economy : a. Sectoral Composition of NI and changes over time during Pre-Liberalization and Post Liberalization Period b. Occupation Distribution of NI during Pre-Liberalization and Post-Liberalization Period, Post-Independence Period & Changes thereof c. Types of Unemployment –Changes in Occupational Patterns during Pre-Liberalization & Post-Liberalization Period – Problem of Unemployment in India – Different Employment Generating Programs in the Post-Liberalization Period –Jobless Growth. d. India & Its Neighbours – a Comparison of Economic Growth, Population & Sectoral Development & other Human Development Indicators (Comparison with China)	20	8
Unit-6 Indian Economic Development	Agriculture : a. Problems in Agricultural in the Post-Independence Era- 1st Plan and Green Revolution b. Institutional Reforms: Land Reforms & Operation Barga –Reforms in Rural Credit. c. Agricultural Reforms in the Post-Liberalization Era – Impact of Globalization in Indian Agriculture d. Food Security & Public Distribution System	20	8

CLASS - XII

SUBJECT: ECONOMICS (ECON)

COURSE CODE: THEORY

FULL MARKS: 40 **CONTACT HOURS: 80 HOURS**

SEMESTER – IV

Sub Topics

Macroeconomics & Indian Economic Development

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 1 Macroeconomics	Money, Banking & Inflation : a. Concept & Functions of Money b. Basics of Supply of Money, Central Bank Money, Process of Credit Creation & Role of Commercial Banks, Concept of Money Multiplier c. Concept of Inflation, Demand Pull Inflation, Cost Push Inflation, Stagflation. d. Functions of Central Bank & Methods of Credit Control: Direct Control vs Indirect Control; Control Rates: CRR, SLR, Repo Rate, Bank Rate, Prime Lending Rate	20	10
Unit – 2 Macroeconomics	Financing of Government Budget: a. Public Finance vs Private Finance b. Sources of Government Revenue: Tax & Non-Tax Revenue, Alternative Forms of Taxes – Progressive& Proportional Taxes, Direct and Indirect Taxes, Concept of GST, Sources of Non-Tax revenue c. Concept of Government Budget & Budget Deficit: Revenue Deficit, Fiscal Deficit, Primary Deficit, Monetization of Fiscal Deficit & Inflation, Balanced Budget Multiplier d. Public Debt: Internal vs External Debt; Short Term *vs* Long Term Debt	20	10
Unit – 3 Indian Economic Problems	Industry : a. 2nd 5-year Plan, Maholanobish Model & Industrial Growth b. Industrial Liberalization in 1991 – Its Impact on Industrial Growth c. Trade Policy & Impact of Globalization on Indian Industry – Shift in Trade Policy Regime from Import	10	4

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	Substitution to Export Promotion – India as a member of WTO d. Importance of Small Scale and Village Industries		
Unit – 4 Indian Economic Problems	Service Sector : a. Growth in Service Sector in India b. Growth in Trade of Services (Financial Sector, Information Technology Sector, Outsourcing) c. Impact of Economic Liberalization & Globalization on Service Sector Growth	15	8
Unit – 5 Indian Economic Problems	Inclusive Growth : a. Inclusive Growth –Definition & Measurement of Inclusive Growth b. Sustainable Development: 17 SDGs of UNDP c. Inequality & Poverty: Basic Measurements – Head Count Ratio, Poverty Gap, Lorenz Curve; Changes in Indian Scenario during 1950-1990, 1991-2019; Special Programs & Policies Adopted in India to Eradicate Poverty with special reference to West Bengal d. Environmental Problems of Economic Growth with special reference to India e. Human Development: Concept of HDI, Indian Scenario	15	8

CLASS: XII

SUBJECT: ECONOMICS (ECON)

COURSE CODE: PROJECT WORK

FULL MARKS: 20 For Classes XI and XII Separately

MARKS DIVISION: 12 [PROJECT REPORT] + 8 [VIVA]

A project work in economics is defined as a sequence of tasks that must be conducted and completed to attain a certain outcome either based on primary data or on secondary data. Learners will undertake only one project in each academic session and that project should be within 3,500-4,000 words (excluding diagrams, tables and graphs). Own observations and conclusions, depending on self-understanding of the selected topic should be incorporated while conducting and writing the project.

The Objectives of the Project Work are to enable students to:

- explore and elucidate theoretical concepts learnt in class XI and XII.
- analyse and evaluate empirically and theoretically real-world economic scenarios using theoretical constructs and arguments.
- nurture critical thinking skills.
- develop better communication skills while collecting primary data to focus on the problems of the local economy either individually or collectively.
- help to improve cognitive abilities with a view to making them sharper and more profound over time.
- follow up different aspects of economics in which learners have interest.

Topics for Secondary Data based Project Work for Class XI

1. Study of growth of GDP/ Per capita income in India for a specific period
2. Study of changing pattern of employment in India during plan period / post-liberalization period
3. Changing pattern of export/ Import during pre-liberalization &post-liberalization period
4. Study of government expenditure on education during post-liberalization period
5. Any other relevant topic from the topics covered

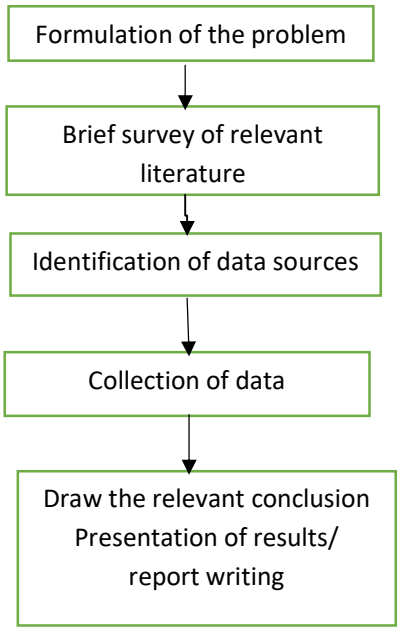
Topics for Secondary Data based Project Work for Class XII

1. Study of supply of credit to the Agricultural Sector/ Industrial Growth
2. Study of poverty in India
3. Study of changing pattern of inequality in India
4. Comparison of Human Development Index between India & a neighbouring country
5. Any other relevant topic from the topics covered

Data Sources for Secondary Data based Project

1. Economic Survey
2. Handbook of Statistics on Indian Economy: https://rbi.org.in/Scripts/AnnualPublications.aspx
3. Hand book of Statistics on Indian States
4. RBI Bulletin
5. Annual Survey of Industries
6. Human Development Reports

Flow Chart for Projects Based on Secondary Data



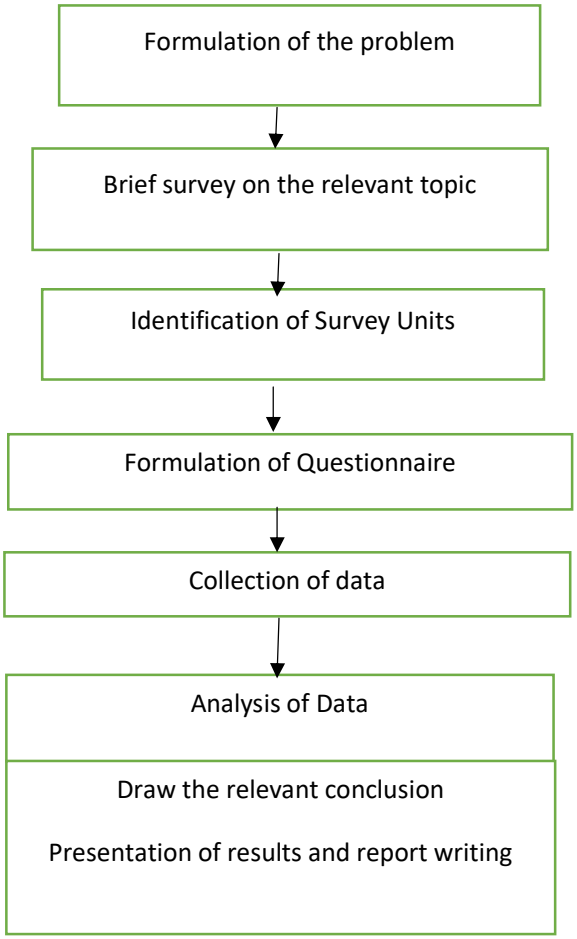
Topics for Primary Survey based Project Work for Class XI

1. Study of consumption pattern of different households
2. Study of savings pattern of different households
3. Study of local vegetable market to identify the extent of completion
4. Provision of public goods by local Gram Panchayat/ Local government
5. Any other relevant topic discussed in the syllabus

Topics for Primary Survey based Project Work for Class XII

1. Study of agricultural land holding pattern in the local area
2. Study of cropping pattern in the local area
3. Study of digitization of transactions among the local population
4. Study of relation between education & income / education & employment based on a local survey
5. Impact of Kanyasree Prakalpa on educational attainment of girl child
6. Any other relevant topic discussed in the syllabus

Flow Chart for Projects Based on Primary Data



Structure of the Project Report

1. Introduction of the issue
2. Description of data (description of data sources in case of secondary data based project, description of how the survey was conducted in case of projects based on primary survey)
3. Analysis of data using the knowledge of Statistics, Graphs & Tables & Interpretation of results
4. Conclusion from the analysis and interpretation
5. Bibliography

Distribution of Contact Hours

Total contact hours available per year	**200 hrs**
Contact hours for home assignments, tutorials, remedial classes per year	**20 hrs**
Contact hours available for classes per year	**180 hrs**
Contact hours for Semester I of Class XI	**100 hrs**
Contact hours for Semester II of Class XI	**80 hrs**
Contact hours for Semester III of Class XII	**100 hrs**
Contact hours for Semester IV of Class XII	**80 hrs**

Class XI	**Hours**	**Class XII**	**Hours**
Semester I	**100 hrs**	**Semester III**	**100 hrs**
Subject :Microeconomics	**50hrs**	**Subject : Macroeconomics**	**50 hrs**
Unit 1	**10 hrs**	**Unit 1**	**20 hrs**
Unit 2	**20hrs**	**Unit 2**	**20 hrs**
Unit 3	**20hrs**	**Unit 3**	**10 hrs**
Subject :Statistics	**50 hrs**	**Subject : Indian Economic Development**	**50 hrs**
Unit 4	**10 hrs**	**Unit 4**	**10 hrs**
Unit 5	**20 hrs**	**Unit 5**	**20 hrs**
Unit 6	**20 hrs**	**Unit 6**	**20 hrs**

Semester II	**80 hrs**	**Semester IV**	**80 hrs**
Subject :Microeconomics	**40 hrs**	**Subject : Macroeconomics**	**40 hrs**
Unit 1	**20 hrs**	**Unit 1**	**20 hrs**
Unit 2	**20 hrs**	**Unit 2**	**20 hrs**
Subject : Statistics	**40 hrs**	**Subject : Indian Economic Development**	**40 hrs**
Unit 3	**17hrs**	**Unit 3**	**10 hrs**
Unit 4	**17 hrs**	**Unit 4**	**15 hrs**
Unit 5	**6 hrs**	**Unit 5**	**15hrs**

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII

SUBJECT : EDUCATION (EDCN)

EDUCATION (EDCN)

SYLLABUS

Class – XI

Semester – I

Full Marks: 50

Theory –40 Marks &Internal Assessment –10 Marks

Objectives:

- To understand the meaning, concept and aims of education
- To become aware of different forms and agencies of education and their roles
- To understand the meaning and scope of educational philosophy and its different schools
- To understand the meaning, nature and scope of educational sociology
- To understand the concept of culture, dynamics of social organizations and its role in education

Group – A (20 Marks)

Introduction to Education

Unit-I: Meaning Concept & Aims of Education (20 Contact Hours)

a) Meaning of Education: Meaning, Concept and Definition of Education.Nature and Scope of Education, Narrow and Wider Concept of Education.

b) Aims of Education: Individualistic and Socialistic Aims of Education, Specific Aims of Education: Constitutional Values (Democracy and Secularism).

c) Factors of Education: Learner, Teacher, Curriculum and Environment.

Unit-II: Forms & Agencies of Education (20 Contact Hours)

a) Forms of Education: Formal, Informal, Non-formal (Meaning, Concept, Characteristics, Need, Role, Limitation).

b) Agencies of Education: School, Family, Mass Media, Newspaper, TV, Radio, Cinema, Internet, Library, Religious Institutions, Open School, Open University (Role only).

c) Guiding Agencies of Education: NCERT, SCERT, DIET, NCTE, UGC, UNESCO (Mention only).

Group – B (20Marks)

Philosophical & Sociological Perspective in Education

Unit – I: Education & Philosophy (24 Contact Hours)

a) Meaning of Educational Philosophy: Needs for Educational Philosophy, Relationship between Education and Philosophy.

b) Schools of Indian Philosophy:Astika and Nastika - Naya, Vedanta,Buddhism and Islam - Basic Principles and Educational Implications (With Special Reference to Metaphysics, Epistemology, Axiology).

c) Western Schools of Philosophy: Idealism, Realism, Naturalism and Pragmatism (Basic Principles and Educational Implications).

Unit-II: Education & Society (16 Contact Hours)

a) Meaning of Educational Sociology: Needs for Educational Sociology, Relationship between Education and Sociology.

b) Social Organization and Social Structure: Folkways, Mores and Social Groups & Social Mobility.

c) Culture and Education:Social and Cultural Change, Role of Education regarding these.

Internal Assessment: 10 Marks (20 Contact Hours)

(Teacher must keep records of the attendance and remarks)

1. **Demonstration on a Topic** (Teacher will assign a topic from the courses taught and inform students prior to the assessment. Students will demonstrate in front of class. The teacher must give remarkson basis of content knowledge, presentation skill, interaction, body language) **5 Marks**

2. **Group Discussion: (Brain Storming)**

Or

Debate/Discussion on a Topic (Teacher will assign topic prior to the assessment)

For Sl. No. 2, The teacher will assign students onto groups based on situation and class size. Topic of group discussion will be informed to the students prior to the assessment. **5 Marks**

EDUCATION (EDCN)

SYLLABUS

Class – XI

Semester - II

Full Marks: 50

Theory –40 Marks &Internal Assessment –10 Marks

Objectives:

- To comprehend a synoptic view of educational psychology and its different schools
- To understand human growth and development, associated factors and dimensions
- To know the historical development of Indian education along with different committees and discourses
- To know the contributions of Indian social reformers on education

Group – C (20 Marks)

Psychological Perspective in Education

Unit – I: Education &Psychology (20 Contact Hours)

a) Meaning of Educational Psychology:Needs of Educational Psychology, Relationship between Education and Psychology and Bases oh Human Behavior (Sensation, Perception & Conception).

b) Schools of Educational Psychology: Behaviourism, Gestalt and Psycho-analysis.

c) Method of Inquiry in Psychology: Observation, Experimentation, Case Study, Survey, Correlation, etc.

Unit – II: Growth & Development (20 Contact Hours)

a) Meaning of Growth and Development: Principles of Growth and Development, and its Educational Implication.

b) Factors of Development: Heredity and Environment; Role of Education on its.

c) Stages of Development: Infancy, Childhood, Adolescence.

Dimension of Development: Physical, Mental (Cognitive), Emotional, Social

With Reference to Different Levels of Education.

Group – D (20 Marks)

Historical Development of Indian Education

Unit – I: Ancient,Medieval & Pre-Independent Period of Indian Education System (10 Contact Hours)

a) Ancient Period: Vedic and Buddhist Education System (Synoptic Views).

b) Medieval Period: Islamic Education System (SynopticViews).

c) Pre-Independent Period: Charter Act-1813, Macaulay Minute, Woods Dispatch-1854,Hunter Commission- 1882, Curzon Educational Policy& National Educational Movement-1905,Sadler Commission-1917, Hartog Committee-1929, Sargent Plan- 1944 (Brief Study).

Unit-II: Contribution of Indian Social Reformer towards the Development of Education in India (10 Contact Hours)

a) Raja Ram Mohon Roy

b) Ishwar Chandra Vidyasagar

c) Begum Rokeya

d) Savitribai Phule

Internal Assessment: 10 Marks (20 Contact Hours)

(Teacher must keep records of the attendance and remarks)

3. **Demonstration on a Topic** (Teacher will assign a topic from the courses taught and inform students prior to the assessment. Students will demonstrate in front of class. The teacher must give remarks on basis of content knowledge, presentation skill, interaction, body language) **5 Marks**

4. **Group Discussion: (Brain Storming)**

Or

Debate / Discussion on a Topic (Teacher will assign topic prior to the assessment)

For Sl. No. 2, The teacher will assign students onto groups based on situation and class size. Topic of group discussion will be informed to the students prior to the assessment. **5 Marks**

Project [20 marks] – Marks to be awarded as the cumulative marks of the two Internal assessments awarded in Class XI

EDUCATION (EDCN)

SYLLABUS

Class – XII

Semester – III

Full Marks: 50

Theory – 40 Marks & Internal Assessment – 10 Marks

Objectives:

- To know the post-independence developments of Indian education system
- To be aware of the recent changes in the Indian education system
- To comprehend the challenges in educational opportunities
- To develop an understanding of the contributions made by great educators
- To understand the concept of inclusive education and know the differently abled children
- To get a synoptic view of global perspectives on education
- To understand the role of positive psychology

Group – A (20 Marks)

Education in Modern India

Unit – I: Post-Independent Period of Indian Education System (24 Contact Hours)

a) University Education Commission (1948-49), Secondary Education Commission (1952-53), Indian Education Commission (1964-66) (Major Recommendations).

b) National Education Policy 1986 & 2020 – Salient Features.

c) Problems of Women Education, SC, ST, OBC, EWS, Equal Opportunity.

Unit – II: Great Educators and their Contributions in Education (16 Contact Hours)

a) Rabindranath Tagore
b) Swami Vivekananda
c) Mahatma Gandhi
d) Jean-Jacques Rousseau
e) John Dewey

Group – B (20 Marks)

Recent Trends & Issues in Modern Education

Unit – I: Inclusive Education (20 Contact Hours)

a) Education for Differently Abled Children: Meaning, Concept & Classification of Differently Abled (Children with Special Needs).

b) Visually Impaired, Hearing Impaired, Autism, Leaning Disability, Intellectual Disability (Characteristics & Educational Programme).

c) Meaning, Importance, and Barries of Inclusive Education, Role of Formal & Informal Agencies in Building an Inclusive Society.

Unit – II: Education for All (20 Contact Hours)

a) Education for 21st Century: Global Vision for Education- Delors Commission (4 Pillers of Education), International Commission on the Futures of Education.

b) Education for All: Universalization of Elementary Education in India.

c) Role of Positive Psychology in Modern Education.

Internal Assessment: 10 Marks (20 Contact Hours)

(Teacher must keep records of the attendance and remarks)

5. **Demonstration on a Topic** (Teacher will assign a topic from the courses taught and inform students prior to the assessment. Students will demonstrate in front of class. The teacher must give remarks on basis of content knowledge, presentation skill, interaction, body language) **5 Marks**

6. **Group Discussion: (Brainstorming)**

Or

Debate / Discussion on a Topic (Teacher will assign topic prior to the assessment)

For Sl. No. 2, The teacher will assign students onto groups based on situation and class size. Topic of group discussion will be informed to the students prior to the assessment. **5 Marks**

EDUCATION (EDCN)
SYLLABUS
Class – XII

Semester – IV
Full Marks: 50
Theory – 40 Marks & Internal Assessment – 10 Marks

Objectives:

- To comprehend a synoptic view of learning mechanism and its different theories
- To understand learning, factors of learning and role of education
- To understand a synoptic view of mental health & wellbeing
- To develop an understanding of educational technology
- To develop an understanding of the use of computer and internet in education and communication
- To develop an understanding of ICT and e-learning
- To develop the concept of statistics and to develop skill in analyzing descriptive measures

Group – C (20 Marks)

Psychology of Learning & Wellbeing

Unit – I: Learning & Learning Mechanism (24 Contact Hours)

a) Learning: Meaning, Characteristics, and Factors affecting Learning - Maturation, Motivation, Memory, Imagination, Attention & Interest (Basic Concept).

b) Learning Mechanism: Classifications & Basic Characteristics including, Description of Experiment and Educational Implications of

- Conditioning (Pavlov, Skinner)
- Problem Solving (Thorndike & Gestalt)
- Synoptic Views of other Major Learning Approaches, e.g. Brunner, Ausubel, Vygotsky, Bandura.

c) Intelligence, Creativity & Personality: Basic Concept.

Unit – II: Mental Health & Wellbeing (16 Contact Hours)

a) Mental Health: Concept of Health & Mental Health as Prescribed by WHO, Means of Identify of Mental Health Problems, Common Mental Health Problems among Adolescence

(Anxiety, Stress related, Depression related & Behavioural Problem – Major Symptoms).

b) Wellbeing: Concept of Psychological Wellbeing, some Strategies for Promotion of Psychological Wellbeing – Mindfulness, Meditation & other Relaxation Techniques (Evidence Based)

c) Life Skills for Promotion of Mental Health & Wellbeing (Basic Concepts of Ten Core Life Skills as Prescribed by WHO)

Group – D (20 Marks)

Educational Technology& Statistics in Education

Unit – I: Educational Technology (10 Contact Hours)

a) Educational Technology: Concept, Need & Scope of Educational Technology, Differences between Technology in Education and Technology of Education.

b) Components of Educational Technology: Hardware and Software, System Approach (Concept).

c) Information & Communication Technology (ICT): Concept & Uses of ICT in Education, Digital Revolution in Education.

Unit – II: Statistics in Education (10 Contact Hours)

a) Statistics in Education: Concept, Applications andStatistical Methods (Data,Frequency Distribution, Graphical Representations)

b) Measures of Central Tendency and Standard Deviation (Concept, Applications, and Method of Calculation).

c) Correlation: Concept, Types and Methods of Computing Correlation Co-efficient (Product Moment and Rank Difference).

Internal Assessment: 10 Marks (20 Contact Hours)

(Teacher must keep records of the attendance and remarks)

7. **Demonstration on a Topic** (Teacher will assign a topic from the courses taught and inform students prior to the assessment. Students will demonstrate in front of class. The teacher must give remarks on basis of content knowledge, presentation skill, interaction, body language) **5 Marks**

8. Group Discussion: (Brainstorming)

Or

Debate / Discussion on a Topic (Teacher will assign topic prior to the assessment)

For Sl. No. 2, The teacher will assign students onto groups based on situation and class size. Topic of group discussion will be informed to the students prior to the assessment. **5 Marks**

Project [20 marks] – Marks to be awarded as the cumulative marks of the two Internal assessments awarded in Class XII

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII

SUBJECT : ENVIRONMENTAL STUDIES (ENVS)

Course overview of ENVS

The Environmental Studies course is a vast field that encompasses many fields. It integrates various sciences and technologies to get an understanding of environment-related issues. The Environmental Studies Course covers topics such as human activity and environmental sustainability, societal development and its effect on environment, sustainable development in agriculture, global and national energy consumption scenario, energy conservation strategies, effect ecology, biodiversity, pollution control, climate change, sustainable resource management, Environmental law and managements. Environmental Studies provides an overview of how science affects our environment. Study in this subject focus on interactions between the air water and soil with living organisms. Environmental Studies is a challenging field that deals with the study of natural and human-induced changes in the environment. The course will not only help expand knowledge of students on natural processes, but it will also make students more aware of our role on the environment. Studies in environmental studies will help students to make better decisions for sustainable living and environmental protection.

Course outcome of ENVS

At the end of the course, students will be able to

1. Understand Environmental Issues. The Environmental Studies course provides a comprehensive understanding of ecology, biodiversity, pollution control, climate change, environmental laws and environmental management issues, including the challenges it faces.
2. Build Career in Environmental Studies and associated sectors. There is a growing demand for professionals with expertise in the Environmental Science course and sustainability.
3. Peruse Research career in environmental studies. The Environmental Studies course often includes research components, allowing students to engage in meaningful research projects that contribute to scientific knowledge and address real-world environmental problems.
4. Apply proficiency in analytical methods, critical thinking, communication, and leadership skills sufficient to make a contribution in environmental and related fields.
5. Students will learn to reflect critically their role and identity as citizen, consumer in this complex interconnected world

Class XI

SEMESTER – I

Course Code: ENVS

Course Code: (Theory) ENVS

Full Marks: 40

Contact Hours.: 100

Chapter	Subtopics	Marks	Hours
Man, Environment and Sustainability	– Introduction – Dimensions of Environment-Physical, Biological & Social – Human Being as a Rational and Social Partner in Environmental Actions, Green Revolution: Impact of Human Activities on the Environment – Society and Environment in India: Indian Traditions, Customs and Culture-Past and Present – Population and Environment – Impact of Human Activities on the Environment – Concept of Sustainability – Conclusion – Exercise	20	30
Environment and Development	– Introduction – Social factors Affecting Development- Education, Employment, Child Marriage and child Labour, Health, Social Security, Cultural and ethical values. – Impact of Development on Environment – Changing Pattern of Land – Use, Land Reclamation, Deforestation, Resource Depletion, Pollution and Environmental Degradation – Global Development Scenario-Some Facts: Ramsar Convention (1971); Stockholm Conference 1972; United Nations Conference on Environment and Development 1992; Rio de Janeiro (Rio Declaration, Agenda 21, Convention on Biodiversity); Montreal Protocol 1987; Basel Convention (1989, 1992); UNFCCC, Kyoto Protocol, 1997, Copenhagen and Paris summits; World Summit at Johannesburg, 2002, IPCC, UNEP. – Role of the Society in Development and Environment-Public Awareness Through Education, Eco-clubs, Population Education Programme, Campaigns, Public Participation in Development – Exercise	20	70

Class XI

SEMESTER – II

Course Code: ENVS

Course Code: (Theory) ENVS

Full Marks: 40

Contact Hours.: 80

Chapter	Subtopics	Marks	Hours
Sustainable development and agriculture	– Introduction – Concept of Environment and Sustainable Development – Concept of Sustainable Consumption – Need of Sustainable Development for Improving Quality of Life for the Present and Future – Concept of Sustainable Agriculture: Element, Need, Action Plan – Importance of Soil for Crops – Irrigation Systems: Old and Modern System – Use of Manure and Fertilizers: Chemical and biofertilizers – Crop Protection –Type of Pests and Pesticides, Control- Measures, Agrochemicals, and their impact on the environment – Exercise	20	40
Energy	– Introduction – Changing Global Pattern of Energy Consumption – Energy Consumption as a Measure of Quality of Lifestyle – Energy Scenario in India – Energy Sources – Fossil fuel Harnessing and Environmental Consequences – Energy Conservation- Efficient Production and Efficient Uses – Planning & Management of Energy – Exercise	20	40

Course Code: ENVS

Course Code: (Project) ENVS

Full Marks: 20

Contact Hours.: 20

Chapter	Subtopics	Marks	Hours
Home Assignment	**PROJECT- I** – Application of Biofertilizer in Agriculture – Eco-friendly unconventional source of Energy – Plantation Programme in your locality – Social Issues (Child Labour/Child Marriage/ Child Education, etc.) in your locality	10	10
Tutorial		5	5
Remedial		5	5

Class XII

SEMESTER – III

Course Code: ENVS

Course Code: (Theory) ENVS

Full Marks: 40

Contact Hours.: 100

Chapter	Subtopics	Marks	Hours
Principles of ecology	– Basic concepts and definitions: ecology, landscape, habitat, ecozones, biosphere, ecosystems, ecosystem stability – Autecology; synecology; major terrestrial biomes. – Types of ecosystems: forest, grassland, lentic, lotic, estuarine, marine, desert, wetlands – Ecosystem structure and function; abiotic and biotic components of ecosystem. – Ecosystem connections: food chain, food web; detritus pathway of energy flow, The 10 Percent Energy Law by Lindeman, characteristics and decomposition processes; ecological efficiencies; ecological pyramids: pyramids of number, biomass, and energy. – Exercise	**20**	40
Biodiversity	– Concept of Biodiversity – Value of Biodiversity – Types of Biodiversity – Loss of Biodiversity – Balance in Nature – India as Mega diversity Nation – Our Common Plants – Our Common Animals – Economic Potential – Wildlife in Trade – Strategies of Conservation – Exercise	**20**	60

Class XII
SEMESTER – IV
Course Code: ENVS
Course Code: (Theory) ENVS

Full Marks: 40

Contact Hours: 80

Chapter	Subtopics	Marks	Hours
Environmental pollution and pollution control	– Air Pollution: Source, impact, control measures; Ozone Layer Depletion and its Effects Green House Effects and Global Warming; Ambient Air Quality Standards – Water Pollution: Source, impact, control measures; Water Quality Parameters and Standards – Soil Pollution: Source, impact, control measures; Soil quality indicators – Noise Pollution: Source, impact, control measures; Noise level parameters – Radiation Pollution – Carbon trading, Carbon footprint – Pollution-Related Diseases – Disaster – Natural & Man-Made – Strategies for Pollution Abatement and Environmental Quality Improvement – Clean Development Mechanism (CDM) – Regulatory framework for pollution monitoring and control; case study: Ganga Action Plan; Yamuna Action Plan – Exercise	20	45
Environmental law and management	– Concept of Environmental Management: Need, Aspect, Approaches (Social, Economic and Moral) – Waste Management: Solid, Liquid, Biomedical and Hazardous – 4R Management – Legal Provisions for Environmental Management: The Indian Forest Act 1927; The Wildlife (Protection) Act 1972; The Water (Prevention and Control of Pollution) Act 1974; The Water (Prevention and Control of Pollution) Cess Act 1977; The Forests (Conservation) Act 1980; The Air (Prevention and Control of Pollution) Act 1981; The Environment (Protection) Act 1986;	20	35

	Motor Vehicle Act 1988; The Public Liability Insurance Act 1991; Noise Pollution (Regulation and Control) Rules 2000; The Biological Diversity Act 2002 – Approaches for Environmental Management – Exercise		

Course Code: ENVS

Course Code: (Project) ENVS

Full Marks: 20

Contact Hours: 20

Chapter	Subtopics	Marks	Hours
Home Assignment	**PROJECT II** – Rainwater Harvesting – Waste Management System in (Municipality/Panchayet) in your locality – Study of Biodiversity in your locality – Water/Air/ Noise Pollution in your locality	10	10
Tutorial		5	5
Remedial		5	5

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII

SUBJECT : GEOGRAPHY (GEGR)

Syllabus

for

Higher Secondary Course in Geography

under

West Bengal Council of Higher Secondary Education

(as per NCERT Guidelines for NEP 2020)

Class XI

Effective from

Academic Session 2024-2025

Objectives of H.S. Geography Course

Objective 1: Familiarize with basic concepts and core contents of Geography and examine man environment relationship.

Objective 2: Description and interpretation of spatial pattern of features on thematic maps with location, time and space.

Objective 3: Understanding the physico-cultural relationship with respect to different environmental adaptations.

Objective 4: Apply geographical knowledge and skills of inquiry to emerging situations and problems at different levels, i.e. local, regional, national and international.

Objective 5: Develop geographical skills to collect primary data from field survey and preparation of field based project report either manually or using computer based techniques whichever possible.

Learning Outcomes of H.S. Geography Course

LO1: Understanding the Geosystems: Students will accrue a comprehensive understanding of the basics of man-environment interactions at global, regional, and local scales.

LO2: Synthesizing Environmental and Sustainability issues: Students will be able to synthesize social and environmental issues and grasp the know-hows of sustainable development.

LO3: Acquiring Skills of Geographical Analysis: Students will acquire fundamentals of geospatial skills and geographical instrument handling capabilities to analyze geographical problems.

Detailed Semester-wise Syllabus

Class XI: 1st Semester – I

Course Code: GEGR

Course Type: (Theory)

FULL MARKS: 15 **HOURS: 34**

SUB-TOPIC: FUNDAMENTALS OF PHYSICAL GEOGRAPHY

Unit No.	Unit Content	Hours
Unit 1	**Geography as a discipline:** Definition, nature and classification of Geography; Scope and content of Physical Geography	**03**
Unit 2	**I. Origin of Earth:** Classical theories (Kant, Jean and Jeffrey); Modern theory (Big Bang theory) **II. Interior of the Earth:** Sources of information regarding the Earth's interior; Application of Seismology for analyzing Earth's interior; Layering of the earth	**09**
Unit 3	**Geomorphic Processes:** **Endogenic processes** – Definition, concept, and types; Vulcanicity (Definition, concept, causes, and types of vulcanicity; associated landforms; global distribution of volcanoes); Earthquake (Concept and definition of earthquake related aspects; causes, and consequences; measuring instruments and scale; global earthquake prone zones with special reference to India; Seaquake and Tsunami) **Exogenic processes** – Definition, concept, and types	**14**
Unit 4	**Weather and Climate:** Composition and structure of the Atmosphere: gaseous, liquid, and solid components of atmosphere; Layering of atmosphere based on thermal characteristics and elemental distribution; Importance of Ozonosphere; Causes and consequences of Ozone depletion	**08**

Course Code: GEGR
Course Type: (Theory)

FULL MARKS: 12 **HOURS: 26**

SUB-TOPIC: FUNDAMENTALS OF HUMAN GEOGRAPHY

Unit No.	Unit Content	Hours
Unit 1	**Scope and Content of Human Geography:** Concept of man-environmental relationship; Fields and sub-fields of Human Geography	**04**
Unit 2	**Economic Geography:** **Classification of Economic activities** – Primary, Secondary, Tertiary, Quaternary, and Quinary sectors with characteristics and examples **Primary Activities** – Hunting and gathering; Pastoralism; Agriculture (Subsistence, Commercial, Mixed, Market gardening, and Dairy farming); Production-wise distribution of important cash crop of two globally leading countries (except India) – coffee, sugarcane, and cotton; Mining: types and environmental problems	**22**

Course Code: GEGR
Course Type: (Theory)

FULL MARKS: 08 **HOURS: 20**

SUB-TOPIC: GEOGRAPHY OF INDIA

Unit No.	Unit Content	Hours
Unit 1	**India as a country:** Geographical location; Size; Administrative setup; Neighbouring countries	**02**
Unit 2	**India – Structure and Physiography:** Physiographic divisions of India with special reference to Tectonic provinces (Peninsular; Extra-peninsular; Indo-Gangetic; Coastal plains and Islands)	**10**
Unit 3	**India – Drainage systems:** Drainage systems of India with reference to flow directions and perenniality (The Himalayan drainage system; The Peninsular drainage system); Usages and sharing of river water	**08**

Class XI: Semester – II

Course Code: GEGR
Course Type: (Theory)

FULL MARKS: 15 **HOURS: 30**

SUB-TOPIC: FUNDAMENTALS OF PHYSICAL GEOGRAPHY

Unit No.	Unit Content	Hours
Unit 1	**Concept of Isostasy:** Concept of Isostatic anomalies; Theories of Airy and Pratt; Isostatic Adjustments; Cymatogeny	**04**
Unit 2	**Geomorphic processes:** **Endogenic Processes** – Folding and faulting (mechanism, structure, and types) **Exogenic processes** – Weathering (Definition, types, and resultant features); Soil forming process and factors; Soil profile development; Soil erosion; Soil conservation and management	**12**
Unit 3	**Weather and Climate:** **Climatic Elements** - Solar Radiation; Heat balance; Temperature distribution (horizontal and vertical); Controlling factors of temperature distribution; Inversion of temperature **Atmosphere Circulation** - Controlling factors of atmospheric motion; Tri-cellular model; Planetary winds; Zonal winds (Surface – Walker circulation; Upper Air – Jet stream)	**10**
Unit 4	**Hydrosphere:** Modes and Occurrence of water on Earth; Global hydrological cycle ; Concept of run-off; Drainage basin as a hydrological unit	**04**

Course Code: GEGR
Course Type: (Theory)

FULL MARKS: 12 **HOURS: 16**

SUB-TOPIC: FUNDAMENTALS OF HUMAN GEOGRAPHY

Unit No.	Unit Content	Hours
Unit 1	**Secondary Activities – Industry:** Classification of Industries; Factors responsible for industrial location; Production-wise distribution pattern of industries (leading two countries worldwide except India) - a) Agro-based: food processing industries b) Sea-based: commercial marine fishing c) Forest-based: paper industries d) Mineral-based: Metallic (Iron and steel); Non-metallic (Petrochemical) e) Manufacturing-based: Automobile	**12**
Unit 2	**Tertiary Activities:** Definition, Classification, Case study (Trade; Transport; Service; Communication; Tourism)	**02**
Unit 3	**Quaternary Activities:** Nature and characteristics of Information and Communication Technology (ICT) based industries; Research and Development (R&D) based industries	**01**
Unit 4	**Quinary Activities:** Roles of specialists; decision-makers; consultants, policy formulators	**01**

Course Code: GEGR
Course Type: (Theory)

FULL MARKS: 8 **HOURS: 14**

SUB-TOPIC: GEOGRAPHY OF INDIA

Unit No.	Unit Content	Hours
Unit 1	**Indian Climate:** Controlling factors of Indian climate; Nature of Indian monsoon; Seasonal variability of weather; Monsoon and Indian Economy; Impact of ENSO Phenomena and global warming on Indian climate	**06**
Unit 2	**Forests of India:** Types of forests; Ecological and economic significance; Programmes and policies of forest management in India	**03**
Unit 3	**Natural Hazards and Disasters of India:** Concept and classification of hazards; Types of disasters; Hazard management approaches (pre-hazard, during occurrence, and post-hazard); Natural disaster management policy; Hazard prone zones of West Bengal	**05**

CLASS-XI

Course Code: GEGR

Course Type: (Practical)

FULL MARKS: 30 **HOURS: 40**

Unit No.	Unit Content**	Hours	Marks
Unit 1	**Introduction to Maps:** Definition; components; types, importance and uses	**02**	**02**
Unit 2	**Map scale:** Concept and types of map scales; Graphical scale (Concept of Linear; Comparative; Diagonal; and Vernier scales; Construction of Linear scale)	**09**	**04**
Unit 3	**Map Projection:** Concept of map projection; Classification; Mathematical construction and properties of following projections – a. Polar Zenithal Stereographic b. Simple Conical with One Standard Parallel c. Mercator's Projection	**10**	**05**
Unit 4	**Interpretation of Topographical Maps:** Study of Open series topographical maps (1:50000 scale) Preferably of a plateau region; Identification of topographical features using cross section drawings. Identification of break of slopes from cross section drawing and preparation of Broad Physiographic Divisions Map. Typical features identification (Drainage; Natural Vegetation; Transport and Communication; Settlement); Establishment of relationship between different Physical and cultural elements using Transect Chart (Schematic method)	**12**	**06**
Unit 5	**Interpretation of Indian Daily Weather Maps:** Daily Weather Maps of January and July months under following Heads - Pressure condition; Wind condition; Sky condition (cloudiness and precipitation)	**05**	**04**
Unit 6	**Preparation and Presentation of Poster†:** Poster related to any one prominent hazard/ disaster (Causes, consequences, Preparedness and Management) with respect to West Bengal	**02**	**04(2+2)**
Unit 7	**Laboratory Notebook* and Viva voce**	**-**	**05(3+2)**

* The laboratory notebook should contain A3 sized (42 cm ×29.7 cm) white pages in landscape mode.

†Poster related to selected topic should be of A1 (59.4 cm × 84.1 cm, approximately). Technique of preparing the hardcopy poster can be manual/ digital/ blended. The poster should carry signatures of teachers responsible for supervising the poster preparation.

**Each topic of laboratory notebook should contain the following sub-heads: statement of the problem, objectives, materials and methods (with data source), calculations, drawings/ representation (if any), analysis and interpretation.

Tutorial + Remedial + Assignments: 6+10+4 = 20 Hours (Semester: I+II)

Syllabus

for

Higher Secondary Course in Geography

under

West Bengal Council of Higher Secondary Education

(as per NCERTGuidelines for NEP 2020)

Class XII

Effective from

Academic Session 2025-2026

Objectives of H.S. GeographyCourse

Objective 1:Familiarize with basic concepts and core contents of Geography and examine man-environment relationship.

Objective 2:Description and interpretation of spatial pattern of features on thematic maps with location, time and space.

Objective 3:Understanding the physico-cultural relationship with respect to different environmental adaptations.

Objective 4:Apply geographical knowledge and skills of inquiry to emerging situations and problems at different levels, i.e. local, regional, national and international.

Objective 5:Develop geographical skills to collect primary data from field survey and preparation of field based project report either manuallyor using computer based techniques whichever possible.

LearningOutcomesofH.S.Geography Course

LO1:Understanding theGeosystems: Students will accrue a comprehensive understandingof the basics of man-environment interactions atglobal, regional, and local scales.

LO2:Synthesizing Environmental and Sustainability issues: Students will be able to synthesize social and environmental issues and grasp the know-hows of sustainable development.

LO3:Acquiring Skills of Geographical Analysis:Students will acquire fundamentals of geospatial skills and geographical instrument handlingcapabilities to analyze geographical problems.

Detailed Semester-wise Syllabus

Class XII: Semester – III

Course Code: GEGR
Course Type: (Theory)

FULL MARKS: 15 **HOURS: 34**

SUB-TOPIC: FUNDAMENTALS OF PHYSICAL GEOGRAPHY

Unit No.	Unit Content	Hours
Unit 1	**Geotectonic:** Continental Drift Theory according to Alfred Wegner	**06**
Unit 2	**Geomorphic Process:** **Exogenic processes** - Mass wasting, Glacial landforms, and Karst landforms	**09**
Unit 3	**Climate:** Water in the atmosphere (Condensation – formation and types, Precipitation – formation and types)	**05**
Unit 4	**Hydrosphere:** Characteristics of ocean floor; Temperature and salinity; Ocean minerals, food, and power; Ocean deposits	**09**
Unit 5	**Biosphere:** Nature, concept and types of ecosystem; Concept of trophic levels; Food chain and food web	**05**

Course Code: GEGR
Course Type: (Theory)

FULL MARKS: 10 **HOURS: 18**

SUB-TOPIC: FUNDAMENTALS OF HUMAN GEOGRAPHY

Unit No.	Unit Content	Hours
Unit 1	**Population:** Concept of Demography; Distribution and density of population (worldwide); Determinants and measures of population growth - birth rate, death rate, migration	**10**
Unit 2	**Settlement:** Classification, types and patterns of settlement; Factors determining the types of rural settlement; Functional classification of urban settlement; Problems of rural and urban settlements	**08**

Course Code: GEGR
Course Type: (Theory)

FULL MARKS: 10 **HOURS: 28**

SUB-TOPIC: GEOGRAPHY OF INDIA

Unit No.	Unit Content	Hours
Unit 1	**Population of India:** Distribution, density, growth, and composition of population	**03**
Unit 2	**Water Resources:** Water conservation and management; Watershed management and rainwater harvesting; Nature and types of irrigation systems; Sustainable use of water resources	**03**
Unit 3	**Mineral and Energy Resources:** Types, distribution and uses – Mineral resource (Iron Ore, Manganese, Bauxite, Copper, Mica); Conventional energy resource (Coal, Petroleum, Natural Gas, Nuclear Energy); Non-conventional energy resource(Solar, Wind, Tidal, Geothermal, Biogas energy, OTEC)	**10**
Unit 4	**Agriculture:** Importance of agriculture in Indianeconomy; Concept of crop calendar; Crop rotation; Crop combination; Cropping intensity; Green, White, and Blue Revolution in India; Production-wise distribution of important cash crops (Jute, Cotton, Sugarcane and Tea)	**08**
Unit 5	**Transport and Communication:** Importance of different modes of Transport; Types and importance of personal and mass communication systems	**02**
Unit 6	**Trade and Economy:** Concept; Classification; Bases; Importance	**02**

Class XII: Semester – IV

Course Code: GEGR
Course Type: (Theory)

FULL MARKS: 15 **HOURS: 34**

SUB-TOPIC: FUNDAMENTALS OF PHYSICAL GEOGRAPHY

Unit No.	Unit Content	Hours
Unit 1	**Geotectonic:** Sea floor spreading; Plate tectonic and associated landforms	06
Unit 2	**Geomorphic Processes:** **Exogenic processes** - Fluvial landforms; Coastal landforms; Aeolian landforms; Combined works of exogenic processes and associated landforms	10
Unit 3	**Cycle of erosion:** The role of WM Davis; Davis's concept of landform evolution; Concept of rejuvenation	03
Unit 4	**Atmosphere:** Weather systems and atmospheric disturbances; Climatic classification after Koppen; Concept of climate change	05
Unit 5	**Hydrosphere:** Movement of ocean currents and associated environmental effects	06
Unit 6	**Biosphere:** Biodiversity -Definition, types, significance; Factors responsible for biodiversity depletion; Strategies and programs of biodiversity conservation	04

Course Code: GEGR
Course Type: (Theory)

FULL MARKS: 10 **HOURS: 12**

SUB-TOPIC: FUNDAMENTALS OF HUMAN GEOGRAPHY

Unit No.	Unit Content	Hours
Unit 1	**Population Geography:** Impact of migration on global demographic changes; Malthusian theory of population growth;Concept of optimum, under, and over population; Demographic Transition Model; Need of population control measures and population policy	**09**
Unit 2	**Human Development:** Concept; definition; measurement (Human Development Index, Concept of human poverty index); and approaches (Welfare approach; AmartyaSen's Capability approach)	**03**

Course Code: GEGR
Course Type: (Theory)

FULL MARKS: 10 **HOURS: 14**

SUB-TOPIC: GEOGRAPHY OF INDIA

Unit No.	Unit Content	Hours
Unit 1	**Indian Industries:** a. Agro-based – Food processing b. Sea-based – Commercial marine fishing c. Forest-based –Paper industry d. Mineral-based –Metallic (Iron and steel); Non-metallic (Petrochemical) e. Manufacturing-based –Automobile f. Information and communication technology	**07**
Unit 2	**Human Settlement and Development in Indian context:** Human settlement types in India; Land resources and agricultural planning; Sustainable development in Indian context	**02**
Unit 3	**Geographical Perspectives on Selected Issues and Problems:** a. Water pollution in Ganga Basin – Causes, consequences, and management b. Air pollution in Kolkata and National Capital Region – Causes, consequences, and management c. Arsenic pollution in southern West Bengal – Causes, consequences, and management d. Human-wildlife conflict in Dooars and Sundarbans regions – Causes, consequences, and management e. Land degradation in Jangalmahal– Causes, consequences, and management	**05**

CLASS-XII

Course Code: GEGR

Course Type: (Practical)

FULL MARKS: 30 **HOURS: 40**

Unit No.	Unit Content	Hours	Marks
Unit 1	**Data Processing Using Statistical Techniques:** a. Type and source of data b. Tabulation and processing of data;Construction of data array; Frequency distribution table; Histogram,Frequency polygon;andOgives c. Measures of central tendency - Mean; Median; Mode d. Measures of dispersion – Absolute measures (range, mean deviation, standard deviation); Relative measure (co-efficient of variation)	10	05
Unit 2	**Cartograms and Thematic Mapping:** a. Bar graphs – Simple; Multiple; Compound b. Divided proportional circles c. Flow chart d. Ombrothermicdiagram e. Thematic maps – Dot and sphere; Isopleths; Choropleth	10	05
Unit 3	**Application of Geographical Instruments:** a. Angular measurement using Prismatic Compass (forward and backward bearings) b. Pebble diameter measurement using Slide Caliper (major, minor, and intermediate axes) c. Measurement of strike direction and dip amount using Clinometer Compass d. Six's maximum & minimum thermometer	12	05
Unit 4	**Remote Sensing and Geographic Information System (GIS):** a. **Remote sensing** - Concept of remote sensing;Definition; Source of energy; Types of sensors; Types of image acquisition platforms; Modern application b. **GIS** – Introduction to GIS; Hardware and software requirements; Data formats – vector and raster; Concept of data input, editing, analysis, manipulation, and representation	04	05
Unit 5	**Preparation and Presentation of Field Report:** Report based of structured survey schedule on (any one) – a. Household survey b. Market survey c. Traffic survey Note: Student of school in rural area will visit any type of urban centre or unit/Student of school in urban area will visit a rural area (household survey only)	04	05 (3+2)
Unit 6	**Laboratory Notebook* and Viva Voce**	-	05 (3+2)

* The laboratory notebook should contain A3 sized white pages (42 cm ×29.7 cm) in landscape mode

Tutorial+ Remedial+ Assignments: 6+10+4= 20 Hours(Semester: I+II)

Guidelines for Preparation of Field Report

Every student needs to participate in fieldwork and prepare a filed report according to the following guidelines:

A. Household Survey:

1. Each student will prepare a report based on primary data collected from household survey with the help of properly formulated and structured survey schedule having open ended, double choice, and multiple choice questions.
2. Student will select either a rural area/ mouza (for school students from urban area) or an urban (at least a Class-VI Town as categorized by Census of India) area/ municipal ward (for school students from rural area) for the study, with primary objective of demographic and socio-economic information.
3. Each student should survey at least five households selected through simple random sampling without replacement method.
4. The report should be hand written in A4 sized white pages in candidate's own words. The word limit should be of 500 words excluding tables, figures, maps, photographs, and appendices.
5. A copy of the field report duly signed by the concerned teacher will be submitted on the date of examination.
6. The field report should contain the following sections – Introduction, Selection of Study Area, Objectives of the Study, Methodology, Results and Discussion/ Major Inferences, Conclusions.

B. Market Survey:

1. Each student will prepare a report based on primary data collected from market survey with the help of properly formulated and structured survey schedule having open ended, double choice, and multiple choice questions.
2. Each student should survey at least five shops selected through simple random sampling without replacement method.
3. The report should be hand written in A4 sized white pages in candidate's own words. The word limit should be of 500 words excluding tables, figures, maps, photographs, and appendices.
4. A copy of the field report duly signed by the concerned teacher will be submitted on the date of examination.
5. The field report should contain the following sections – Introduction, Selection of Study Area, Objectives of the Study, Methodology, Results and Discussion/ Major Inferences, Conclusions.

C. Traffic Survey:

1. Each student will prepare a report based on primary data collected from road traffic survey with the help of properly formulated and structured inventory, specifically having frequency distribution tables.
2. Each student should survey at an important three-point or four-point junction, nearest to the school.
3. The survey should be conducted in two sessions (forenoon and afternoon) of one hour duration.
4. The report should be hand written in A4 sized white pages in candidate's own words. The word limit should be of 500 words excluding tables, figures, maps, photographs, and appendices.
5. A copy of the field report duly signed by the concerned teacher will be submitted on the date of examination.
6. The field report should contain the following sections – Introduction, Selection of Study Area, Objectives of the Study, Methodology, Results and Discussion/ Major Inferences, Conclusions.

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII

SUBJECT : HUMAN DEVELOPMENT AND RESOURCE MANAGEMENT (HDRM)

HUMAN DEVELOPMENT AND RESOURCE MANAGEMENT (HDRM)
Class – XI & XII

Preface

Human Development & Resource Management (HDRM) is an integral part of the discipline Home Science. It focuses on human growth and development throughout the life- span and on the familial, social, cultural and political networks in which the individual develops. The purpose of Human Development & Resource Management is the creation of an environment and outlook to enable learner to live a richer and more purposeful life, become future ready and develop 21st century life skills for work, livelihood and careers. The course offers an interdisciplinary approach to understand individual development across the lifespan by facilitating the students to have advanced theoretical knowledge, practical and research skills as well as to develop professional and entrepreneurial skills related to various fields of Human Development like Early Childhood Care & Education (ECCE), Children with special needs, Geriatric care, Assessment of Child Development and Problem behaviour, Guidance and Counseling services, textile industries, garment designing, food industry, teaching learning materials, ergonomically appropriate equipment and work situations so that students would be proficient enough to address issues and concerns of individual, family and community.

Learning Objectives:

The Human Development & Resource Management curriculum at senior secondary level has been framed to enable the learners to:

1. Develop an understanding of the self and one's role and responsibilities as a productive individual and as a member of family, community and society.
2. Integrate learning across diverse domains and undertake a critical analysis of issues and concerns specific to family, community and society.
3. Appreciate the discipline of Human Development for professional careers.
4. Develop functional skills in child development, nutrition, textile and resource management for career and employment.
5. Equip learners for enrichment and higher studies.

Learning outcomes:

After undertaking the course students will be able to:

1. Function as a productive and responsible individual in relation to self, family, community and society.
2. Apply the basics of human development with specific reference to self, family and community.
3. Utilize the skills of judicious management of various resources.
4. Be sensitized to fabric and apparel, their selection and care.
5. Inculcate healthy food habits and lifestyle to enable prevention and management of diseases.
6. Become alert and aware consumer.
7. Appreciate the potential of entrepreneurship and other varied professional opportunities to make informed career choices.

HUMAN DEVELOPMENT AND RESOURCE MANAGEMENT (HDRM) 2024-25
CLASS - XI
SYLLABUS

Theory	Semester-I	35 Marks	**70 Marks**
	Semester-II	35 Marks	
Practical			**30 Marks**
Theory + Practical			**70+30=100 Marks**

SEMESTER	UNITS	TOPICS	NO. OF CONTACT HOURS
I	I	Introduction to Human Development	20
	II	Life Span Approach to Human Development - Childhood (0-12 Years)	30
	III	Resource Management	20
	IV	Textiles (Fibre to Fabric)	20
	Theory		**90**
	Practical		**10**
II	V	Food and Nutrition	40
	VI	Health, Hygiene and Well-being	15
	VII	Work Management	15
	Theory		**70**
	Practical		**10**
TOTAL			**180**

TUTORIAL & REMEDIAL CLASSES	NO. OF CONTACT HOURS
TUTORIAL	10
REMEDIAL	10
TOTAL	**20**

Class – XI
Semester – I
Marks – 35

UNITS	TOPICS	MARKS ALLOTED
Unit - I	**Introduction to Human Development** **1. Concept of Development:** a) Definition, History and Interdisciplinary Nature of Human Development b) Scope of Human Development in Contemporary Society c) Domains, Stages and Contexts of Development **2. Growth & Development:** a) Definition of Growth and Development, Difference between Growth and Development, Principles of Growth and Development b) Hereditary Factors Influencing Growth and Development c) Environmental Factors Influencing Growth and Development	5
Unit - II	**Life Span Approach to Human Development – Childhood (0-12 Years)** **1. Perspectives on Childhood Development:** a) Milestones of Childhood (Infancy, Early, Middle and Late Childhood) b) Needs of Childhood **2. Domains of Development during Childhood:** a) Characteristics of Physical, Motor, Cognitive, Emotional, Social and Language Development b) Factors affecting Physical, Motor, Cognitive, Emotional, Social and Language Development c) Role of Early Childhood Care & Education on childhood development- (i) Objectives of ECCE (ii) Types of ECCE- Balwadi, Anganwadi, ICDS, Nursery school **3. Immunization:** a) Definition of Immunity, Types of Immunity b) Definition and Importance of Immunization, Immunization Schedule	13

UNITS	TOPICS	MARKS ALLOTED
	4. General Contaminated Diseases and Their Prevention: a) Air Contaminated Diseases: Tuberculosis, Diphtheria, Pertussis, Tetanus, Polio, Measles and Rubella: Reasons, Symptoms, Incubation and Prevention b) Water Contaminated Diseases: Cholera and Diarrhea: Reasons, Symptoms, Incubation, and Prevention	
Unit –III	**Resource Management** **1. Concept of Resource:** a) Meaning and Types of Resources - i) Human Resources- Knowledge, Skill, Time, Energy and Attitudes ii) Non-Human Resources- Financial Resources, Raw Materials, Information and Data, Machinery and Equipment , Fuel-Energy iii) Social Resources- School, Hospital, Road, Electricity, Water, Recreation Centres, etc. b) Characteristics of Resources **2. Management of Resource:** a) Meaning of Resource Management b) Process of Resource Management c) Preservation of Resources	**7**
Unit - IV	**Textiles (Fibre to Fabric)** **1. An Introduction to Fibre Science:** a) Definition, Classification, Properties and Care of Fibre b) Identification of Fibres – Physical, Chemical and Microscopic Tests **2. Yarn Making and Fabric Construction:** a) Definition and Classification of Yarns b) Procedure of Yarn Making c) Weaving of Fabrics **3. Fabric Finishing:** a) Definition of Fabric Finishing b) Types of Fabric Finishing (Basic Finishes, Special Finishes)	**10**

Class - XI
Semester II
Marks - 35

UNITS	TOPICS	MARKS ALLOTED
Unit - V	**Food and Nutrition** **1. Basic Concepts about Food, Nutrition and Health:** a) Definition of Food, Ingredients of Food, Classification of Food, Energy Value of Food, Definition of Standard Food and Balanced Diet, Role of Food in the Maintenance of Good Health, General Idea about Calorie b) Definition of Nutrition, Types of Malnutrition (Over nutrition, under nutrition and Nutritional Imbalance), Causes of Malnutrition. c) Definition of Health, Dimensions of Health, Characteristics of Good Health d) Relationship between Food, Nutrition and Health **2. Elementary Study of Nutrients:** a) Study of Nutrients in Food: Definition of Nutrients, Types of Nutrients (Macro Nutrients: Carbohydrates, Protein, Fat; Micro Nutrients: Vitamin, Minerals); Sources, Classification, Daily Requirements and Functions of each Nutrients b) Effects of Excess Nutrients in Food, Deficiency of Nutrients in Food c) Water in Nutrition: Importance and Functions of Water in Human Body, Water Balance in Human Body **3. Dietetics (Part –I)** a) Feeding of Infants: Breast feeding- Importance of Breast Feeding; Breast Feeding VS Artificial Feeding; Infant Weaning Food; Defective Feeding of Infants as a Cause of Malnutrition b) Dietary Requirements and Meal Planning of Pre-Schoolers & School Age Children	15

UNITS	TOPICS	MARKS ALLOTED
Unit - VI	**Health, Hygiene and Well-being** **1. Health and its Dimensions:** a) Definition of Physical, Mental and Social Health; Indicators of Good Health b) Proper Health Care; Factors Influencing Maintaining Good Health **2. Hygiene and Sanitation:** a) Personal Hygiene, b) Environmental Hygiene, c) Food Hygiene. **3. Water safety:** a) Qualities of Potable Water (Physical, Chemical and Biological Qualities), Importance of Potable Water for Good Health b) Different Types of Impure Water, Sources of Impurities in Water. c) Methods of Water Purification (Physical, Chemical and Mechanical Methods).	10
Unit - VII	**Work Management** **1. Work Management:** a) Definition of Work and Management. b) Steps of Management Process. **2. Decision Making:** a) Definition of Decision Making. b) Process of Decision making. c) Types of Decision. **3. Management of time:** a) Definition and Importance of Time Management. b) Methods of Time Management. **4. Ergonomics & Entrepreneurship:** a) Definition and Principles of Ergonomics b) Definition and Principles of Entrepreneurship	10

HUMAN DEVELOPMENT & RESOURCE MANAGEMENT (HDRM)
CLASS-XI
PRACTICAL – 30 Marks

Semester –I

Serial No.	Topics	No. of Contact Hours
1	Preparing Materials for Stimulating the Sensory Development of Infants	2
2	Understanding Developmental Norms by using Standardized Checklist (Motor/Language/Social/Emotional Developmental Norms)- 2 to12 years	2
3	Preparing Reading Materials (Picture Book / Story Book/ Alphabet Book/ Nursery Rhymes Books) for Preschooler or School-Age Children	2
4	Identification of Fibres – Physical and Chemical Methods	2
5	Identification of Different Weaves	2
	Total	**10**

Semester –II

Serial No.	Topics	No. of Hours
5	Measuring Weight of different Food Items	2
6	Detection of Carbohydrate, Protein and Fat in Food.	3
7	Preparing Healthy Tiffin for Preschooler/ School-Age Child and Evaluating its Nutritional Value	3
8	Preparing Posters and Reinforcing Messages on Health and Hygiene	2
	Total	**10**

HUMAN DEVELOPMENT AND RESOURCE MANAGEMENT (HDRM) 2024-25
CLASS – XII
SYLLABUS

Theory	Semester-III	35 Marks	**70 Marks**
	Semester-IV	35 Marks	
Practical			**30 Marks**
Theory + Practical			**70+30=100 Marks**

SEMESTER	UNITS	TOPICS	NO. OF CONTACT HOURS
III	I	Life Span Approach to Human Development - Adolescence	30
	II	Life Span Approach to Human Development - Adulthood	20
	III	Financial Management and Planning	20
	IV	Apparel: Designing and Selection	20
	THEORY		**90**
	PRACTICAL		**10**
IV	V	Nutrition for Self, Family and Community	40
	VI	Consumer Education and Protection	10
	VII	Extension Education, Media and Communication Technology	15
	VIII	Career in Human Development and Resource Management	5
	THEORY		**70**
	PRACTICAL		**10**
TOTAL			**180**

TUTORIAL & REMEDIAL CLASSES	NO. OF CONTACT HOURS
TUTORIAL	**10**
REMEDIAL	**10**
TOTAL	**20**

Class – XII
Semester – III
Marks – 35

UNITS	TOPICS	MARKS ALLOTED
UNIT- I	**Life Span Approach to Human Development - Adolescence** **1. Perspective on Adolescence Development:** a) Meaning and Characteristics of Adolescence b) Needs of Adolescence **2. Domains of Development during Adolescence:** a) Physical Development: Physical Characteristics during Adolescence; Influence of Sports and Exercise on Physical Development of Adolescents b) Cognitive Development: Cognitive Advances during Adolescence; Skills of Problem Solving and Reasoning c) Social and Emotional Development: Social and Emotional Characteristics of Adolescents; Development of Peer relationship and Friendship patterns; Socio-Cultural Influences on Adolescents (Role and Influence of Family, Neighbourhood, School, Community, Media Country and the World); Development of Gender roles and Stereotypes. **3. Problems of Adolescents**: a) Physical Problems: Awkwardness due to Growth Spurt. b) Emotional Problems: Problems regarding Ignorance, Freedom and Control; Depression; Increased Curiosity. c) Social Problems: Intake of alcohol, drugs, smoking; Delinquency.	10
UNIT- II	**Life Span Approach to Human Development – Adulthood** **1. Perspective on Adult Development:** a) Meaning, Stages, Characteristics and Needs of Adulthood b) Concepts of Personal Health and Reproductive Health in Adulthood c) Responsibilities in Adulthood.	8

UNITS	TOPICS	MARKS ALLOTED
	2. Problems During Adulthood and Care of the Elderly: a) Physical Problems: General Health Problems. b) Socio-Emotional Problems: Retirement; Loneliness; Depression; Stress. c) Care of the Elderly: Techniques of Coping with Stress (Relaxation; Talking with Friends/Family; Reading; Spirituality; Music; Hobby; Yoga).	
UNIT –III	**Financial Management and Planning** **1. Family Income:** a) Definition and Classification of Family Income; Factors affecting Income of a Family. b) Definition and Classification of Expenditure; Factors affecting Expenditure of a Family. c) Definition of Supplementing Family Income; Need for Supplementing Family Income; Ways of Supplementing Family Income. **2. Family Budget:** a) Definition and Classification of Family Budget b) Objectives of Making Family Budget c) Factors Influencing Family Budget d) Advantages of Keeping Household Accounts	9

UNITS	TOPICS	MARKS ALLOTED
	3. Savings and Investment: a) Savings: Definition and Objectives of Savings, Types of savings (Compulsory - GPF, CPF and Voluntary - PPF, P.O. Savings, Banks, LIC Schemes, Bonds, UTI Schemes etc.) b) Investment: Meaning and Types of Investment; Principles involved in Investments c) Fundamentals of Banking: Bank and Bank Customer, Advantages of Bank Account, Types of Bank Account, Method of Opening a Bank Account, Pass Book, Cheque Book, Procedure of Writing Cheque, Types of Cheque, Filling a Deposit Slip, Procedure of filling Demand Draft, Use of ATM, Debit and Credit Card, Post Office Account, Savings Schemes available in Post Office d) Insurance Policy: Meaning, Aims, Types e) Credit: Meaning, Sources, Types, Wise use of Credit	
UNIT - IV	**Apparel: Designing and Selection** **1. Application of Elements of Art and Principles of Design in Designing Apparel:** a) Elements of Art: Line, Form or Shape, Colour, Texture, Pattern b) Principles of Design in Dress Making: Balance, Rhythm, Proportion, Harmony, Emphasis. c) Factors Affecting the Selection of Colours in Clothing. **2. Factors Influencing the Selection of Clothes:** Age, Climate, Season, Occupation, Figure, Occasion, Fashion, Purpose, Quality, Cost.	**8**

Class - XII

Semester IV

Theory- 35 Marks

UNITS	TOPICS	MARKS ALLOTED
Unit-V	**Nutrition for Self, Family and Community** **1. Nutritive Process and Concepts of Calorie:** a) Utilization of Food by the Body: Digestion, Absorption, Metabolism. b) Energy Requirement during Rest, Different Physical Activities and Different Physiological Condition **2. Dietetics (Part—II):** a) Definition and Objectives of Meal Planning, Balanced Diet, Basic Five Food Groups, Factors affecting Food Selection. b) Meal Planning of Adolescents, Adult, Pregnant Woman and Nursing Mother based on their Nutritional Requirement and RDA. c) Use of Food Value Tables and Calculation of Nutritive Value of the Diet. d) Principles and Importance of Developing Healthy Food Habits, Importance of Breakfast, Advantages of Regular Meal Pattern, Disadvantages of Irregular Meal Pattern. **3. Food Preservation:** a) Objectives of Food Preservation. b) Different Methods of Food Preservation. c) Reasons of Food Decomposition.	16

UNITS	TOPICS	MARKS ALLOTED
	4. Nutrition Education for the Community: a) Definition and Importance of Nutrition Education b) Food Adulteration: Definition of Food Adulteration, Some Examples of Adultery Foods, Hazards from Adultery Food, Legal Steps against Food Adulteration. c) Current National Nutritional Programmes in India: ICDS, MDMP, BNP, ANP, NNAPP d) Deficiency Diseases in India: Reasons, Symptoms, Prevention of - Kwashiorkor, Marasmus, Night-Blindness, Ricket, Osteomalacia, Scurvy, Anemia, Goiter.	
Unit - VI	**Consumer Education and Protection** **1. Consumer Education:** a) Definition of Consumer, Consumer Education and Consumer Protection. b) Importance of Consumer Education. c) Problems of Consumers. **2. Consumer Protection:** a) Consumer Rights and Responsibilities. b) Consumer Protection Act, Consumer Redressal Forum. c) Consumer Aids: Standardization and Quality Control Measures: ISI, FPO, AGMARK, ISO, Eco Mark, Wool Mark, Silk Mark, Cotton Mark, Handloom Mark, BEE Star Leveling and others.	7
Unit - VII	**Extension Education, Media and Communication Technology** **1. Extension Education:** a) Types of Education (Formal, Informal and Non-formal Education) b) Definition and Objectives of Extension Education.	10

UNITS	TOPICS	MARKS ALLOTED
	2. Media: a) Definition and Classification of Media **b)** Functions of Media **3. Communication Technology:** a) Definition, Classification and Elements of Communication b) Importance of Communication a) Definition and Classification of Communication Technologies b) Effective Communication Skill: Meaning and Types of Communication Skill	
Unit - VIII	**Career in Human Development and Resource Management** 1. Scope of Human Development 2. Career Potential for Students	**2**

HUMAN DEVELOPMENT AND RESOURCE MANAGEMENT (HDRM) 2024-25
Class-XII
Practical - 30 Marks

Semester-III

Serial No.	Topics	No. of Contact Hours
1	Familiarity with Psychological Tests: Measuring Intelligence of an Adolescent Student by using Standardized Tests (Binet-Kamat, Koh's Block Design).	2
2	Preparing a report on Socio-Economic and Emotional Problems of an Elderly (Age - Above 60 Years) at Home or Neighbourhood by using a Structured Questionnaire	3
3	Learning to Fill Different Bank Forms: Account Opening forms (Saving,Current, Recurring), Withdrawal Forms, Money Deposit Slip; Cheques.	2
4	Textile Designing: Preparation of Any One Article using Applied Textile Design Techniques (Tie and Dye/ Batik Printing/ Block Printing/ Fabric Painting/ Using Different Stitches	3
	TOTAL	**10**

Semester-IV

Serial No.	Topics	No. of Contact Hours
5	Preparation of a Nutritious School Tiffin for an Adolescent; Measuring it's Food Value using Food Value Chart of ICMR.	3
6	Preparation of a Nutritious Dish for a Pregnant/ Nursing Mother; Measuring it's Food Value using Food Value Chart of ICMR.	3
7	Market survey of Any Five Processed Foods with their Packaging and Label Information.	2
8	Develop a Leaflet/Pamphlet for Consumer Education and Protection on any one of the following: a) Consumer Protection Act (CPA) b) Consumer Responsibilities c) Consumer Organization d) Consumer Problem	2
	TOTAL	**10**

HUMAN DEVELOPMENT AND RESOURCE MANAGEMENT (HDRM)

CLASS- XI

MARKS DISTRIBUTION IN PRACTICAL

Practical work during examination	15 Marks
Laboratory file and Materials prepared in class	10 Marks
Viva Voce	5 Marks
Total	**30 Marks**

GUIDELINES FOR PRACTICAL

SEMESTER – I

SL No.	TOPICS	GUIDELINES IN CLASS	WRITE UPS IN PRACTICAL COPY
1.	**Preparing Materials for Stimulating the Sensory Development of Infants**	Students will make various colourful toys for infants, which will develop infants' visual skill and audio skill. Necessary materials such as colourful papers, cloth, cotton and other decorative objects should be purchased by the students or provided by school. Appropriate instructions for preparing the material should be given in class with live demonstration or showing samples.	• **Introduction** - Brief write up on the domain for which the material has been prepared. • **Objective-** Objectives of preparing the material • **Materials required** - Necessary things that have been used. • **Procedure** • **Conclusion**
2.	**Understanding Developmental Norms by using Standardized Checklist (Motor/Language/Social/Emotional Developmental Norms)-2 to12years**	Students will study motor/ Language/ Social/ Emotional development on any one child (2 to 12 years). Teachers will provide Standardized Checklist to the students. These test kits are available in Prasad Psychological Corporation (Annapurna Scientific Instruments) – Contact Nos. - 8240295934/ 6290374037	• **Introduction** – Brief write up on the domain that is being evaluated through the test (E.G. – Social development) • **Objectives of using the test** • **Preliminaries** – Name, Age, Sex of the subject, Date and time of testing. • **Materials required-** Name of test, paper/pencil • **Description of the test**

		These test kits have Manuals where process of administration, scoring and interpretations are mentioned in details.	(From the manual) • **Procedure** • **Result and Interpretation** • **Conclusion**
3.	**Preparing Reading Materials (Picture Book / Story Book/ Alphabet Book/ Nursery Rhymes Books) for Preschooler or School-Age Children**	Necessary materials such as chart papers, scrap books, and other decorative objects etc. should be purchased by the students or provided by the school. Appropriate instructions for preparing the material should be given in class with live demonstration or showing samples.	• **Introduction** - Brief write up on the domain for which the material has been prepared. • **Objective-** Objectives of preparing the material • **Materials required** - Necessary things that have been used. • **Procedure** • **Conclusion**
4.	**Identification of Fibres – Physical and Chemical Methods**	Students will identify the different types of fibre by using physical and chemical methods in the school laboratory.	• **Objective-** Identification of the different types of fibres. • **Procedure-** • **Conclusion-**
5.	**Identification of Different Weaves**	Teachers will provide different samples of weave. Students will identify the different types of weaves in fibre.	• **Objective-** Identification of the different types of weaves. • **Procedure-** • **Conclusion-**

SEMESTER – II

SL No.	TOPICS	GUIDELINES IN CLASS	WRITE UPS IN PRACTICAL COPY
6.	**Measuring Weight of different Food Items**	Teacher will provide different food items - one piece of 5 types of vegetables and fruits, 1cup of rice, 1cup of pulse, one boiled egg, one table spoon sugar etc. and student will measure the food items by the weighing machine and note the weight.	Write the weight of different food items which has been observed. Students will prepare a comparative chart with the following headings: i. Food item ii. Quantity iii. Eye Estimation iv. Actual Weight

7.	**Detection of Carbohydrate, Protein and Fat in Food.**	Students will detect the followings- **i)Carbohydrate:** by Molisch's Test, Barfoed's Test, Iodine Test and Fehling Test; **ii) Protein:** by Heat-Coagulation Test and Biuret Test; **iii) Fat:** by Grease Spot Test and Saponification Test.	**Name of the Test-** • **Experiment Procedure** • **Observation** • **Conclusion**
8.	**Preparing Healthy Tiffin for Preschooler/ School-Age Child and Evaluating its Nutritional Value**	Students will make any one healthy and tasty tiffin like Poha/ Upma, Veg/ Egg/ Chicken Sandwich, etc. The materials should be provided by the school or purchased by the students. After preparation, the students will calculate the carbohydrate, protein, fat and calorie present in the tiffin by using the chart of ICMR.	**Preparation Procedure-** • **Necessary Food Items** • **Equipments** • **Procedure** • **Calculation of Nutritional Value**
9.	**Preparing Posters and Reinforcing Messages on Health and Hygiene**	Chart papers should be purchased by the students or provided by the school. Appropriate instructions for preparing the poster should be given in class by showing samples.	• **Introduction** – Brief write up on importance of health and hygiene. • **Objective-** Objectives of preparing the poster on health and hygiene • **Materials required** – Necessary things that have been used. • **Procedure** • **Conclusion**

HUMAN DEVELOPMENT AND RESOURCE MANAGEMENT (HDRM)

CLASS- XII

MARKS DISTRIBUTION IN PRACTICAL

Practical work during examination	15 Marks
Laboratory file and Materials prepared in class	10 Marks
Viva Voce	5 Marks
Total	**30 Marks**

GUIDELINES FOR PRACTICAL

SEMESTER – III

SL NO.	TOPICS	GUIDELINES IN CLASS	WRITE UPS IN PRACTICAL COPY
1.	**Familiarity with Psychological Tests: Measuring Intelligence of an Adolescent Student by using Standardized Tests (Binet-Kamat, Koh's Block Design).**	These test kits are available in Prasad Psychological Corporation (Annapurna Scientific Instruments) – Contact Nos. - 8240295934/ 6290374037 These test kits have Manuals where process of administration, scoring and interpretations are mentioned in details. The tests can be administered in groups as well as individually. Answer sheets of the tests should be distributed among the students. They will fill up accordingly and teacher will teach them how to score and interpret by referring to the manual.	• **Introduction** – Brief write up on the domain that is being evaluated through the test (e.g. – Cognitive or Social development) • **Objectives of using the test** • **Preliminaries** – Name, Age, Sex of the subject, Date and time of testing. • **Materials required** – Name of the test, pen/pencil • **Description of the test** – (From the manual) • **Procedure** • **Result and Interpretation** • **Conclusion**
2.	**Preparing a Report on Socio-Economical and Emotional Problems of an Elderly (Age - Above 60 Years) at Home or Neibourhood by using a Structured Questionnaire.**	• A structured questionnaire will be prepared by the teacher by discussing with students in the practical class. • The questionnaire should be Yes/No type • This should include personal details, educational and financial information,	• **Introduction**- Brief write up on the problems of elderly • **Objectives of the report** • **Preliminaries** – Name, Age, Sex of the subject, Date and time of testing. • **Materials required** –

		some social problems (interpersonal relationships) and emotional problems of stress/anxiety/depression/loneliness etc. • The printed format of the questionnaire should be distributed to the students • Students will be instructed to administer this questionnaire to an elderly person	Self-designed structured questionnaire • **Procedure** • **Interpretation-** Detailed analysis of the obtained responses • **Conclusion** (suggestions)
3.	**Learning to Fill Different Bank Forms: Account Opening forms (Saving, Current, Recurring), Withdrawal Forms, Money Deposit Slip; Cheques.**	The students will be provided the photocopy of different bank forms: Account Opening forms (Saving, Current, Recurring), Withdrawal Forms, Money Deposit Slip; Cheques. Teacher will guide the students to fill up the forms.	The filled up forms should be attached in the copy and the procedure should be written.
4.	**Textile Designing: Preparation of Any One Article using Applied Textile Design Techniques (Tie and Dye/ Batik Printing/ Block Printing/ Fabric Painting/ Using Different Stitches**	Students will apply Textile Design Techniques (Tie and Dye/ Batik Printing/ Block Printing/ Fabric Painting/ Using Different Stitches) on a piece of cloth.	Mention the particular design which has been applied. A sample of this design has to be attached.

SEMESTER – IV

SL NO.	TOPICS	GUIDELINES IN CLASS	WRITE UPS IN PRACTICAL COPY
5.	**Preparation of a Nutritious School Tiffin for an Adolescent; Measuring it's Food Value using Food Value Chart of ICMR.**	Students will make any one healthy and tasty tiffin like Veg/ Egg Chowmin, Paratha etc. The materials should be provided by the school or purchased by the students. After preparation, students will calculate the carbohydrate, protein, fat and calorie present in the tiffin by using the chart of ICMR.	**Preparation Procedure-** • Necessary Food Items • Equipments • Procedure • Calculation of Nutritional Value

6.	**Preparation of a Nutritious Dish for a Pregnant/ Nursing Mother; Measuring it's Food Value using Food Value Chart of ICMR.**	Students will make any one healthy and tasty dish like Dalia, Vegetable/ Chicken Soup, Vegetable Curry etc. The materials should be provided by the school or purchased by the students. After preparation, students will calculate the carbohydrate, protein, fat and calorie present in the tiffin by using the chart of ICMR.	**Preparation Procedure-** • Necessary Food Items • Equipments • Procedure • Calculation of Nutritional Value
7.	**Market survey of Any Five Processed Foods with their Packaging and Label Information.**	Students will be provided the packet of any five processed food, and teacher will guide them to identify their packaging and level information.	• **Aim:** To prepare a label for a product with the following quality marks a) ISI b) FPO c) Agmark • **Objective:** (1) To identify the information that needs to be printed or engraved on a product, (2) To develop a label for a product on the basis of the relevant information needed by a consumer to make a correct choice while buying. • **Materials required:** Pen, Paper, Colours • **Procedure:** 1. Identify the product with quality mark on it, for example – Electric product like Electric fan with ISI mark/ Fruit product like jam with FPO mark/ Agriculture Product like Wheat flour with Agmark **2.** Make a list of the information that has to be put on the label of the product you have selected. Refer the following list of information: a) Name of the product. b) Trade and Brand name c) Manufacturer's name and

			address d) Ingredients/Contents e) Use of the product f) Direction for use of the product. g) Precaution to be taken while using the product. h) Date of manufacture and date of expiry for the perishable products. i) Guarantee period j) Product price, MRP • **Conclusion**
8.	**Develop a Leaflet/Pamphlet for Consumer Education and Protection on any one of the following:** **a) Consumer Protection Act (CPA)** **b) Consumer Responsibilities** **c) Consumer Organization** **d) Consumer Problem**	Teacher will guide the students to Develop a Leaflet/Pamphlet for Consumer Education and Protection on any one of the mentioned items.	Students will mention about the item and write the procedure of developing the item.

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASSES XI AND XII

SUBJECT : HISTORY (HIST)

CLASS - XI

SUBJECT : HISTORY (HIST)

SEMESTER – I

FULL MARKS : 40 **CONTACT HOURS : 90 HOURS**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit1: Learning History	Understanding History: Pre-History, Proto-History. Early Sources and their nature. Forms of Recorded History. Facts and interpretation. Indo- Persian tradition of History writing in Medieval India. Concept of time in History. Linear and cyclical periodisation of History and chronology.	24	10
Unit2: Empires	Empires Across the three Continents 1300BCE TO 100BCE Introducing the age of Empires. Dynamics of the Roman Empire. Implications of the Contact of the Romans with the sub-continental empires – the importance of slavery in the economy- Cultural transformation and impact on the slave economy	33	15
Unit3: Comparative Studies	Concept of Governance 3.1. Citystates : Classical Governments 3.2. Monarchies from *janapadas* to *Mahajanapadas* (Chiefdoms to kingdoms) 3.3. Empires. Definition, Difference with Monarchy- Comparative history of Empires a) The Mauryan empire and the Macedonian empire b) Chola administration c) Roman Empire and the Gupta Empire d) The Mughal Empire and the Ottoman Empire	33	15

CLASS - XI

SUBJECT : HISTORY (HIST)

SEMESTER – II

FULL MARKS : 40 **CONTACT HOURS : 70 HOURS**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit4: Nature of State	State and its apparatus: 4.1. Nature of state, The ideal prototype a) The Indian context -Kautilya, the Arthasastra and the state craft ; Ziauddin Barani *: Fatwa-i-Jahandari* and the nature of the state under the Delhi sultans b) The European context : Greek and the Roman world. Thomas Cromwell and the new Monarchy: intellectual basis of the early modern state. 4.2. Apparatus of Governance a. Persian Satraps b. Chinese Mandarins c. Delhi Sultans : *Iqtadars* d. Mughal *Mansabdars*	25	15
Unit 5: Changing Traditions	The Crusades - Changing Cultural Traditions - To appreciate the history of Cultural transformations with reference to paintings, art & architecture of the period. Renaissance periods. Debate on Renaissance – positive and negative impact. Roman Catholic Church & Protestant movements. Bhakti, Sufi, Confucious, Tao, Shinto etc.	20	10
Unit 6 : Expanding Horizons	Origins of Modern Science -From Witchcraft to Social emancipation- Astrology to Astronomy, Towards a solar centric universe. Geographical Explorations and new geographical knowledge - Technological advancements. Agricultural, Military and Shipbuilding technology- Printing Revolution in Western Europe (With reference to the contributions of China, Japan and the Arab World to the art of Printing)	25	15

CLASS - XI

SUBJECT : HISTORY (HIST)

COURSE CODE : PROJECT

FULL MARKS : 20

1.	Prepare a time chart of Evolution
2.	a. Map work : On a world map point out the places which were under the Roman Empire b. Slavery and its impact on the contemporary world
3.	Mapwork a. On an outline map of Europe locate i) Athens ii) Sparta b. On an outline map of India locate and name the sixteen *mahajanapadas* c. Trade relation in the ancient times between Europe and India during 500BCE -500CE
4.	Contributions of a. Kautilya b. Zia-ud-din Barani c. Thomas Cromwell
5.	Renaissance and its impact on the Human Life
6.	Printing Revolution and its impact on the spread of education

[Note: 40 Hours reserved for Project , Remedial classes, Tutorials and Home Assignments.]

CLASS - XII

SUBJECT : HISTORY (HIST)

SEMESTER – III

FULL MARKS : 40 **CONTACT HOURS : 90 HOURS**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit1: 1) Through the eyes of the travelers. 2) Cultural amalgamation 3) Imperial capital	1. **Society and Polity of India (Between 10th and 17th Centuries) with reference to travelers' accounts :** Administrative Structure – Economic Life – Social and Religious Life–Literature, Art and Architecture 2. **Bhakti, Sufi, Nath, Yogi, Vaishnava, etc:** The Bhakti Cult– Shaivism–Vaishnavism -Bhakti Saints – Impact of Bhakti Ideology – Origins of Sufism–Sufi Orders in India– Impact of Sufism etc 3. Vijaynagara, Bahamani and others : Origins– Administrative Structure– Society and Economy–Religion and Culture – Art and Architecture – Literature– The Bahamani Successor States	40	20
Unit2: 1) Colonialism and Imperialism in the19th and 20th Centuries 2) Political basis of Colonialism 3) The levers of Colonial Control	**1. Brief overview of 17th and 18th Century Colonialisation in Asia and the New World :** Brief overview of Colonisation in Asia & the New World-Economic Dynamics of Imperialism and Colonialism**;** from Mercantile Capital to Industrial & Finance Capital 2. **Terminology of Imperialism, Colonialism, Neo-Imperialism** : The Political Basis of Colonialism-Political and Economic Domination and Subordination of the Colonies–Racism and Its Impact on Colonial Societies– Neo-imperialism 3. **The Levers of Colonial Control** : India- as a 'colonised' state – The instruments of control : Law/ Legislature / Bureaucracy/Police/Army - The subordination of the colonial economy	50	20

CLASS - XII

SUBJECT : HISTORY (HIST)

SEMESTER – IV

FULL MARKS : 40 **CONTACT HOURS : 70 HOURS**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit3: 1) Rebels and Raj	1. **Revolt of 1857 and its representations :** Causes of the Revolt – Character – Causes of Failure – The impact of the Revolt	70	07
2) Nationalism and Separatism	1. **Aligarh Movement, Birth of Muslim League, Hindu Mahasabha:** The Aligarh Movement – Sayyid Ahmed Khan – The 'two nation theory'- Birth of the Muslim League – The Hindu Mahasabha – Politics of Separatism and the Pathway to Pakistan 2. **Pre-1917 and post-1917, till independence :** The early Congress and the Moderate phase – Rise of Gandhi – Concept of Satyagraha – Gandhi in South Africa – Gandhi's popular appeal – Khadi, Charka, Village Reconstruction - Harijan Sampradaya Upliftment – Gandhian Philosophy of Non-Violence and its impact – The Quit India Movement (1942)- An Assessment of Gandhi in Indian and International Affairs. **Contemporary Major Indian Freedom Movements** – Advent of Netaji Subhas Chandra Bose . Formation of Azad Hind Movement . Formation of INA and its background and impacts . Naval Mutiny. Other forms of revolutionary movements in Bengal , Punjab , Maharashtra. Transfer of Power and the related issues.		19

UNIT No.	TOPICS	CONTACT HOURS	MARKS
3) Framing of the Constitution	**The beginning of a New Era, India after 75 years of Independence :** Making of the Indian Constitution – Salient Features of the Constitution with emphasis on social and economic empowerment and women empowerment – Five Year Plans – Liberalisation and the Opening up of the Indian Economy in the 1990s – Changing Foreign Policy with reference to the USA, Russia, China and Pakistan – Assessment of 75 years of Indian Independence		07
4) Partition , Nation Formation and related aspects	**The 1971 Indo-Pak War** Formation of Bangladesh and its impact on India.		07

CLASS - XII

SUBJECT : HISTORY (HIST)

COURSE CODE : PROJECT

FULL MARKS : 20

Globalization
Women's Right Movement
Recent Political Crisis(International)
New Social Movement
Anti-Apartheid Movement
Environment And The World
Anti-Corruption Movement
Environmental Movement
World Peace Movement

[Note: 40 Hours reserved for Project , Remedial classes, Tutorials and Home Assignments.]

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII
SUBJECT : HEALTH AND PHYSICAL EDUCATION (HPED)

Introduction

Holistic development is a complete educational strategy that aims to develop physical, intellectual, emotional, cognitive, and social abilities in kids. It seeks to enhance these skills in the early stage of life, which will prepare them to meet the challenges and difficulties of daily life in the future. Physical Education,Yoga and Sports and Exercise are not the matter to learn only. It should be performed and practised for holistic development. Teachers should try to blend the essence of value education while practising these within or outside the classroom.

The real momentum of Physical Education was on the top priority in the year 1974, when the West Bengal Board of Secondary Education considered Physical Education a compulsory examination subject for the students of Secondary Schools in West Bengal.

The inclusion of Games, Sports and Fitness has been done in all the 4-stages of school education. The School Education Department emphasizes crosscutting issues like Indian Knowledge System, Value Education, Inclusive Education, Gender Sensitization etc. to formulate the holistic school education system. We have already incorporated the issues to formulate the existing curriculum of Health and Physical Education curriculum for school level. Specially the Indian Knowledge System i.e., yoga,traditional games, swimming, war weapons, folk games, poems and other indigenous activities have been extensively emphasized while constructing the pedagogical system of school Health and Physical Education. It is appreciable to search for feedback from parents, special instructors, the local community and yoga experts from outside the institution to introduce the curriculum of Health and Physical Education Curriculum.The interdisciplinary approaches have risen in modern curricula as it is considered as an important and challenging technique. In order to integrate different subject areas into Physical Education the specialist needs to learn more about the academic inter-disciplinary curriculum. Integrating core subjects with physical activity can easily be done and can be very beneficial to the learners at all levels of Education.

It is important to shift the paradigm of Health &Physical Education from co-curricular to core, extracurricular to compulsory choice-based; teacher-centric to learner-centric and choice-based holistic development of the student.

Curriculum Goal:

Curriculum goal of Health and Physical Education is to develop the understanding and knowledge about the holistic approach of health as defined by WHO and provide inputs to make them aware about the causes and impacts of disease transmission, remedial measures, physical fitness, health and social awareness of all children irrespective of class, caste and gender.

Learning Objectives:

Students will be given the opportunity to participate in the activities to learn as well as to improve the knowledge about health and healthy living, wellness, motor and other performances relating to body fitness, body awareness, perception, movement and kinaesthetic senses. Therefore the objectives are:

1. to learn, develop and maintain good health.
2. to nurture good habits like having timely sleep, taking nutritious food, doing regular exercises and maintaining healthy habits.
3. to maintain optimum physical fitness.
4. to improve neuromuscular coordination for developing postures and avoiding physical deformities.
5. to participate in different games and sports and also develop basic skills.

6. to develop leadership qualities.
7. to develop essential life skills like obedience, discipline, courage, self-control, self-confidence, selflessness etc.
8. to develop integrity and balanced personality.
9. to inculcate patriotic feelings among the learners.
10. to make appropriate use of leisure time.
11. to show due reverence to local culture and custom.
12. to bring the differently abled children into the periphery of integrated learning by addressing their psycho-social needs.
13. to realize the process of growing up in the adolescence stage.
14. to develop awareness among the learners about road safety for avoiding road accidents.
15. to manage common injuries of sports like muscle cramps, sprain or pull.
16. to develop students' responsibility in peace education.
17. to develop the concept of values, duties and responsibilities of the students.
18. to manage anxiety and depression through relaxation, meditation, yoga and recreational activities.
19. to grow up as active, responsible, and reflective members of society.
20. to learn and respect differences of opinion, lifestyle, and cultural practices.
21. to receive ideas, institutions, and practices.
22. to promote joyful learning that enable learners acquiring knowledge with pleasure.
23. to appreciate the values enshrined in the Constitution of India such as justice, liberty, equality and fraternity and the unity and integrity of the nation and making of a socialist, secular and democratic society.
24. to develop the knowledge about the concept and history of Physical Education.
25. to know the recent concept of health-wellbeing, fitness, yoga and physical literacy.
26. to gain the knowledge about the scientific basis of Physical Education.
27. to gain the knowledge about hypokinetic diseases, active lifestyle and control of obesity, high blood pressure, arthritis and diabetes.
28. to gain the knowledge about Bratachari.
29. to gain the competency about applied aspects of yoga such as remedial postural deformities.
30. to gain the knowledge about the management of various Games and Sports.
31. to learn about the evaluation of different Physical Fitness components and different other factors related with Physical Education.
32. to know about the national ideals and Leadership Development Activities.

SPECIFIC OBJECTIVES :

The specific objectives are,

1. to help the learners to understand about the holistic approach of Health, to develop a positive attitude towards health and to nurture good practices in developing their physical and mental abilities to its fullest extent.
2. to help the learners to know and accept individual and collective responsibility for healthy living in school, at home and in community setting.
3. to help learners to be acquainted with nutritional requirements, personal hygiene, environmental sanitation, hazards due to pollution, disease transmission, prevention and control.
4. to help learners developing appropriate postural habits in standing, walking, running, sitting and other basic movements so as to avoid the postural defects and physical deformities.

5. to enable learners improving their neuro-muscular coordination through active and meaningful participation in varied physical activities resulted to maintain their physical fitness to its fullest extent for providing maximum outputs.
6. to help learners developing their personality, leadership qualities and team spirit and maintain good health.
7. to enable learners in improving the essential life skills like obedience, discipline, courage, self-control, self-confidence, selflessness etc.
8. to help developing an inclusive system for all children to participate in joyful activities and thereby learn through exploration and discovery.
9. to help learners understanding about the physical and emotional changes during adolescence and to acquire desired growth, vitality and vigour by reducing the micronutrient deficiency and inclusive hygiene practices.
10. to help the learners to understand about the safety education.
11. to enable learners for developing good understanding and knowledge about the social values, duties and responsibilities.
12. to address the physical, psycho-social needs of differently abled children.
13. to develop awareness regarding the importance of physical fitness in individual and social life including Life Skills.
14 . to bring the overall awareness of values with regard to personal health and fitness, and to inculcate among students the desired habits and attitudes towards health to raise their health status.
15. to make the pupils physically, mentally and emotionally fit and to develop such personal and social qualities that will help them to be good human beings.
16. to take action individually and collectively to protect and promote (i) own health (ii) health of family members and (iii) health of the surrounding community and seeking help when required from available community resources.
17. to enable an individual to display a sense of responsibility, patriotism, self-sacrifice and service to the community.
18. to develop awareness of the importance of self-defense.
19. to create awareness among children about rules of safety in appropriate hazardous situations to avoid accidents and injuries. To acquaint them with first-aid measures about common sickness and injuries.
20. to help children learn correct postural habits in standing, walking, running, sitting and other basic movements so as to avoid postural defects and physical deformities.
21. to help children grow as responsible citizens by inculcating in them certain social and moral values through games, sports, Red Cross, Jay Hind Bahini etc.
22. to inculcate values and skills in children in order to promote self-control, concentration, peace and relaxation to avoid the ill effects of stress, strain and fatigue of routine everyday life.
23. to address the physical, psycho-social needs of CWSN (Children with Special Needs) in an integrated fashion.
24. to help release of emotional stress, anxiety and tension, leading to a reduced risk of depression.
25. to develop more positive attitude towards challenges, winning and losing, thus preparing students for life and for the workplace. Values Integrated across HPED.

Learning Outcomes :

After completing the unit, the students will be able to :

- Recognize the concept, aim, and objectives in the field of Physical Education.
- Identify the Post-independence development in Physical Education.
- Categorize Changing Trends in Sports- playing surface, wearable gear, sports equipment, technologies
- Explore different career options in the field of Physical Education.
- Make out the development of Fitness for all the Students Program.
- Incorporate values of Olympism in your life.
- Differentiate between Modern and Ancient Olympic Games.
- Identity the Olympic Symbol and Ideals.
- Describe the structure of the Olympic movement & Olympic Value Education Programme structure.
- Recognize the concept of yoga and be aware of the importance of it.
- Identify the elements of yoga.
- Identify the Asanas, Pranayama's, meditation.
- Classify various yogic activities for the enhancement of concentration.
- Know about relaxation techniques for improving concentration.
- Identify the concept of Disability and Disorder.
- Outline types of disability and describe their causes and nature.
- Adhere to and respect children with special needs by following etiquettes.
- Define the terms test, measurement, and evaluation.
- Differentiate norm and criterion referenced standards.
- Discuss the importance of measurement and evaluation processes.
- Understand BMI: A popular clinical standard and its computation.
- Identify the importance of anatomy and physiology.
- Recognize the functions of the Food and Nutrition.
- Understand the functions of bones and identify various types of joints.
- Figure out the properties and functions of muscles and understand how they work.
- Understand the anatomy of the respiratory system and describe its working.
- Identify and analyse the layout and functions of Circulatory System.
- Understand Kinesiology and Biomechanics with their application in sports.
- Explain biomechanical principles and their utilization in sports and physical education.
- Illustrate fundamental body movements and their basic patterns.
- Learn about the Axis and Planes and their application with body movements.
- Identify the role of Psychology in Physical Education and Sports.
- Differentiate characteristics of growth and development at different stages.
- Explain the issues related to adolescent behavior and Team Cohesion in Sports.
- Correlate the psychological concepts with the sports and athlete specific situations.
- Understand the concept and principles of sports training.
- Summarise training load and its concept.
- Understand the concept of warming up & limbering down in sports training and their types, method & importance.
- Acquire the ability to differentiate between the skill, technique, tactics & strategies in sports training.

CLASS - XI

SEMESTER – I

SUBJECT : HEALTH AND PHYSICAL EDUCATION (HPED)

FULL MARKS : 35 **CREDIT : 04** **CONTACT HOURS : 100 Hours**

COURSE CODE : THEORY

UNIT NO.	UNIT NAME	CONTACT HOURS	MARKS
Unit -1	**HISTORY OF ANCIANT OLYMPIC GAMES**	20	7 × 1 = 7
Unit -2	**ROLE OF YOGA IN MODERN SOCIETY**	20	7 × 1 = 7
Unit -3	**MANAGEMENT OF PHYSICAL EDUCATION PROGRAMME**	20	7 × 1 = 7
Unit -4	**RULES OF THE GAMES AND SPORTS**	20	7 × 1 = 7
Unit -5	**HISTORY OF SPORTS ORGANIZATION OF WEST BENGAL**	20	7 × 1 = 7
	Total	**100**	**35**

CLASS - XI

SEMESTER – I

SUBJECT : HEALTH AND PHYSICAL EDUCATION (HPED)

FULL MARKS : 35 **CREDIT : 04** **CONTACT HOURS : 100 Hours**

COURSE CODE : THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit -1	**HISTORY OF ANCIANT OLYMPIC GAMES**	20	7 × 1 = 7
Sub- Topic	1.1.1 History of the Ancient Olympic Games 1.1.2 Objectives of the Ancient Olympic Games 1.1.3 Rules and Events of the Ancient Olympic Games 1.1.4 Oath of the Ancient Olympic Games 1.1.5 Ceremony of the Ancient Olympic Games 1.1.6 Awards of the Ancient Olympic Games 1.1.7 Decline of the Ancient Olympic Games		
Unit -2	**ROLE OF YOGA IN MODERN SOCIETY**	20	7 × 1 = 7
Sub- Topic	2.1.1 Introduction and History of Yoga 2.1.2 Types of Yoga 2.1,3 Concept of Karma Yoga, Jnana Yoga, Hatha Yoga, Raj Yoga, Mantra Yoga, Laya Yoga, Bhakti Yoga. 2.1.4 Concept and types of Asana 2.1.5 Practice Procedure & Benefits of Some Yogaasana- Pavanmuktasana,Halasana,Dhanurasana, Bhujasana, Salvasana. 2.1.6 Practice Procedure & Benefits of Some Pranayama-Kapalbhati, Anulom-Vilom, Sitali pranayama. 2.1.7 Influences of Yogic Practices on Human Body		
Unit -3	**MANAGEMENT OF PHYSICAL EDUCATION PROGRAMME**	20	7 × 1 = 7
Sub- Topic	3.1.1 Introduction of Tournament 3.1.2 Meaning, objectives and importance of tournament 3.1.3 Types of Tournaments– League, Knockout and Combination 3.1.4 Characteristics of Tournament 3.1.5 Concept of Fixture 3.1.6 Preparation of Fixtures- League, Knockout and Combination 3.1.7 Contemporary Fixtures of different sporting events		

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit -4	**RULES OF THE GAMES AND SPORTS**	20	7 × 1 = 7
Sub- Topic	4.1.1 Rules of Athletic Sprint Event 4.1.2 Rules of Middle Distance and Long-distance Running 4.1.3 Rules of Shot-put 4.1.4 Rules of Discus Throw 4.1.5 Rules of Long Jump 4.1.6 Rules of Kabaddi 4.1.7 Organization of Sports Programme in school		
Unit -5	**HISTORY OF SPORTS ORGANIZATION OF WEST BENGAL**	20	7 × 1 = 7
Sub- Topic	5.1.1 History of Sports Organization of West Bengal- IFA, CAB 5.1.2 History of National and International Sports Organization 5.1.3 Bengal and Indian Olympic Association 5.1.4 East Bengal FC, 5.1.5 MohunBagan AC, 5.1.6 Mohammedan SC, 5.1.7 W.B. State Council For Games & Sports & SGFI		

CLASS - XI

SEMESTER – II

SUBJECT : HEALTH AND PHYSICAL EDUCATION (HPED)

FULL MARKS : 35 **CONTACT HOURS : 120 Hours**

COURSE CODE : THEORY

UNIT NO.	UNIT NAME	CONTACT HOURS	MARKS
Unit -1	**INTRODUCTION TO PHYSICAL EDUCATION AND PHYSICAL LITERACY** ***OR***	10	1 × 6 = 6
Unit -2	**FOLK GAMES CULTURE OF WEST BENGAL**	10	1 × 6 = 6
Unit -3	**SCIENTIFIC BASIS OF PHYSICAL EDUCATION** ***OR***	10	1 × 6 = 6
Unit -4	**MENTAL HEALTH AND STRESS MANAGEMENT**	10	1 × 6 = 6
Unit -5	**HEALTH EDUCATION & SCHOOL HEALTH PROGRAMME** ***OR***	10	1 × 6 = 6
Unit -6	**BIOLOGICAL FOUNDATION OF PHYSICAL EDUCATION**	10	1 × 6 = 6
Unit -7	**ADOLESCENCE AND PROBLEMS OF ADOLESCENCE** ***OR***	10	1 × 6 = 6
Unit -8	**LIFE SKILLS EDUCATION**	10	1 × 6 = 6
Unit -9	**HEALTH RELATED FITNESS TEST** ***OR***	10	1 × 5 = 5
Unit -10	**PERFORMANCE RELATED FITNESS TEST**	10	1 × 5 = 5
Unit -11	**CONCEPT OF WELLNESS** ***OR***	10	2 × 3 = 6
Unit -12	**DEVELOPMENT OF LEADERSHIP QUALITIES**	10	2 × 3 = 6
	Total	**120**	

CLASS - XI

SEMESTER – II

SUBJECT : HEALTH AND PHYSICAL EDUCATION (HPED)

FULL MARKS : 35 **CONTACT HOURS : 120 Hours**

COURSE CODE : THEORY

UNIT NO.	TOPICS	CONTACT HOURS	DESCRIPTIVE TYPES QUESTIONS & MARKS	
Unit -1	**INTRODUCTION TO PHYSICAL EDUCATION AND PHYSICAL LITERACY**	10	1 × 6 = 6	
Sub- Topic	1.1.1 Concept of Physical Education 1.1.2 Meaning of Physical Education 1.1.3 Definition of Physical Education 1.1.4 Scope of Physical Education 1.2.1 Concept of Physical Literacy. 1.2.2 Components of Physical Literacy. 1.2.3 Relationship of Physical Literacy with Physical Education. 1.2.4 Need and Importance of physical literacy in our Modern Society. 1.2.5 Physical literacy progressions as per the cognitive and affective domains. 1.2.6 Challenges and barriers in people adopting Physical Literacy and Methods of Improving it. 1.2.7 Body and mind connection: role of monism in physical literacy. 1.3.1 Concept and Nature of Fundamental Movement Skills. 1.3.2 Relationship of the other Discipline with Physical Education-Sports& Science, Sports Medicine, Bio-Mechanics, Kinesiology, Kinanthropometry, Sports sociology			Answer one Question
Unit -2	**FOLK GAMES CULTURE OF WEST BENGAL**	10	1 × 6 = 6	
Sub- Topic	2.1.1 Introduction of Folk Games 2.1.2 Characteristics of Folk Games 2.1.3 Nature of Folk Games 2.1.4 Types of Folk Games and their Rules 2.1.5 Benefits of Folk Games 2.1.6 List of popular Folk Games of Various districts of West Bengal.			

UNIT NO.	TOPICS	CONTACT HOURS	DESCRIPTIVE TYPES QUESTIONS & MARKS	
Unit -3	**SCIENTIFIC BASIS OF PHYSICAL EDUCATION**	10	1 × 6 = 6	
Sub- Topic	3.1.1 Concept of Exercise 3.1.2 Types of exercise 3.1.3 Effect of Aerobic & Anaerobic Exercise on Health Concept of Body Mass Index 3.1.4 Assessment of Body Mass Index 3.1.5 Interpretation of Body Mass Index 3.2.1 Introduction of Newton's Law of Motion 3.2.2 Newton's First Law of Motion 3.2.3 Newton's Second Law of Motion 3.2.4 Newton's Third Law of Motion 3.3.1 Application of First Law of Motion in Games & Sports 3.3.2 Application of the Second Law of Motion in Games & Sports 3.3.3 Application of Third Law of Motion in Games & Sports			Answer one Question
Unit -4	**MENTAL HEALTH AND STRESS MANAGEMENT**	10	1 × 6 = 6	
Sub- Topic	4.1.1 Concept of Mental Health 4.1.2 Characteristics of Good Mental Health 4.1.3 Concept of Maladjustment 4.1.4 Causes of Maladjustment 4.1.5 Causes of Maladjustment of Students 4.1.6 Maladjustment Behaviour in School Students 4.1.7 Remedies of Maladjustment Behaviour 4.2.1 Concept of Stress 4.2.2 Types of Stress 4.2.3 Signs and Symptoms of Stress 4.2.4 Causes and effect of Stress 4.3.1 Eustress *Vs* Distress 4.3.2 Benefits of Positive stress 4.3.3 Effect of Distress 4.4.1 Stress Management 4.4.2 Types of Stress Management 4.4.3 Causes of Stress Management 4.4.4 Advantages of Stress Management 4.4.5 Relief from Stress			

UNIT NO.	TOPICS	CONTACT HOURS	DESCRIPTIVE TYPES QUESTIONS & MARKS	
Unit -5	**HEALTH EDUCATION & SCHOOL HEALTH PROGRAMME**	10	1 × 6 = 6	
Sub- Topic	5.1.1 Recent Concept of Health 5.1.2 Different dimension of Health 5.2.1 Concept of School Health Programme 5.2.2 School Health Supervision 5.2.3 School Health Service 5.2.4 School Health Instruction 5.3.1 Introduction of Hypo- kinetic disease 5.3.2 Causes of Hypo- kinetic disease 5.3.3 Hypo-kinetic disease- Arthritis 5.3.4 Types, Causes, Symptoms and Remedial 5.4.1 Concept of Drugs 5.4.2 Types of Drugs 5.4.3 Negative consequence of drug abuse 5.4.4 Negative impact of alcohol on health 5.4.5 Negative impact of smoking on health			Answer one Question
Unit -6	**BIOLOGICAL FOUNDATION OF PHYSICAL EDUCATION**	10	1 × 6 = 6	
Sub- Topic	6.1.1 Meaning & Definition of Growth &Development 6.1.2 Relationship between Growth and Development 6.1.3 Role of Education in Development 6.2.1 Defference between Growth and Development 6.2.2 General Characteristics of Growth 6.2.3 General Characteristics of Development 6.3.1 Diverse Development of Children 6.4.1 Factors affecting Growth & Development			
Unit -7	**ADOLESCENCE AND PROBLEMS OF ADOLESCENCE**	10	1 × 6 = 6	
Sub- Topic	7.1.1 Introduction to Adolescence- Overview of the adolescent stage, Key characteristics and features 7.1.2 Classification of Adolescence- Various stages and phases of adolescence, Developmental milestones 7.1.3 Behavioral Aspects in Adolescence- Exploration of typical behaviours during adolescence, Psychosocial challenges and adjustments 7.1.4 Distinguishing Factors of Desire in Adolescence- Understanding the factors influencing desires and aspirations 7.1.5 Identifying individual differences 7.1.6 Problems faced by Adolescent Boys & Girls- Common issues and challenges in adolescent boys and girls social, emotional, and academic difficulties 7.1.7 Solutions to Problems in Adolescent Boys & Girls			Answer one Question

UNIT NO.	TOPICS	CONTACT HOURS	DESCRIPTIVE TYPES QUESTIONS & MARKS	
Unit -8	**LIFE SKILLS EDUCATION**	10	1 × 6 = 6	
Sub- Topic	8.1.1 Concept of Life Skills 8.1.2 Characteristics of Life Skills 8.1.3 Necessity of Learning Life Skills 8.1.4 Concept of Ten Core Life Skills 8.2.1 Concept, Characteristics and Importance of Emotional Skills 8.2.2 Concept, Characteristics and Importance of Social or Interpersonal Skills 8.2.3 Concept, Characteristics and Importance of Cognitive or Thinking Skills 8.3.1 Life Skills used by The Monkey and The Crocodile 8.3.2 Case Study Based Life Skills			
	COMPETENCY BASED & SKILL BASED QUESTION			
Unit -9	**ASSESSMENT OF HEALTH-RELATED FITNESS**	10	5 × 1 = 5 (3 + 2)	
Sub- Topic	9.1.1 Concept of Test, Measurement & Assessment 9.2.1 Assessment of Health Related Fitness Components-BMI 9.2.2 Assessment of Waist-hip- Hip Ratio Test, 9.2.3 Assessment of Endurance Harvard Steps Test, 9.2.4 Assessment of Muscular Strength & Endurance Sit–Up Test 9.2.5 Assessment of Flexibility			Answer one Question from two Questions [one from each unit]
Unit -10	**ASSESSMENT OF PERFORMANCE RELATED FITNESS TEST**	10	5 × 1 = 5 (3 + 2)	
Sub- Topic	10.1.1 Assessment of Performance Related Fitness Components-Reaction Time 10.1.2 Assessment of Speed -50 Metres Run Test, 10.1.3 Assessment of Agility -4X10 Metres Shuttle Run Test, 10.1.4 Assessment of Balance -Single Leg Stance Test.			

UNIT NO.	TOPICS	CONTACT HOURS	DESCRIPTIVE TYPES QUESTIONS & MARKS	
Unit -11	**CONCEPT OF WELLNESS**	10	SAQ 3 × 2 = 6	
Sub- Topic	11.1.1 Concept of Wellness 11.1.2 Objectives of Wellness 11.1.3 Importance of Wellness 11.1.4 Methods of Improving Wellness 11.2.1 Component of Fitness and Wellness 11.2.2 Factors Affecting Physical Fitness and Wellness 11.2.3 Principles of Physical Fitness Development 11.2.4 Dimension of Wellness and Lifestyle			Answer two Questions from four Questions
Unit -12	**DEVELOPMENT OF LEADERSHIP QUALITIES**	10	SAQ 3 × 2 = 6	
Sub- Topic	12.1.1 Meaning of Leadership 12.1.2 Definition of Leadership 12.1.3 Qualities of an Ideal Leader 12.2.1 Importance of leadership 12.2.2 Types of Leadership & their Characteristics 12.2.3 Function of a Leader 12.2.4 Problems in Developing Leadership 12.2.5 Ways to Solve the Problems of Developing Leadership 12.3.1 Development of Leadership Qualities through Physical Education Activities			

CLASS - XI

SEMESTER-I & SEMESTER-II

SUBJECT : HEALTH AND PHYSICAL EDUCATION (HPED)

FULL MARKS : 30 **CONTACT HOURS : 100 Hours**

COURSE CODE : PRACTICAL

Group-A : Formal activities : Marching, Bratachari and Callisthenics (any one) **5Marks/20 Hours**

1) Marching: Stand at ease, Attention, Left, Right Turn and About Turn,
2) Bratachari:
3) Callisthenics: Neck, Arm and Trunk and Leg Exercises
4) Brotachari Song, Folk Song
5) Song: State song of West Bengal, Banglar Mati Banglar Jal, Bhawaiya song of Uttar Bangla

Group-B : Athletics (any one) **5Marks/20 Hours**

1) Running (Block start, Techniques of Running and Finishing)
2) Throwing Event (Putting the Shot and Discus Throw)
   a) Putting the Shot: Holding the Shot, Placement, Initial Stance, Glide, Release Action and Recovery
   b) Discus Throw: Holding the Discus, Initial Stance, Preliminary Swing, Release and Recovery
3) Jumping Event (Running Broad Jump / High Jump)
   a) Running Broad Jump : Approach run, Take off, Flight-in-Air and landing
   b) High jump: Approach Run, Take off, Clearing the Bar and Landing

Group-C :Yogasana / Gymnastics / Chhow Dance / Self Defense / Chess (any one) **5Marks/20 Hours**

1) (a) Yogasana: (any two)
   (i) Paschimottasana, Gomukhasana, Dhanurasana, Bhadrasana, Vakrasana
   (ii) Surya Namaskara
   (iii) Pranayama: Anulom-Vilom and Kapalabhati
   (iv) Meditation
2) Gymnastics : (any two)
   Forward and Backward Roll, Cart Wheel, T. Balance, Hand Stand and Arch
3) Chhow Dance : One Leg 360Turn,Track Jump 360 Turn, Chart Wheel, From both leg Forward hand Spring, Back Hand Spring, Tamaro Jump.

Group-D : Team Game (Any one) **5 Marks/20 Hours**

Handball, Football, Volleyball, Kabaddi, KhoKho and Badminton

Group-E Project work/ Seminar/ Record book on Games and sports: **10 Marks/20 Hours**

1) Seminar : Students may prepare a PowerPoint Presentation for the seminar based on any one of the given topics.**Total time: 10 min. (Presentation time: 6 min + Interaction: 4 min.)**

The structure of the PowerPoint :

a. **Title page (title, name of the student, roll no., name of the student, date and year)**
b. **Introduction: Description of title, cause of selecting such topic and related matter**
c. **Previous resources: Any documents of previous such type of work (if possible)**
d. **Method of Data Collection: Place and Design of Study, Types etc. (How he/she prepare this presentation)**
e. **Discussion, analysis and interpretation: Main course/ Result/ matter and Description**
f. **Conclusion: Summary of findings**
g. **References:**

2) **Project work:** They may prepare a project exercise book for the project work based on any one of the given topics.

The Structure of the Project:

a. **Title Page: Name of the project, School name, Name of the student and teacher, date and year**
b. **Acknowledgment**
c. **Introduction: Objectives, Importance, significance, Sampling (if any), Limitation, Social Acceptance**
c. **Previous resources: Any documents of previous such type of work (if possible)**
d. **Method of data collection: Sample age, Sex, Sample size, Method of data collection (How he/she prepare this project)**
e. **Discussion, analysis and interpretation: Main course/ Result/ matter and Description**
f. **Conclusion: Summary of findings**
g. **References:**

3) **Record book:** They may prepare a Record book based on any one of the Local, School, National and International events.

Structure of the Record book Preparation :

a. **Title page: Name of the Event, School name, Name of the student and teacher**
b. **Introduction of the event: Importance, Place, Social Acceptance**
c. **Keeping the records: Number of events, Matches, Competitions, Goals, Medals etc.**
d. **Conclusion: Summary of findings**
e. **References:**

4) **CONTEMPORY ISSUES :** They may prepare a project exercise book for the project work based on any one of the given topics.

The Structure of the Project:

a. **Title Page: Name of the project, School name, Name of the student and teacher, date and year**
b. **Acknowledgment**
c. **Introduction: Objectives, Importance, Significance, Sampling (if any), Limitation, Social Acceptance**
d. **Previous resources: Any documents of previous such type of work (if possible)**
e. **Method of data collection: Sample age, Sex, Sample size, Method of data collection (How he/she prepare this project)**
f. **Discussion, analysis and interpretation: Main course/ Result/ Matter and Description**
g. **Conclusion: Summary of findings**
h. **References:**

TOPICS & EVALUATION RUBRICS :

Mark distribution: 10 marks will be distributed for Project/Seminar/ Record book preparation

Interaction with the audience/examiner/ guide/supervisor

Evaluation Process: 5 parts x 2marks=10marks

a. **Novelty of the topic**
b. **Contemporary importance**
c. **Explanation/description**
d. **Interaction**
e. **Overall presentation**

a) Project Topics :

1) Kanyashree - Women Empowerment
2) Olympic Movement
3) Olympic Value Education
4) Astanga Yoga
5) Yoga Education
6) Types of Yoga
7) Organization of a Sports meet
8) Tournament
9) Mohunbagan
10) East Bengal
11) Mohamedan Sporting
12) Kabaddi Play Field
13) Kho-kho Play Field
14) Football Play Field
15) Volleyball Play Field
16) 400 mt. Track marking
17) Intramural and Extramural Competition
18) Project on Physical Fitness Test
19) Analysis of the Fitness of the Students
20) Analysis of the Physical Literacy Project
21) Computation of BMI and Waist- Hip Ratio Test of 5 Elderly People
22) Take Harvard Steps Test of your 5 Friends and Analyse.

b) Seminar Topics :

1) Folk & Traditional Games of West Bengal
2) School Health Programme
3) Problems of Adolescent Boys & Girls
4) Body Mass Index
5) Aerobic and Anaerobic Exercises
6) Newton Laws of Motion
7) Hypokinetic Diseases
8) Drug Abuse
9) Life Skill
10) Role of Education in Development
11) Stress Management

12) Sports and Nutrition
13) Care of Ear, Teeth, Skin and Eye
14) Infectious Diseases
15) Balanced diet & Nutrition
16) Long Distance Run / Marathon Run.

c) Record Book Topics :

1) National School Games
2) IPL
3) ISL
4) Summer Olympics
5) Annual School Sports
6) Intramural Competition
7) Health Records of School Boys/Girls

d) CONTEMPORY ISSUES :

1) POCSO
2) The Prohibition of Child marriage Act, 2006
3) Stay Safe Online
4) HIV and AIDS Prevention &Control Programme
5) Awareness Regarding the Right to Vote
6) Awareness Regarding the Organ Donation and Organ Transplant
7) Empowered Women –Empowered Nation.
8) Awareness Campaign on Financial Literacy
9) Awareness Campaign on Kanyashree
10) Awareness Campaign on Safe Drive Save Life.
11) Awareness Campaign on Healthy Lifestyle
12) Awareness Campaign on Mid-Day Meal
13) Awareness Campaign on Health Literacy
14) Awareness Campaign on Drug Abuse
15) Awareness Campaign on Right To Play

e) CREATIVE WRITING :

1) Yoga for Health,
2) Nutrition For Healthy Living
3) Gender Sensitivity
4) Safety Outside School
5) Food Poisoning
6) Fire And Stampede

f) Leadership Development Activities organized by Government Organizations (Duration not less than 5 days)

1) Participation in Adventure Sports
2) Participation in Boys Scouts and Girl's Guides
3) Participation in NSS Special Camping, NCC, Leadership Camp and Sports Camp
4) Completion of Bratachari Madhyamik Course
5) Nature Camp
6) First Aid Camp-St. John Ambulance / India Red Cross Society
7) Community Service Programme
8) Awareness on Community Development Project work

SAMPLE PROJECTS :

Physical Education Project Format :
Nature of Presentation : Written

Title page : 1 **Influenza, a Infectious Disease**

Name of the student :

Roll no. :

Name of the School :

Date & Year :

Title page : 2 Contents with the topic and the respective page no.

Introduction: Aim of the study, Importance, Social Acceptance,Significance of the topic,

Provide a brief overview of influenza. Define influenza and its classification as an infectious disease.

Highlight its historical significance and impact on public health.

Method of data collection: Epidemiology, Explore the global prevalence and distribution of influenza.

Include statistics on affected populations, mortality rates, and affected regions.

Discuss the seasonal nature of influenza outbreaks, Etiology and Transmission,

Explain the causative agents of influenza, focusing on influenza viruses (types A, B, and C).

Describe the modes of transmission and how the virus spreads.

Discuss the susceptibility of different age groups., Clinical Features,

Outline the symptoms associated with influenza and differentiate between common flu symptoms and severe complications. Discuss the potential impact on vulnerable populations,

Prevention and Control, Explore vaccination strategies and the importance of annual flu shots.

Discuss antiviral medications and their role in treatment.

Highlight preventive measures like hygiene practices, social distancing, and wearing masks

Discussion, analysis and Interpretation: Global Efforts and Research,

Provide an overview of international collaborations in influenza research.

Discuss ongoing studies, vaccine development, and advancements in treatment.

Highlight the importance of surveillance and early detection.

Impact on Public Health; Analyze the societal and economic impact of influenza outbreaks.

Discuss strategies for mitigating the impact on healthcare systems.

Explore the psychological aspects and public perception during outbreaks.

Future Trends; Discuss emerging trends in influenza research. Explore potential challenges and innovations in disease prevention and control.

Conclusion: Summarize key findings and insights.

Emphasize the ongoing importance of influenza research and public health measures.

References: Cite all sources used in your project.

CLASS - XII

SEMESTER – III

SUBJECT : HEALTH AND PHYSICAL EDUCATION (HPED)

FULL MARKS : 35 **CONTACT HOURS : 100 Hours**

COURSE CODE : THEORY

UNIT NO.	UNIT NAME	CONTACT HOURS	MARKS
Unit -1	**OLYMPIC VALUE EDUCATION PROGRAMME**	20	7 × 1 = 7
Unit -2	**BIOLOGICAL BASIS OF PHYSICAL EDUCATION**	20	7 × 1 = 7
Unit -3	**MODERN CONCEPT OF HEALTH & HYGIENE**	20	7 × 1 = 7
Unit -4	**PREVENTION OF CONTROL OF COMMUNICABLE DISEASES**	20	7 × 1 = 7
Unit -5	**SPORTS AND NUTRITION**	20	7 × 1 = 7
	Total	**100**	**35**

CLASS - XII

SEMESTER – III

SUBJECT : HEALTH AND PHYSICAL EDUCATION (HPED)

FULL MARKS : 35 **CONTACT HOURS : 100 Hours**

COURSE CODE : THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit -1	**OLYMPIC VALUE EDUCATION PROGRAMME**	20	7 × 1 = 7
Sub- Topic	1.1.1 Introduction of Olympism 1.1.2 Fundamental Principles of Olympism 1.1.3 Core Olympic Value 1.1.4 Educational Theme of Olympism 1.1.5 Olympic Symbol- Five Rings 1.1.6 Olympic Identity-Flame & Touch Relay 1.1.7 Olympic Motto & Maxim 1.1.8 Olympic Anthem & Oath 1.2.1 Olympic Games opening ceremony 1.2.2 Olympic Games closing ceremony 1.2.3 The Olympic Truce in ancient and modern times 1.2.4 Sport and Art in Ancient Greece 1.2.5 Language of Peace 1.2.6 Symbols of peace 1.2.7 Logos and Mascots 1.2.8 Olympic Value Education & Community		
Unit -2	**BIOLOGICAL BASIS OF PHYSICAL EDUCATION**	20	7 × 1 = 7
Sub- Topic	2.1.1 Concept of Body Mass Index 2.1.2 Assessment of Body Mass Index 2.1.3 Interpretation of Body Mass Index 2.2.1 Concept of Blood 2.2.2 Primary function of the Circulatory system 2.2.3 Immediate effects of Exercise on circulatory system 2.2.4 Effects of long –term training /Exercise on circulatory system		
Unit -3	**MODERN CONCEPT OF HEALTH & HYGIENE**	20	7 × 1 = 7
Sub- Topic	3.1.1 Concept of Health 3.1.2 Definition of Health 3.1.3 Different dimensions of Health 3.1.4 Concept of Health Education 3.1.5 Objective of Health Education 3.2.1 Concept of Hygiene 3.2.2 Aim of hygiene 3.2.3 Care of Eye 3.2.4 Care of Teeth 3.2.5 Care of Skin 3.2.6 Care of Ear		

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit -4	**PREVENTION AND CONTROL OF COMMUNICABLE DISEASE**	20	7 × 1 = 7
Sub- Topic	4.1.1 Concept and Types of Diseases 4.1.2 Concept of Infectious Diseases 4.1.3 Different conditions of disease transmission 4.1.4 Ways for Control of Infectious Diseases 4.1.5 Prevention & control of diseases 4.2.1 Prevention & control of HIV-AIDS 4.2.2 Prevention & control of Dengue 4.2.3 Prevention & control of Novel Corona Virus 4.2.4 Prevention & control of Malaria 4.3.1 Prevention & control of Non-Communicable Diseases through Yoga & Physical Activities.		
Unit -5	**SPORTS AND NUTRITION**	20	7 × 1 = 7
Sub- Topic	5.1.1 Concept of Balanced diet & Nutrition 5.1.2 Definition of Nutrient, malnutrition, Undernutrition 5.1.3 Essential components of balanced diet 5.1.4 Various works of nutrition 5.1.5 Sources of nutrition 5.2.1 Balanced diet and distribution of calorie intake. 5.3.1 Sports Diet- Pre, During, Post-competition Diets		

CLASS - XII

SEMESTER – IV

SUBJECT : HEALTH AND PHYSICAL EDUCATION (HPED)

FULL MARKS : 35 **CONTACT HOURS :**

COURSE CODE : THEORY

UNIT NO.	UNIT NAME	QUESTIONS & MARKS	QUESTION PATTERN	CONTACT HOURS
			DESCRIPTIVE TYPE QUESTIONS	
Unit -1 Unit -2	PHYSICAL EUCATION IN MODERN SOCIETY *OR* CAREER ASPECT OF PHYSICAL EDUCATION	1x6=6 1x6=6 (2+4=6/2+1+3 =6, 2+4=6)	Answer one Question	
Unit -3 Unit -4	MODERN CONCEPT OF FITNESS *OR* PREVENTIVE MEASURE FOR LIFE STYLE DISEASE	1x6=6 1x6=6 (2+4=6/2+1+3 =6, 2+4=6)	Answer one Question	
Unit -5 Unit -6	MODERN OLYMPIC GAMES *OR* POSTURE & POSTURAL DEFORMITIES	1x6=6 1x6=6 2+4=6/2+1+3= 6,2+4=6	Answer one Question	
Unit -7 Unit -8	APPLICATION OF YOGA IN DAILY LIFE *OR* MODERN CONCEPTS OF SPORTS TRAINING	1x6=6 1x6=6 2+4=6/2+1+3= 6, 2+4=6	Answer one Question	
		OSTQ 1x5=5 (3+2)	OBSRVATION SKILLS TYPE QUESTIONS	
Unit -9 Unit -10	ORGANISATION OF PHYSICAL EDUCATION PROGRAMME *OR* MANAGEMENT OF ATHLETIC ARENA	1x5=5 (3+2) 1x5=5 (3+2)	Answer one Question	
		SAQ 2X3= 6	SHORT ANSWER TYPE QUESTIONS	
Unit -11 Unit -12	SPORTS INJURIES & EMERGENCY CARE *OR* SCIENTIFIC BASIS OF PHYSICAL EDUCATION	SAQ 3X2 SAQ 3X2	Answer Two Questions	

CLASS - XII

SEMESTER – IV

SUBJECT : HEALTH AND PHYSICAL EDUCATION (HPED)

FULL MARKS : 35 **CONTACT HOURS : 120 Hours**

COURSE CODE : THEORY

UNIT NO.	TOPICS	CONTACT HOURS	DESCRIPTIVE TYPES QUESTIONS & MARKS	
Unit -1	**PHYSICAL EUCATION IN MODERN SOCIETY**	10	1 × 6 = 6	
Sub- Topic	1.1.1 Modern concept of physical education 1.1.2 Definition of Physical Education 1.1.3 Importance of Physical Education in modern society. 1.1.4 Explanation of Play Theory 1.1.5 Relationship with Play, Games and Sports. 1.1.6 Development of Peace and Value through Physical Education activities.			Answer one Question out of two
Unit -2	**CAREER ASPECT OF PHYSICAL EDUCATION**	10	1 × 6 = 6	
Sub- Topic	2.1.1 Concept of Career 2.1.2 Career Aspect of Physical Education ,Sports, Yoga and Fitness 2.1.3 Types of Careers in Physical Education , Sports, Yoga and Fitness			
Unit -3	**MODERN CONCEPT OF FITNESS**	10	1 × 6 = 6	
Sub- Topic	3.1.1 Recent Concept of Physical Fitness. 3.1.2 Definition of Physical Fitness. 3.1.3 Types of Physical Fitness 3.1.4 Components of Health-related Fitness 3.1.5 Components of Skills Related Fitness 3.2.1 Ways to gain Physical Fitness.			Answer one Question out of two

UNIT NO.	TOPICS	CONTACT HOURS	DESCRIPTIVE TYPES QUESTIONS & MARKS	
Unit -4	**PREVENTIVE MEASURE FOR LIFESTYLE DISEASE**	10	1 × 6 = 6	
Sub- Topic	4.1.1 Concept of Hypokinetic Disease 4.1.2 List of Various Hypokinetic Diseases 4.1.3 Causes of Hypokinetic Disease 4.2.1 Concept and Causes of Obesity 4.2.2 Weight control and active lifestyle 4.2.3 Measurement of BMI 4.2.4 Asana as preventive measures for obesity – Tadasana, Pabanmuktasana, Halasana 4.3.1 Concept of Hypertension 4.3.2 Causes of Hypertension 4.3.3 Steps to be followed to avoid Hypertension 4.3.4 Measurement of Blood Pressure 4.3.5 Asana as preventive measures for Hypertension- Bhujagasana, Gomukhasana,Shalavasana. 4.4.1 Concept of Diabetes 4.4.2 Types of Diabetes 4.4.3 Control & prevention of Diabetes 4.4.4 Asana as preventive measures for – Diabetes – Dhanurasana, Supta -Vajrasana, and Kapalbhati			
Unit -5	**MODERN OLYMPIC GAMES**	10	1 × 6 = 6	
Sub- Topic	5.1.1 History of Modern Olympic Games 5.1.2 Objectives of Modern Olympic Games 5.1.3 Olympic ideals 5.1.4 Olympic Flag 5.1.5 Olympic Motto 5.1.6 Olympic Emblem 5.1.7 Olympic Oath 5.1.8 Olympic Organization			Answer one Question out of two

UNIT NO.	TOPICS	CONTACT HOURS	DESCRIPTIVE TYPES QUESTIONS & MARKS	
Unit -6	**POSTURE & POSTURAL DEFORMITIES**	10	1 × 6 = 6	
Sub- Topic	6.1.1 Concept of Posture. 6.1.2 Types of Good Posture 6.1.3 Importance of Good Posture 6.1.4 Causes of a Poor Posture. 6.2.1 Postural deformities -Flat foot-Cause, Preventive & Remedial Measures 6.2.2 Postural deformities -Bow leg -Cause, Preventive & Remedial Measures 6.2.3 Postural deformities - Knock Knee -Cause, Preventive & Remedial Measures 6.2.4 Postural deformities - Kyphosis -Cause, Preventive & Remedial Measures 6.2.5 Postural deformities -Lordosis -Cause, Preventive & Remedial Measures 6.2.6 Postural deformities - Scoliosis -Cause, Preventive & Remedial Measures			
Unit -7	**APPLICATION OF YOGA IN DAILY LIFE**	10	1 × 6 = 6	
Sub- Topic	7.1.1 Introduction to Yoga 7.1.2 History of Yoga 7.1.3 Types of yoga 7.1.4 Eight stages of Astanga yoga to Unite the body mind and soul. 7.1.5 Principles of yoga practices 7.1.6 Benefit of yoga in daily life. 7.2.1 Concept of Asana 7.2.2 Types of Asana 7.2.3 Importance of Asana 7.3.1 Meaning of Pranayama 7.3.2 Objectives of Pranayama 7.3.3 Types of Pranayama 7.3.4 Benefits of Pramayama in daily life			Answer one Question out of two

UNIT NO.	TOPICS	CONTACT HOURS	DESCRIPTIVE TYPES QUESTIONS & MARKS	
Unit -8	**MODERN CONCEPTS OF SPORTS TRAINING**	10	1 × 6 = 6	
Sub- Topic	8.1.1 Introduction of Sports Training 8.1.2 Meaning of Sports Training 8.1.3 Importance of Sports training 8.1.4 Characteristics of Sports training 8.2.1 Concept of warming up 8.2.2 Types of Warming up 8.2.3 Importance of warming up 8.3.1 Concept of Conditioning 8.3.2 Objectives of Conditioning 8.3.3 Types of Conditioning 8.4.1 Concept of Limbering Down Exercises 8.4.2 Methods of Limbering Down Exercises 8.4.3 Physiological requirements of Cooling down Exercises 8.5.1 Methods of Sports Training-Interval & Continuous Methods, and Fartlek, Circuit Training			
Unit -9	**ORGANISATION OF PHYSICAL EDUCATION PROGRAMME**	10	1 × 5 = 5	
Sub- Topic	9.1.1 Layout & Measurement of Play Field Team Game of –Football Ground 9.1.2 Layout & Measurement of Play Field of Badminton Court 9.1.3 Layout & Measurement of Play Field of Kabaddi Jr. Boys & Girls. Court 9.1.4 Layout and Measurement of Play Field Team Game of – Volleyball Court			Answer one Question out of two

UNIT NO.	TOPICS	CONTACT HOURS	DESCRIPTIVE TYPES QUESTIONS & MARKS	
Unit -10	**MAMAGEMENT OF ATHLETIC ARENA**	10	1 × 5 = 5	
Sub- Topic	10.2.1 Layout & Measurement of Shot-put Sector. 10.2.2 Layout & Measurement of Discus Sector. 10.2.3 Layout & Measurement of Longjump Sector. 10.2.4 Layout & Measurement of 200mt Track			
Unit -11	**SPORTS INJURYES & EMERGENCY CARE**	10	SAQ 2 × 3 = 6	
Sub- Topic	11.1.1 Concept of Sports injuries 11.1.2 Causes of Sports injuries 11.1.3 Types of Sports injuries –Acute & Chronic Injuries. 11.2.1 Symptoms of Sports injuries 11.2.2 Most Common Sports Injuries 11.2.3 Amputation and its Management 11.3.1 Sports Injury Management & Prevision-CPR, Heimlich Maneuver Technique, Prone Breathing Method. 11.3.2 Concept of Pain & Types of Pain 11.3.3 Use the R.I.C.E. method to relieve pain & Inflammation and to speed healing 11.3.4 Guideline for the Protection of Good Samaritan			Answer two Questions from four Questions
Unit -12	**EXERCISE PHYSIOLOGY**	10	2 × 3 = 6	
Sub- Topic	12.1.1 Concept of related terms of Respiration. 12.1.2 Changes in the Respiratory System during exercise 12.1.3 Long-term changes in the Respiratory System due to continued Exercises			

CLASS - XII

SEMESTER-III & SEMESTER-IV

SUBJECT : HEALTH AND PHYSICAL EDUCATION (HPED)

FULL MARKS : 30 **CONTACT HOURS : 100 Hours**

COURSE CODE : PRACTICAL

Group-A: Formal activities: Marching, Bratachari and Callisthenics
(any one activity may be chosen by the student) 5Marks/20 Hours

1) Marching: Stand at ease, Attention, Left, Right Turn and About Turn, Mark Time Mark, Quick March and Halt
2) Bratachari:Tarun Dal and Kathi
3) Callisthenics: Neck, Arm, Trunk, and Leg Exercises
4) Bratachari Song, Folk Song
5) Song: State song of West Bengal, Banglar Mati Banglar Jal, Bhawaiya song of Uttar Bangla,

Group-B:Athletics (any one activity may be chosen by the student) 5Marks/20 Hours

1) Running (Block start, Techniques of Running and Finishing)
2) Throwing Event (Putting the Shot and Discus Throw)
   a) Putting the Shot: Holding the Shot, Placement, Initial Stance, Glide, Release Action and Recovery
   b) Discus Throw: Holding the Discus, Initial Stance, Preliminary Swing, Release and Recovery
3) Jumping Event (Running Broad Jump / High Jump)
   a) Running Broad Jump: Approach run, Take off, Flight-in-Air and landing
   b) High jump: Approach Run, Take off, Clearing the Bar and Landing

Group-C: Yogasana / Gymnastics / Chhow Dance/Self Defense skills/ Chess
(any one activity may be chosen by the student) 5 Marks/ 20 Hours

1) (a) Yogasana: (any two)
   (i) Paschimottasana, Gomukhasana, Dhanurasana, Bhadrasana, Vakrasana
   (ii) Surya Namaskara
   (iii) Pranayama: Anulom-Vilom and Kapalbhati
   (iv) Meditation
2) Gymnastics: (any two)
   Forward and Backward Roll, Cart Wheel, 'T' Balance, Hand Stand and Arch
3) Chhow Dance : One Leg 360Turn,Track Jump 360 Turn, Chart Wheel, From both leg Forward hand Spring, Back Hand Spring, Tamaro Jump .

Group-D : Team Game (any one activity may be chosen by the student) 5 Marks /20 Hours

Handball, Football, Volleyball, Kabaddi, KhoKho and Badminton

Group-E: Project work/ Seminar/ Workbook/on Games and sports: 10 Marks/20 Hours

1) Seminar: Students may prepare a PowerPoint Presentation for the seminar (on any one of the given topics).
Total time: 10 min. (Presentation time: 5 min + Interaction: 2 min.)
The structure of the PowerPoint:

- **a. Title page (title, name of the student, roll no., name of the student, date and year)**
- **b. Introduction: Description of title, cause of selecting such topic and related matter**
- **c. Previous resources: Any documents of previous such type of work (if possible)**
- **d. Method of Data Collection: Place and Design of Study, Types etc. (How he/she prepare this presentation)**
- **e. Discussion, analysis and interpretation: Main course/ Result/ Matter and Description**
- **f. Conclusion: Summary of findings**
- **g. References:**

2) **Project work:**They may prepare a project exercise book for the project work (on any one of the given topics).

The Structure of the Project:

a. **Title Page: Name of the project, School name, Name of the student and teacher, date and year**
b. **Acknowledgment**
c. **Introduction: Objectives, Importance, Significance, Sampling (if any), Limitation, Social Acceptance**
c. **Previous resources: Any documents of previous such type of work (if possible)**
d. **Method of data collection: Sample age, sex, Sample size, Method of data collection (How he/she prepare this project)**
e. **Discussion, analysis and interpretation: Main course/ Result/ matter and Description**
f. **Conclusion: Summary of findings**
g. **References:**

3) **Record book:**

They may prepare a Record book based on any one of the Local, School, National and International events.

Structure of the Record book Preparation:

a. **Title page: Name of the Event, School name, Name of the student and teacher**
b. **Introduction of the event: Importance, Place, Social Acceptance**
c. **Keeping the records: Number of events, Matches, Competitions, Goals, Medals etc.**
d. **Conclusion: Summary of findings**
e. **References:**

4) **Mark distribution: 10 marks will be distributed for Project/Seminar/Record book preparation and Interaction with the audience/examiner/ guide/supervisor**

Evaluation Process: 5 parts x 2marks for each parts =10marks

a. **Novelty of the topic**
b. **Contemporary importance**
c. **Explanation/description**
d. **Interaction**
e. **Overall presentation**

5) **In case of Seminar/Project/record book maximum 5 students may consider a single topic, from the list of following topics that has been given by the WBCHSE.**

Project Topics

1. Ancient Olympics
2. Olympic Movement
3. Olympic Value Education
4. Astanga Yoga
5. Yoga Education
6. Types of Yoga
7. Organization of a Sports meet
8. Tournament
9. Mohunbagan
10. East Bengal
11. Mohammedan Sporting
12. Kabaddi Court Sector
13. Kho-kho Court
14. Football Field
15. Volleyball Court
16. 400 mt. Track marking
17. Intramural and Extramural Competition
18. Case study about individual food habit, exercise program, daily routine for 7/10/15 days

Seminar Topics:

1. Folk & Traditional Games of West Bengal
2. School Health Programme
3. Problems of Adolescent Boys & Girls
4. Body Mass Index

5. Aerobic and Anaerobic Exercises
6. Newton's Laws of Motion
7. Hypokinetic Diseases
8. Drug Abuse
9. Life Skill
10. Role of Education in Development
11. Stress Management
12. Sports and Nutrition
13. Care of Ear, Teeth, Skin and Eye
14. Infectious Diseases
15. Balanced diet & Nutrition

Record Book Topics :

1. National School Games
2. IPL
3. ISL
4. Summer Olympics
5. Annual School Sports
6. Intramural Competition
7. Health Records of School Boys/Girls
8. Report about National Day celebration in your own school
9. Report about health environment of your own
10. Individual performance record

CONTEMPORY ISSUES :

16) POCSO
17) The Prohibition of Child marriage Act, 2006
18) Stay Safe Online
19) HIV and AIDS Prevention &Control Programme
20) Awareness Regarding the Right to Vote
21) Awareness Regarding the Organ Donation and Organ Transplant
22) Empowered Women –Empowered Nation.
23) Awareness Campaign on Financial Literacy
24) Awareness Campaign on Kanyashree
25) Awareness Campaign on Safe Drive Save Life.
26) Awareness Campaign on Healthy Lifestyle
27) Awareness Campaign on Mid-Day Meal
28) Awareness Campaign on Health Literacy
29) Awareness Campaign on Drug Abuse
30) Awareness Campaign on Right To Play

CREATIVE WRITING :

1. Yoga for Health
2. Nutrition For Healthy Living
3. Gender Sensitivity
4. Safety Outside the School
5. Food Poisoning
6. Fire and Stampede

Leadership Development Activities organized by Government Organizations (Duration not less than 5 days)

1) Participation in Adventure Sports
2) Participation in Boys Scouts and Girl's Guides
3) Participation in NSS Special Camping, NCC, Leadership Camp and Sports Camp
4) Completion of Bratachari Madhyamik Course
5) Nature Camp
6) First Aid Camp-St. John Ambulance / India Red Cross Society
7) Community Service Programme
8) Awareness on Community Development Project work

SAMPLE PROJECT FORMAT OF PHYSICAL EDUCATION :

Nature of Presentation : Written

Page 1: Title page **Influenza, a Infectious Disease**

Name of the student :

Roll no. :

Name of the School :

Date & Year :

Page 2 : Contents with the topic and the respective page no.

Page 3 and onwards :

Introduction: Aim of the study, Importance, Social Acceptance, Significance of the topic (Provide a brief overview of influenza. Define influenza and its classification as an infectious disease.Highlight its historical significance and impact on public health).

Method of data collection:

- Epidemiology, Explore the global prevalence and distribution of influenza.
- Include statistics on affected populations, mortality rates, and affected regions.
- Discuss the seasonal nature of influenza outbreaks, Etiology and Transmission.
- Explain the causative agents of influenza, focusing on influenza viruses (types A, B, and C).
- Describe the modes of transmission and how the virus spreads.
- Discuss the susceptibility of different age groups. Clinical Features.
- Outline the symptoms associated with influenza and differentiate between common flu symptoms and
- Severe complications. Discuss the potential impact on vulnerable populations,
- Prevention and Control, Explore vaccination strategies and the importance of annual flu shots.
- Discuss antiviral medications and their role in treatment.
- Highlight preventive measures like hygiene practices, social distancing, and wearing masks

Discussion, analysis and Interpretation:

- Global Efforts and Research,
- Provide an overview of international collaborations in influenza research.
- Discuss ongoing studies, vaccine development and advancements in treatment.
- Highlight the importance of surveillance and early detection.
- Impact on Public Health; Analyze the societal and economic impact of influenza outbreaks.
- Discuss strategies for mitigating the impact on healthcare systems.
- Explore the psychological aspects and public perception during outbreaks.

Future Trends :

a. Discuss emerging trends in influenza research.

b. Explore potential challenges and innovations in disease prevention and control.

Conclusion : Summarize key findings and insights.

Emphasize the ongoing importance of influenza research and public health measures.

References : Cite all sources used in your project.

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASSES XI AND XII

SUBJECT : Journalism and Mass Communication (JMCN)

COURSE OVERVIEW :

This Journalism and Mass Communication curriculum is an effort to grow interest in this field among the students and also to equip them with the knowledge and fundamental skills necessary for further prospects in this dynamic and evolving field of media and communication. The curriculum is structured to provide a balance between theoretical understanding and practical application in the real world and to provide related ethical awareness.

Objectives:

1. Comprehend the basics of journalism and mass media along with its evolution.
2. Understand the modern scenario and prospects of communication along with their related responsibilities.
3. Understand the different areas of communication with their importance.
4. Grasping the career scope of this pertinent subject.

CLASS - XI

SEMESTER – I

SUBJECT : Journalism and Mass Communication (JMCN)

FULL MARKS : 35 **CONTACT HOURS : 100 Hours**

COURSE CODE : THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit -1	1. Communication: a) Concept, Scope, Functions	2	10
	2. Types of Communication a) Intrapersonal Communication, Interpersonal Communication, Group Communication, Mass Communication.	4	
	3. Basic Concept of Mass Media and its Different Types a) Print Media: Newspaper, Magazine, Periodicals, Books and Journal. b) Electronic Media: Radio, Television, Film. c) New Media	7	
	4. Definition: Development Communication, Mass Line Communication.	4	
	5. Basic concept of Journalism and its Career Scope	3 **(20)**	
Unit -2	1. History of Indian Journalism- Introduction.	2	10
	2. Evolution of Press in India.		
	a) James Augustus Hickey	2	
	b) James Silk Buckingham	2	
	c) Serampore Missionaries	2	
	d) Digdarshan, Samachar Darpan	2	
	e) Raja Rammohan Roy	2	
	f) Young Bengal	2	
	g) Sambad Prabhakar	2	
	h) Harish Mukherjee	2	
	i) Iswar Chandra Vidyasagar	2	

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
	3. Press during Independence: Important Newspapers (Founder, Year, Objectives) The Times of India, Bengali, Amrita Bazar Patrika, Indian Statesman, Pioneer, The Hindu, Kesari, Mahratta, Indian Opinion, Yugantar, Sandhya, Bande Mataram (Lala Lajpat Rai, Bipin Chandra Pal, Madam Cama), New India, Independent, Young India, Hindustan Times, Anandabazar Patrika, Swaraj, Forward, Sonibarer Chithi, Nav Jeevan, Harijan, Jugantar Patrika. 4. Press Post Independence: Important Newspapers (Founder, Year, Objectives)**,** Hindusthan, Sanmarg, Dainik Jagran, Deccan Herald, Dainik Bhaskar, Aman Ujala, The Telegraph, Uttar Banga Sangbad, Aajkal, Bartaman, Sambad Pratidin, Dainik Statesman, Financial Express, Economic Times.	5 5 **(30)**	
Unit -3	1. Print Media: a) News- Concept and Definition b) Sources of News c) Types of News (Hard & Soft) d) Elements of News e) Objectivity 2. News Agency (National and International) – PTI, UNI, Samachar Bharati, ANI, IANS, AP, Reuters, AFP, Antara, DPA, Xinhua, TASS. Structure & functions 3. Structure of newspaper organisation: (Duties and Responsibilities in brief) a. Reporter b. Chief Reporter c. Correspondent d. Freelancer e. Stringer f. Photo journalist g. Editor h. Chief Sub Editor i. Sub Editor j. News Editor k. Night Editor 3. News Writing a. Intro, Lead, Body, Inverted Pyramid, Headline and its different types b. News Editing – Principles of editing, Basics of Page Makeup, Proof Reading. 4. Concept of Article, Feature, Editorial and Column.	1 2 1 2 2 4 8 10 4 **(34)**	10

Unit -4	1. New Media: Introduction a) Basic Concept b) Popularity 2. Types of New Media 3. Social Media: Introduction a) Types of Social Media b) Impact on Society 4. Dos and Don'ts of New Media	2 2 2 2 4 4 2 2 **(20)**	5

CLASS - XI

SEMESTER – II

SUBJECT : Journalism and Mass Communication (JMCN)

FULL MARKS : 35 **CONTACT HOURS : 80 Hours**

COURSE CODE : THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit -1	1. Radio: Introduction	2	16
	2. Radio as a medium of Mass Communication	2	
	3. Evolution of Radio in India	5	
	a. IBC		
	b. AIR		
	c. Radio after Second World War		
	d. Radio after Independence (Vividh Bharati, Yuvavani)		
	4. Prasar Bharati		
	5. AM	2	
	6. FM (Private channels and Government channels)	1	
	7. Community Radio	4	
	8. Internet Radio	1	
	9. Ham Radio	1	
	10. Educational Radio,	1	
	11. Radio Format: News and Talk	1	
		5 **(25)**	
Unit -2	1. Television: Introduction	2	10
	2. TV as a medium of mass communication	2	
	3. TV news format	5	
	4. Doordarshan	3	
	5. Privatisation of TV channels	3	
	6. 24 x 7 news channel	2	
	7. TV script format (Non-Fiction)	5	
	8. PTC, VO, AVO, OB Van	3 **(25)**	

CLASS - XI

SEMESTER – I & SEMESTER – II

SUBJECT : Journalism and Mass Communication (JMCN)

FULL MARKS : 30 **CONTACT HOURS : 30 Hours**

COURSE CODE : PRACTICAL

1. Radio: Audio Clip Production News/ Talk (2 mins)
2. TV Script for Non-Fiction (5 mins)
3. News Reporting for New Media

(Any one)

Guidelines for Practical:

1. All the topics should be covered in the practical classes.
2. Hard copy/soft copy of practicals should be preserved as applicable.
3. Students should write the script and record audio for radio production.
4. Students should write the script for TV as taught in the class.
5. Students should prepare news report for new media.

Note: 20 Contact Hours for

6. Remedial Classes
7. Home Assignment
8. Tutorial Classes

CLASS - XII

SEMESTER – III

SUBJECT : Journalism and Mass Communication (JMCN)

FULL MARKS : 35 **CONTACT HOURS : 100 Hours**

COURSE CODE : THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit -1	**Public Relations (PR)** 1. Introduction, Concept and Definitions. 2. Function of Public Relations Officer. 3. Relationship between PR and Media. 4. Role of PRO in media relation. 5. Advertisement, propaganda and public relations 6. Press Information Bureau (PIB) 7. Career Prospects in PR. 8. Different tools of Public Relations 9. Press Release 6. Press Conference	 3 4 4 3 4 4 4 2 4 2 2 **(36)**	**1 × 12 = 12**
Unit -2	**Film** 1. **Introduction: Film as a medium of mass communication**. 2. **Evolution of cinema with special reference to** a) Thomas Alva Edison b) Lumiere Brothers c) Georges Méliès **3. Evolution of Indian cinema –** **a) Silent Era** i) Era of Cinema before Dada Saheb Phalke ii) Dada Saheb Phalke - Raja Harishchandra iii) Dhirendranath Ganguly (D.G.) iv) Promothesh Barua **b) Age of Sound** i) Alam Ara ii) New Theatres **c) Golden Period of Indian Cinema with special reference to Bollywood and Bengali film industry** **d) New Cinema and Parallel Cinema** i) Satyajit Ray ii) Ritwik Ghatak iii) Mrinal Sen **4. Basics of Documentary film** a) History of Documentary film (Indian Perspective) b) Documentary movements in India i) NFDC ii) Film Division iii) CBFC **5. Film Screening**	 3 1 1 1 8 8 8 6 3 4 3 **(46)**	**1 × 15 = 15**

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit -3	**Convergent Media** 1. Online Journalism: Introduction, Concept 2. Information Technology Act (IT Act) 3. Ethics of Online Journalism 4. Right to Privacy	 4 4 5 5 **(18)**	**1 × 8 = 8**

CLASS - XII

SEMESTER – IV

SUBJECT : Journalism and Mass Communication (JMCN)

FULL MARKS : 35 **CONTACT HOURS : 80 Hours**

COURSE CODE : THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit -1	Advertising		**3 × 5 = 15**
	1. Introduction & Concept.	2	**2 × 3 = 6**
	2. History of Advertising in India.	2	
	3. Importance and role of Advertising in society.	2	
	4. Advertising in Current Scenario in India	1	
	5. Necessity of advertising in newspaper	1	
	6. Advertising as a popular medium of communication.	1	
	7. Different types of Print Advertisement--		
	a. Classified advertising		
	b. Display advertising	4	
	8. Radio, TV and Online Advertising	3	
	9. Copy writing for advertisement.	3	
	10. Merits and demerits of advertising.		
	a. Misleading Advertisements		
	b. Surrogate Advertising.	4	
	11. Unique Selling Point (USP)	2	
	12. Target audience	2 **(27)**	
Unit -2	**Theories and Models of Communication**		
	Models:	10	**2 × 5 = 10**
	1. Aristotle		**2 × 2 = 4**
	2. Laswell		
	3. Shannon and Weaver		
	4. Berlo		
	5. Westley and Mclean		
	6. Osgood and Schramm		
	Theories:	13	
	1. Magic Bullet Theory		
	2. Agenda Setting Theory		
	3. Two Step Flow Theory		
	4. Gatekeeping Theory		
	5. Uses and Gratification	**(23)**	

CLASS - XII

SEMESTER – III & SEMESTER – IV

SUBJECT : Journalism and Mass Communication (JMCN)

FULL MARKS : 30 **CONTACT HOURS : 30 Hours**

COURSE CODE : PRACTICAL

1. Writing Press Release
2. Film Review **(Any one)**
3. Specialised Reporting

Guidelines for Practical:

9. All the topics should be covered in the practical classes.
10. Hard copy/soft copy of practicals should be preserved as applicable.
11. Film review (only feature films) from Ray, Ghatak and Sen
12. Students should prepare press release according to PIB.
13. Students should prepare news report from following beats:

    Political Beat

    Sports Beat

    Entertainment Beat

Note: 20 Contact Hours for

14. Remedial Classes
15. Home Assignment
16. Tutorial Classes

Readings:

(1) James Monaco: How to Read a Film;

(2) Angela Wadia: Television and Film Production; Kaniska Publisher.

(3) Jill Nelmes: An Introduction to Film Studies; Psychology Press.

(4) Satyajit Ray: Our Films Their Films;

(5) Kiranmoy Raha: Bengali Cinema;

(6) Partha Raha: Cinemar Itibritto; Dey's Publisher.

(7) Renu Saran: History of Indian Cinema; Diamond Books.

(8) M. Madhava Prasad: Ideology of the Hindi Film: A Historical Construction; Oxford

(9) Sweta Verma and Amit Arora: Advertising and Sales Management; Black Prints.

(10) Frank Jefkins: Advertising Made Simple;Madesimple Books.

(11) James S. Norris: Advertising;Reston Pub. Co.

(12) Gillian Dyor: Creative Advertising: Theory and Practice;

(13) Alok Bajpaye: Advertising Management;

(14) Sarojit Dutta: Advertising Today: The Indian Context;Kolkata Profile Publishers

(15) David Ogilvy, Ogilvy on Advertising,Pan/Prion Books

(16) Frank Jefkins,Advertising Made Simple, Rupa & Co.

(17) Chunawalla , Advertising Theory And Practice, Himalaya Publishing House

(18) Jethwaney Jaishri, Advertising, Phoenix Publishing House.

(19) K.R. Balan: Corporate Public Relations; Himalaya Publishing.

(20) Frank Jefkins: Public Relations Made Simple; Heinemann; London.

(21) Philip Lesly: Handbook of Public Relations and Communications; McGraw-Hill; 5th edition

(22) Anne Gregory: Public Relations; IPR Publications.

(23) Subir Ghosh: Public Relations Today; Rupa & Co.

(24) Samar Ghosh: Jana Sanjog; Paschimbanga Rajyo Pustak Parshad.

(25) Kaul J.M., NoyaPrakash, Public Relation in India, Calcutta.

(26) Cutlip S.M and Center A.H., Effective Public Relations, Prentice Hall.

(27) Dennis L. Wilcose & Glen T, Public Relations, Pearson.

(28) Bigyapan O Janasanjyog Adhikary, Dasgupta, Chatterjee.

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASS XI AND XII

SUBJECT : MATHEMATICS (MATH)

Course Objectives

The Mathematics curriculum has undergone periodic revisions in response to the field's expansion and the changing demands of society. The senior secondary stage serves as a springboard for students to pursue professional programs in engineering, physical and biological science, commerce, or computer applications, or to pursue higher education in mathematics. In order to address the evolving demands of all student categories, the current revised syllabus has been created. More focus has been placed on the application of certain principles, drawing inspiration for the issues from real-world scenarios and other academic disciplines.

The following are the main goals of teaching mathematics to senior school students:

- To develop general interest in Mathematics as a discipline.
- To gain critical insight and knowledge of fundamental terminology, concepts, principles, symbols, and skills, especially through motivation and visualization, as well as mastery of underlying procedures and abilities.
- To experience the logic flowing while demonstrating an outcome or resolving an issue.
- To use the gained information and abilities to solve issues, using many approaches where feasible.
- To familiarize students with the various applications of mathematics in everyday life.
- Developing a sense of appreciation and respect for notable mathematicians and their contributions to mathematics is important.
- To cultivate an optimistic outlook in order to reason, evaluate, and speak coherently.
- To cultivate curiosity for the topic by taking part in competitions related to it.

Course Outcomes

At the end of the course the students are expected to develop expertise in various areas of the subject and gain critical insights into the background dynamics of the problem solving process.

The following are the major course outcomes. A student is expected to:

- Develop problem solving skills and apply mathematical concepts to real life situations.
- Cultivate critical thinking and analytical skills in mathematical context.
- Collaborate with peers to solve complex mathematical problems.
- Make predictions and draw conclusions based on statistical data.
- Get a preliminary idea of using technology, like calculators in problem solving.
- Effectively communicate mathematical ideas and solutions both verbally and in writing.
- Present mathematical arguments and justifications.
- Prepare for standardized examinations based on the curriculum.
- Understand the relevance of mathematics in real-world applications.

CLASS - XI

SEMESTER – I

SUBJECT: MATHEMATICS (MATH)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT-I	**SETS AND FUNCTIONS**	**45**	**15**
	1. Sets Sets and their representations, Empty set, Finite and Infinite sets, Equal sets, Subsets, Subsets of the set of real numbers especially intervals (with notations). Power set. Universal set. Venn diagrams. Union and Intersection of sets. Difference of sets. Complement of a set. Properties of Complement sets.	**15**	**4**
	2. Relations and Functions Ordered pairs. Cartesian product of sets, Number of elements in the Cartesian product of two finite sets. Cartesian product of the set of reals with itself (up to $R \times R \times R$). Definition of relation, pictorial diagrams, domain, co-domain and range of a relation. Function as a special kind of relation from one set to another. Pictorial representation of a function, domain, co-domain and range of a function. Real valued functions, domain and range of these functions, constant, identity, polynomial, rational, modulus, exponential, logarithmic, signum and greatest integer functions with their graphs. sum, difference, product and quotients of functions.	**15**	**4**
	3. Trigonometric Functions Positive and negative angles, Measuring angles in radians and in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity $\sin^2 x + \cos^2 x = 1$, for all x. Signs of trigonometric functions, domain, range and sketch their graphs. Expressing $\sin(x \pm y)$ and $\cos(x \pm y)$ in terms of $\sin x$, $\cos x$, $\sin y$ and $\cos y$.	**15**	**7**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	Deducing identities like the following: $\tan(x \pm y) = \frac{\tan x \pm \tan y}{1 \mp \tan x \tan y}$, $\cot(x \pm y) = \frac{\cot x \cot y \mp 1}{\cot y \pm \cot x}$ $\sin x + \sin y = 2 \sin \frac{x+y}{2} \cos \frac{x-y}{2}$ $\cos x + \cos y = 2 \cos \frac{x+y}{2} \cos \frac{x-y}{2}$, $\sin x - \sin y = 2 \cos \frac{x+y}{2} \sin \frac{x-y}{2}$, $\cos x - \cos y = -2 \sin \frac{x+y}{2} \sin \frac{x-y}{2}$ Identities related to sin2*x*, cos2*x*, tan2x, sin3*x*, cos3*x* and tan3*x*. General solutions of trigonometric equations of the type $\sin\theta = \sin\alpha$, $\cos\theta = \cos\alpha$ and $\tan\theta = \tan\alpha$.		
Unit-II	**ALGEBRA**	**30**	**15**
	1. Complex Numbers and Quadratic Equations Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve some of the quadratic equations. Algebraic properties of complex numbers. Argand plane, polar representation of complex numbers, modulus, argument. solution of quadratic equation in complex number system. **2. Linear Inequalities** Linear inequalities. Algebraic solutions of linear inequalities in one variable and modulus function and their representation on the number line. Graphical solution of linear inequalities in two variables. **3. Permutations and Combinations** Fundamental principle of counting. Factorial n $(n!)$. Permutations and combinations, derivation of formulae for ${}^{n}P_{r}$ and ${}^{n}C_{r}$ and their connections, simple applications.	**13** **5** **12**	**6** **4** **5**
Unit-III	**CALCULUS**	**25**	**10**
	1. Limits and Derivatives Intuitive idea of limit. Limits of polynomials and rational functions, trigonometric, exponential and logarithmic functions. Derivative introduced as rate of change both as that of distance function and geometrically. Definition of derivative, relate it to scope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.		

SEMESTER – II

SUBJECT: MATHEMATICS (MATH)

FULL MARKS: 40 **CONTACT HOURS: 80 HOURS**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit-I	**ALGEBRA**	**35**	**15**
	1. Principle of Mathematical Induction Process of the proof by induction motivating the application of method by looking at natural numbers as the least inductive subset of real numbers. The principle of mathematical induction and simple applications.	**7**	**3**
	2. Binomial theorem History, Statement and proof of the binomial theorem for positive integral indices. Pascal's Triangle, General and middle term in Binomial expansion, Simple applications.	**13**	**6**
	3. Sequence and series Sequence and series. Arithmetic Progression (A.P.), Arithmetic Mean (A.M.), Geometric Progression (G.P.), Geometric Mean (G.M,) relation between A.M. & G.M., Arithmetic-Geometric Progression Series (AGP series), infinite G.P. and its sum, sum to *n* terms of the special series $\sum x, \sum x^2$ and $\sum x^3$	**15**	**6**
Unit-II	**COORDINATE GEOMETRY (2D)**	**30**	**15**
	1. Straight lines Brief recall of two dimensional geometry from earlier classes. Slope of a line and angle between two lines. Various forms of equations of a line: Parallel to Axis, Point–slope form, slope intercept form, two point form, intercept form, distance of a point from a line.	**10**	**5**
	2. Conic sections Sections of a Cone: circle, ellipse, parabola, hyperbola, a point, a straight line and a pair of intersecting lines as a degenerated case of conic section; Standard equation of circle, general equation of circle, Standard equations and simple properties of Parabola, Ellipse and Hyperbola.	**20**	**10**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit-III	**STATISTICS AND PROBABILITY**	**15**	**10**
	1. Statistics Measures of dispersion: Range, mean deviation, variance and standard deviation of ungrouped/ grouped data	**5**	**3**
	2. Probability Random experiments, outcomes, Sample spaces (set representation), Events: Occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events, Axiomatic (set theoretic) probability, connections with other theories of earlier classes. Probability of an event, probability of 'not', 'and' and 'or' events.	**10**	**7**

[Note:20 Hours reserved for Remedial classes, Tutorials and Home Assignments.]

Course: Project for Class XI

Full Marks: 20

Projects should be conducted regularly throughout the year. A project notebook is to be prepared by each and every student where all the below mentioned activities should be recorded. There should be a project assessment once a year (once in Class XI and once in Class XII) where the student will be asked to do one of the activities and write it in his/her script provided for the purpose. The student should carry his/her project notebook during the assessment. A viva should also be conducted during the assessment to test the knowledge of the student regarding the project activity.

List of Projects for Class XI

Sl. No.	Topics	Activities
1	Sequence and Series	To illustrate that the arithmetic mean of two different positive numbers is always greater than the geometric mean.
2	Complex Number	To interpret geometrically the meaning of $i = \sqrt{-1}$ and its integral powers.
3	Trigonometric Functions	To illustrate the values of sine and cosine functions for different angles which are multiples of $\frac{\pi}{2}$ and π.
4	Theory of Sets	To show that the total number of subsets of a given set with 'n' number of elements is 2^n .
5	Theory of Sets	Theoretic Operations using Venn Diagrams.
6	Relations and Functions	To verify that for two sets A and B, $n(A \times B) = pq$ and the total number of relations from A and B is 2^{pq}, where $n(A) = p$ and $n(B) = q$.
7	Limits and Derivatives	To find analytically $\lim_{x \to c} f(x) = \frac{x^2 - c^2}{x - c}$
8	Probability	To write the sample space, when a coin is tossed once, two times, three times.
9	Conic Sections	To recognize different types of conics and its parts.
10	Permutations and Combinations	To find out the number of permutations and combinations from a set of 3 different objects taking 2 at a time.

Marks Division for the Project Assessment

Sl. No.	Item	Marks
1	Project Notebook	10
2	Doing and writing a project during the project assessment	5
3	Viva	5
	Total	**20**

CLASS - XII

SEMESTER – III

SUBJECT: MATHEMATICS (MATH)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT-I	**RELATIONS AND FUNCTIONS**	**20**	**7**
	1. Relations and Functions Types of relations: Reflexive, symmetric, transitive and equivalence relations. One-to-one and onto functions, composite functions, inverse of a function.	**10**	**4**
	2. Inverse Trigonometric Functions Definition, range, domain, principal value branches. Graphs of inverse trigonometric functions. Elementary properties of inverse trigonometric functions.	**10**	**3**
UNIT- II	**ALGEBRA**	**25**	**10**
	1. Matrices Concept, notation, order, equality, types of matrices, zero matrix, identity matrix, transpose of a matrix, symmetric and skew-symmetric matrices. Addition, multiplication and scalar multiplication of matrices; properties of addition, multiplication and scalar multiplication. Simple properties of addition, multiplication and scalar multiplication. Non-commutativity of multiplication of matrices. Existence of non-zero matrices whose product is a zero matrix (restrict to square matrices of order 2). Invertible matrices and proof of the uniqueness of inverse (if it exists). (Here all matrices will have real entries).	**15**	**6**
	2. Determinants Determinant of a square matrix (upto 3×3 matrices), properties of determinants, minors, cofactors and application of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples. Solutions of system of linear equations in two or three variables (having unique solution) using inverse of a matrix.	**10**	**4**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT-III	**CALCULUS**	**38**	**15**
	1. Continuity and Differentiability Concept of Continuity and differentiability, derivative of composite functions, chain rule, derivatives of inverse trigonometric functions, derivative of implicit functions, concept of exponential and logarithmic functions, Derivatives of logarithmic and exponential functions, Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives. **2. Application of Derivatives** Application of derivatives, Rate of change of quantities, increasing and decreasing functions, tangents and normals, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems on basic principles and real life situations.	**20** **18**	**8** **7**
UNIT-IV	**PROBABILITY**	**17**	**8**
	Conditional Probability, Multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable and its probability distribution. Mean and variance of a random variable.		

SEMESTER – IV

SUBJECT: MATHEMATICS (MATH)

FULL MARKS: 40 **CONTACT HOURS: 80 HOURS**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit-I	**VECTORS AND THREE-DIMENSIONAL GEOMETRY**	**30**	**15**
	1. Vectors Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Definition, Geometrical Interpretation, properties and application of scalar (dot) product of vectors, vector (cross) product of vectors.	**10**	**5**
	2. Three-Dimensional Geometry Introduction to 3D geometry, Coordinate axes and coordinate planes in 3D. Coordinates of a point, distance between two points, Direction cosines and direction ratios of a line joining points. Cartesian equation and vector equation of a line, skew lines, shortest distance between two lines. Angle between two lines.	**20**	**10**
Unit-II	**CALCULUS**	**40**	**20**
	1. Integrals Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts. Evaluation of simple integrals of the following types and problems based on them. $\int \frac{dx}{x^2 \pm a^2}$ $\int \frac{dx}{\sqrt{x^2 \pm a^2}}$ $\int \frac{dx}{\sqrt{a^2 - x^2}}$ $\int \frac{dx}{ax^2+bx+c}$ $\int \frac{dx}{\sqrt{ax^2+bx+c}}$ $\int \frac{px+q}{ax^2+bx+c} dx$ $\int \frac{px+q}{\sqrt{ax^2+bx+c}} dx$ $\int \sqrt{a^2 \pm x^2}\, dx$ $\int \sqrt{x^2 - a^2}\, dx$ $\int \sqrt{ax^2 + bx + c}\, dx$ Fundamental theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.	**20**	**9**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	2. Applications of the Integrals Applications in finding the area under simple curves, especially lines, circles/parabolas/ ellipses (in standard form only)	**10**	**6**
	3. Differential Equations Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables, solutions of homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type: $\frac{dy}{dx} + py = q$ where p and q are functions of x or constants $\frac{dx}{dy} + px = q$ where p and q are functions of y or constants	**10**	**5**
Unit-III	**LINEAR PROGRAMMING**	**10**	**5**
	Introduction, related terminology such as constraints, objective function, optimization, graphical method of solution for problems in two variables, feasible and infeasible regions (bounded or unbounded), feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).		

[Note:20 Hours reserved for Remedial classes, Tutorials and Home Assignments.]

Course: Project for Class XII

Full Marks: 20

Projects should be conducted regularly throughout the year. A project notebook is to be prepared by each and every student where all the below mentioned activities should be recorded. There should be a project assessment once a year (once in Class XI and once in Class XII) where the student will be asked to do one of the activities and write it in his/her script provided for the purpose. The student should carry his/her project notebook during the assessment. A viva should also be conducted during the assessment to test the knowledge of the student regarding the project activity.

List of Projects for Class XII

Sl. No.	Topics	Activities
1.	Relations and Function	To verify that the relation R in the set L of all straight lines in a plane, defined by $R = \{(l, m): l \parallel m\}$ is an equivalence relation,
2.	Relations and Function	To demonstrate a function which is one-one but not onto.
3.	Relations and Function	To demonstrate a function which is not one-one but onto.
4.	Differential Calculus	To find analytically the limit of a function $f(x)$ at $x = c$ and also to check the continuity of the function at that point.
5.	Differential Calculus	To verify that amongst all the rectangles of the same perimeter, the square has the maximum area.
6.	Differential Calculus	To understand the concepts of absolute maximum and minimum values of a function in a given closed interval through its graph.
7.	Three-Dimensional Geometry	To explain the concept of octant by three mutually perpendicular planes in space.
8.	Three-Dimensional Geometry	To measure the shortest distance between two skew lines and verify it analytically.
9.	Probability	To explain the computation of conditional probability of a given event A, when event B has already occurred, through an example of throwing a pair of dice.
10.	Linear Inequalities	To verify that a given inequality of the form $ax + by + c < 0$, $a, b > 0$, $c < 0$ represents only one of the two half planes.

Marks division for the Project Assessment

Sl. No.	Item	Marks
1.	Project Notebook	10
2.	Doing and Writing a project during the project assessment	05
3.	Viva	05
	Total	**20**

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASSES XI AND XII

SUBJECT : MUSIC (MUSC)

CLASS - XI

SEMESTER – I

SUBJECT: MUSIC (MUSC)

FULL MARKS : 20 **CONTACT HOURS : 25 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit I : Hindustani Sangeet	1. Knowledge of Ragas : i. Yaman ii. Bhairab iii. Jaunpuri iv. Khamaj 2. Knowledge of Taals : i. Dadra ii. Kaharba iii. Tritaal iv. Ektaal v. Chowtaal vi. Jhamptaal vii. Teora Taal 3. Knowledge of Hindustani Notation System. 4. Musical instruments and their different types (with examples).	13	12
Unit II : Rabindra Sangeet	1. Seasonal Song of Rabindranath 2. Composition of Rabindranath at his early stage of life.	06	04
Unit III : Bangla Gaan	1. Musical contribution of Meerabai, Tulsidas, Lalan Fakir. 2. Origin, subject matters and characteristic of Bhatiali and Sari gaan.	06	04

CLASS - XI

SEMESTER – II

SUBJECT: MUSIC (MUSC)

FULL MARKS : 30 **CONTACT HOURS : 55 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit I : Hindustani Sangeet	1. A brief overview of Vedic Music. 2. Concept of Dhrupad and its four brand stylistic variants (vanis or banis). 3. Musical contribution of Mian Tansen, Ustab Allauddin Khan, Pt. V.N. Bhatkhande. 4. Definitions of Naad, Swara, Shruti, Taal, Matra. 5. According to Hindustani Notation System, Write down the notation of Sthayee portion of a Drut Khayal in any Raga of the syllabus.	20	14
Unit II : Rabindra Sangeet	1. Musical atmosphere of Thakurbari. 2. Contribution of music Gurus in Rabindranath's childhood. 3. Influence of Provincial and Western tune on Rabindra Sangeet. 4. Content of Rabindra Geetinatya.	18	09
Unit III : Bangla Gaan	1. Brief idea of Brahma Sangeet 2. Musical contribution of Dwijendralal Roy and Gyan Prakash Ghosh. 3. Brief discussion of Kabigaan, Akhrai, Haf. Akhrai, Panchali, Tarja etc.	17	07

Regarding Practical syllabus, maximum stress is to be given in Semester I as theory syllabus is comparatively less in Semester I.

CLASS: XI

SUBJECT : MUSIC (MUSC)

COURSE CODE : PRACTICAL

FULL MARKS : 50 **CONTACT HOURS : 100 HOURS**

Group A : 18 marks, Group B : 10 marks, Group C : 16 marks, VIVA VOCE : 06 marks

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Group - A	1. Vocal : KHAYAL : Both Vilambit and Drut in Ektaal and Tritaal respectively. At least two Vilambit Khayals in the following Ragas : i. Yaman ii. Bhairab iii. Jaunpuri iv. Khamaj OR INSTRUMENTAL : Both Mashidkhani and Rejakhani Gat in Trital in the above mentioned Ragas. 2. Any one Dhrupad with dwigun laya in the above mentioned Ragas. OR INSTRUMENTAL : a "DHUN" on any one of the ragas mentioned below : i. Bhairabi ii. Kafi	40	7 + 5 = 12 06
Group - B Rabindra Sangeet	1. Based on provincial and western tune. 2. Of different characters of Paryayas. 3. A part of any one Drama based on songs only (Geetinatya).	30	5 + 5 = 10
Group - C	1. Other types of Music : i. Bhajan of Meerabai or Tulsidas ii. Brahma Sangeet or Lalan Geeti iii. Songs of Dwijendralal Roy, Sachin Deb Barman, Gyanprakash Ghosh, Himangshu Dutta [any two]. iv. Puratani Bangla Gaan or Bhatiali/ Sari Gaan. 2. VIVA VOCE : i. Identification of Ragas. ii. Identification of Taals – Tritaal, Choutaal, Ektaal (Dwimatrik & Trimatrik), Dadra, Kaharba, Teora taal, Jhamptaal	30	4 + 4 + 4 + 4 = 16 3 + 3 = 6

[Note : 20 Hours reserved for Remedial classes, Tutorials and Home Assignments.]

CLASS - XII

SEMESTER – III

SUBJECT: MUSIC (MUSC)

FULL MARKS : 20 **CONTACT HOURS : 25 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit I : Hindustani Sangeet	1. Knowledge of Ragas : i. Kedar ii. Bhairabi iii. Brindabani Sarang iv. Purbi 2. Knowledge of Taals : i. Dadra ii. Kaharba iii. Tritaal iv. Ektaal v. Chowtaal vi. Jhamptaal vii. Teora Taal 3. Description and function of the following instruments : i. Harmonium ii. Tanpura iii. Tabla – Bayan	11	10
Unit II : Rabindra Sangeet	1. Knowledge of Akar Matrik Notation System. 2. Rabindra Sangeet based on different styles and the taals created by Rabindranath Tagore. 3. Rabindranath and Geetanjali.	07	06
Unit - III : Bangla Gaan	1. Musical contribution of Kabir, Brahmananda and Ramprasad Sen	07	04

CLASS - XII

SEMESTER – IV

SUBJECT: MUSIC (MUSC)

FULL MARKS : 30 **CONTACT HOURS : 55 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Unit I : Hindustani Sangeet	1. Definition of Raga and its salient features. 2. Origin and development of taal. 3. Musical contribution of Amir Khusro, Ustad Sadarang, Sri Krishna Narayan Ratanjankar. 4. Definitions of Grama, Murchhana, Alankar, Laya and Layakari.	20	14
Unit II : Rabindra Sangeet	1. According to Akar Matrik Notation System, write down the notation of Sthayee portion of a Rabindra Sangeet from the syllabus. 2. Context of Rabindra Nrityanatya 3. Influence of Classical Music, Baul, Kirtan on Rabindra Sangeet. 4. Brief idea of Bhanusingher Padabali.	18	09
Unit - III : Bangla Gaan	1. Musical contribution of Swami Vivekananda, Atulprasad Sen, Rajanikanto Sen and Kazi Nazrul Islam. 2. Origin and characteristic features of Baul or Kirtan Gaan. 3. Discussion on practice of traditional Yatra, Theatre in Bengal. 4. Brief idea of Shaktapadabali.	17	07

Regarding Practical syllabus, maximum stress is to be given in Semester III as theory syllabus is comparatively less in Semester III.

CLASS: XII

SUBJECT: MUSIC (MUSC)

COURSE CODE : PRACTICAL

FULL MARKS : 50 **CONTACT HOURS : 100 HOURS**

Group A : 18 marks, Group B : 10 marks, Group C : 16 marks, VIVA VOCE : 06 marks

UNIT NO.	TOPICS	CONTACT HOURS	MARKS
Group - A	1. Vocal : KHAYAL : Both Vilambit and Drut in Ektaal and Tritaal respectively. At least two Vilambit Khayals in the following Ragas : i. Bhairabi ii. Kedar iii. Brindabani Sarang iv. Purbi OR INSTRUMENTAL : Both Mashidkhani and Rejakhani Gat in Tritaal in the above mentioned Ragas. 2. Any one Dhrupad with dwigun laya in the above mentioned Ragas. OR INSTRUMENTAL: a DHUN on any one of the ragas mentioned below : i. Khamaj ii. Pilu	40	7 + 5 = 12 06
Group - B Rabindra Sangeet	1. Based on Dhrupadanga, Dhamaranga, Khayalanga, Kirtananga, Baulanga style [any two]. 2. Based on the taals created by Rabindranath Tagore. 3. A part of any one 'Dance- Drama' (Nrityanatya).	30	5 + 5 = 10
Group - C	1. Other types of Music : i. Bhajan (either Kabir or Brahmananda) or Ragpradhan Gaan. ii. Song of Swami Vivekananda or Ramprashadi Gaan or Drama Song by Girish Ghosh. iii. Song of Atulprasad Sen, Rajanikanto Sen, Kaji Nazrul Islam, Gouriprasanna Majumdar, Salil Chowdhury [any two]. iv. Kirtan Gaan (Padakarta – Vidyapati/ Chandidas/ Govindadas) or Baul Gaan. 2. VIVA VOCE : i. Identification of Ragas. ii. Identification of Taals. Taal created by Rabindranath Tagore including taals mentioned in the syllabus of class XI.	30	4 + 4 + 4 + 4 = 16 3 + 3 = 6

[Note : 20 Hours reserved for Remedial classes, Tutorials and Home Assignments.]

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII

SUBJECT : NUTRITION (NUTN)

NUTRITION

Scope and Overview of the Subject

Nutrition as a subject addresses diverse disciplines including both theoretical and practical approaches in the field of Food and Nutrition, Diet and disease care, Food Safety and Hygiene, Food Service Management and Public Health Care including community Nutrition on a larger scale .The subject provides ample scope for professional avenues of Higher Education and career opportunities as an Academician (Research Scholar/Professor / Teacher)/ Dietitian / Nutritionist / Public Health Professional (NGO)/ Food Analyst / Health Advisor /ICDS Worker / Health educator in various institutes and organization .

Course objective/ Learning Objective: The Nutrition Curriculum at Senior Secondary level under the West Bengal Council of Higher Secondary Education has been framed to enable the learners to

- Acquaint them with basic knowledge and understanding of the subject matter which will act as a foundation for higher studies in Nutrition like BSc (Food and Nutrition/ Nutrition Management), Vocational courses like BSc Clinical Nutrition and Dietetics and other related diploma and short term courses of various Universities.
- Apply the basics of Nutrition both theoretical and practical field in their future courses related to the subject like Nutrition Advisor/ Consultant Nutritionist/ Dietitian /Health Educator etc.
- Prepare for a diverse field of opportunities apart from the core subject like related fields of Nursing and GNM courses, OT Technician, ICDS worker etc.
- Develop functional skills in the learners for their domain of career and employment in this field.
- Be enriched and equipped for higher studies in the related field.
- Appreciate the discipline for professional career.

Course Outcome / Learning Outcome: After undertaking the course the students will be able to;

- Apply the basics of Nutrition with respect to health of self , community and society
- Utilize the knowledge and skills learnt in Nutrition Management and Food Science.
- Be sensitized to the different aspects of Nutrition as a subject and take informed career choices related to it.
- Inculcate healthy Food habits and life style enable prevention of and management of diseases.
- Relate to various topics of other interdisciplinary subjects like Chemistry and Biological Sciences and Human Development.

CLASS XI NUTRITION SEMESTER I

Course Type: Theory Class XI

Full marks: 35 **Total Theory Contact hours: 60**

UNIT	CHAPTERS/TOPICS	CONTACT HOURS	MARKS
Unit I **I.INTRODUCTION TO FOOD, NUTRITION AND HEALTH.**	**I. <u>Basic concept of Food , Nutrition, Nutrients andNutrition Science</u>** ▪ Food –definition, components of food, ▪ Classification of food according to physiological functions performed, components in it and source of origin. ▪ Social and Psychological functions of food ▪ Nutrients -definition, types –macro and micronutrients in food ▪ Proximate and protective principles of food ▪ Energy from food and calorie concept ▪ Standard food, adequate food and Balanced diet. ▪ Nutrition –definition, five phases of Nutrition in body (outline only ,detail to be discussed in later units) ▪ Relation between Food and Nutrition. ▪ Nutrition Science and its application (elementary idea) **II. <u>Concept of Health inrelation to Nutrition</u>** ▪ Health –definition, dimensions of health –namely physical, mental and social, positive health Indicators. ▪ Malnutrition as a health disorder – definition, causes of malnutrition in India ▪ Classification of Malnutrition – Over, Under and Imbalance.	**10** **10**	**10**

	▪ Specific deficiency disorders (outline only ,details to be covered in later units) ▪ Nutritional Status-concept and methods of assessment of Nutritional status namely – Anthropometric, Biochemical, Clinical, Diet Survey etc. ▪ Biophysical examination, Functional assessment and use of growth chart for assessment of Nutritional Status.		
Unit II **MACROMOLECULES IN NUTRITION**	**Chapters:** **I. <u>Carbohydrates in Nutrition :</u>** ▪ Basic concept of Carbohydrates as compounds of carbon, definition. ▪ Dietary sources and daily requirements ▪ Structural Classification of carbohydrates based on simple sugar units in them (elementary concept) ▪ Chemical structure of Hexoses (Glucose and Fructose straight chain only) and basic concept of isomer. ▪ Monosaccharaides –(Glucose, Fructose and Galactose only) ▪ Concept of ketohexose, aldohexose, reducing and non-reducing sugar with examples. ▪ Elementary idea of Polymer and monomer ▪ Disaccharides and their products on hydrolysis (elementary concept) ▪ Polysaccharides (elementary concept, chemical structure not required) ▪ Physiological functions of carbohydrates. ▪ Dietary Fiber types and its role in health	**15**	**25**

	▪ Effect of excess and deficiency of carbohydrates in humans. **II. <u>Proteins in Nutrition :</u>** ▪ Protein definition. ▪ Amino acids –definition, Amino acids as structural units of Protein. ▪ General structural formula of amino acids, peptide bond and formation of dipeptide. ▪ Protein precipitation ,coagulation (denaturation) ▪ Nutritional classification of amino acids- Essential and non-essential amino acids ▪ Dietary sources and daily requirements ▪ Classification of proteins according to source of origin, structure and nutritive quality. ▪ Vegetable protein Vs. Animal protein ▪ Physiological functions of protein ▪ Deficiency and excess intake effects ▪ Nitrogen Balance(Elementary concept) Assessment of protein quality-PER, DC, BV, NPU and chemical score (elementary concept), Reference protein. **III. <u>Fats and oils in Nutrition :</u>** ▪ Fats definition, dietary sources, daily requirement ▪ Chemical structure of Fat (as a compound of fatty acid and glycerol) ▪ Chemical properties of Fat namely Saponification, Hydrolysis, Hydrogenation, Rancidity. ▪ Physiological functions of Fat ▪ Classification of fats according to dietary sources, visibility , state at room temperature and chemical structure (elementary) ▪ Vegetable oil vs. Animal Fats	**15** **10**	

	▪ Fatty acids as component of fat molecules (Elementary concept of the following)Nutritional classification of fatty acids- Essential Fatty Acids (EFA),Saturated Fatty acids(SFA), Unsaturated Fatty Acids (UFA).Poly Unsaturated Fatty Acids (PUFA) omega 3 and 6 –nutritional significance , Mono Unsaturated Fatty Acids (MUFA),Trans fatty acids ▪ Cholesterol-types in serum (elementary concept), normal serum level of total Cholesterol. Effect of excess level.		

Semester I:

CLASS TYPE	CONTACT HOURS
Theory Classes	60
Practical Classes	40
Remedial /Tutorial/Home Assignments	10
TOTAL	110

CLASS XI NUTRITION SEMESTER II

Course type: Theory Class XI

Full marks: 35 **Theory Contact Hours: 60**

UNIT	CHAPTERS / TOPICS	CONTACT HOURS	MARKS
Unit I **MICROMOLECULES IN NUTRITION I**	**I. Vitamins in Nutrition: Basic concept :** ▪ Vitamins definition ,history of term vitamin ▪ Elementary concept and examples of Antivitamin, Provitamin, Pseudo vitamin, Avitaminosis, Hypervitaminosis. ▪ Characteristic features of vitamins (elementary). ▪ Classification of Vitamins based on solubility, Difference between fat and water soluble vitamins. **II. Vitamins (Fat soluble) :** ▪ Fat soluble vitamins –A,D,E,K- elementary concept of their chemical name, dietary sources, daily requirements ,physiological functions , deficiency symptoms / diseases and excess intake effects . (Deficiency diseases to be detailed in later semesters). **III. Vitamins (Water soluble)and new concept of neutraceuticals :** ▪ Water soluble vitamins –B complex ,Vit C- elementary concept of their chemical name, dietary sources, daily requirements, physiological functions, deficiency symptoms / diseases and excess intake effects (Deficiency diseases to be detailed in later semesters) ▪ Current application of Nutritionin health sciences: Elementary	1 8 12	9

	concept of Antioxidants, Phytochemicals, Nutraceuticals, Prebiotics and Probiotics, Functional foods		
UNITII: MICROMOLECULES IN NUTRITION II	**Chapters:** **I. Minerals inNutrition:** ▪ Minerals definition, Macro and Microelements /trace elements elementary concept ▪ Macro elements –Calcium, Phosphorous, Magnesium, Sodium and Potassium –their dietary sources, daily requirements, Bioavailability (Ca only),physiological functions and deficiency symptoms ,effects of excess intake (Deficiency diseases to be detailed in later semesters) ▪ Micro elements –Iron, Iodine ,Fluorine and Chlorine - their dietary sources, daily requirements, Bioavailability (Fe only),physiological functions and deficiency symptoms ,effects of excess intake (Deficiency diseases to be detailed in later semesters) **II. Water in health andNutrition :** ▪ Role of water in human physiology ▪ Water Balance and daily water intake amount ,thirst center of brain ▪ Nervous, endocrine and renal mechanism of water balance regulation(outline and elementary concept only) ▪ Effect of positive and negative water balance	**10** **2**	**11**

Unit III: MEAL PLANNING AND FOOD GROUPS	**Chapters:** **I. Meal planning:** ▪ Meal planning concept, aims and objectives ,principles and the governing factors of meal planning ▪ Steps in meal panning (outline concept only) ▪ Advantages of Meal planning ▪ Adult Consumption Unit or Man Value **II. Food Groups and Commodities :** ▪ Basic food groups highlighting ICMR 2010 Classification. ▪ Food Pyramid and its role in Balanced Diet ▪ Plate method (My plate of the day) for balanced diet concept ▪ Food Commodities in food groups and only brief idea of their nutritive value namely: Cereals and Millets, Pulses and Legumes, Soya bean, Fruits and Vegetables ,Milk and Milk products, Poultry ,Egg, Meat ,Fish Nuts , Oilseeds, Sugar andJaggery, Honey. ▪ Low cost balanced diet. ▪ Vegetarianism and its types.	**2** **10**	**7**
Unit IV: MEAL PREPARATION AND DAILY ALLOWANCES FOR INDIANS	**Chapters:** **I. Meal preparation** ▪ Cooking –objectives, need and advantages ▪ Different methods of cooking – their process, temperature involved and advantages. ▪ Effect of cooking on different nutrients ▪ Precautions for prevention of loss of nutrients while cooking or pre preparationof food. ▪ Means to increase nutritive value of food	**5**	**8**

	▪ Process of preparation of the following with retention of proper nutritive value: Rice, vegetables, meat , fish and egg ▪ Kitchen Sanitation and Kitchen garden-it's utility. **II. <u>Balanced diet for different age groups :</u>** ▪ Balanced Diet concept, RDA for Indians – 2020 (NIN), concept of EAR (NIN 2020) latest updated values. ▪ Rules for preparing a balanced diet and Nutritional allowances in different age groups namely(elementary concept only) : a. Adult nutrition (Reference Man and Women) b. Preschoolers nutrition c. Nutrition for School going children and packed lunch, d. Adolescent nutrition and their feeding problem like Anorexia and Bulimia Nervosa ,use of junk food, fast food- ill effects e. Geriatric nutrition	**10**	

Semester II:

CLASS TYPE	CONTACT HOURS
Theory Classes	60
Practical Classes	20
Remedial /Tutorial/Home Assignments	10
TOTAL	90

Total Teaching Learning Contact Hours in each academic year inclusive of theory, practical and remedial sessions = (110 hours in Semester I and 90 hours in Semester II)=200 contact hours.

NUTRITION CLASS XI (PRACTICAL GUIDELINES)

FULL MARKS: 30 **Contact Hours: 60**

Sub Topics:-

1.	**Unit I: Nutrition and Health(Investigatory project)** 1. Assessment of Nutritional Status of school going children using any two anthropometric measurements (like Height, Weight ,BMI etc.) and clinical symptoms.
2	**UNIT II: Macromolecules in Nutrition :** 1. Detection of presence of the following nutrients in supplied food sample through physical observation and chemical tests • Carbohydrates (mono, di and polysaccharide –starch only) • Protein (albumin only) • Fats
3.	**UNIT III: Meal preparation from Food Commodities:** 1. Measurement of food commodities: Measurement of actual weight and estimated approximate household weight of common food stuffs. 2. Meal preparation and calculation of nutritive value of the item prepared : ▪ Preparation of any 2 food items from cereals or millets like i. Rice/Semolina porridge ii. Poushtik roti or Paratha with cereals and vegetables or channa or legumes . iii. Sooji upma or cheera (poha), iv. Oats porridge or Oats chilla with vegetables, v. Multi millet brown bread sandwich or roti from millet mix etc. ▪ Preparation of any 2 food items using milk or eggs like i. Cottage Cheese or pudding or porridge(payesh) ii. Egg nog or egg poach or omlettee or egg sandwich etc ▪ Preparation of nutritious fibre and micronutrient rich school tiffin. [like Roti sabji or Sabji Paratha or VegetableSandwich or Vegetable pan cake or fruit chat etc] **OR** ▪ Preparation of protein and fibre rich snack for Pregnant mother[like soya chana ghugni or chana chat or egg veg sandwich or Moong chilla with vegetables etc]

	QUESTION PATTERN : 1. Investigatory project on Nutritional Status 06 2. Macromolecules in nutrition : Nutrient detection in food 08 3. Meal Preparation from food commodities 08 4. Laboratory Note book 05 5. Viva 03 TOTAL MARKS 30

CLASS XII NUTRITION SEMESTER III

Course type: Theory Class XII

Full marks: 35 **Theory Contact Hours: 60**

UNIT	TOPIC/ CHAPTERS	CONTACT HOURS	MARKS
UNIT I: NUTRITIVE PHASE OF DIGESTION AND ABSORBTION	**CHAPTERS:** **I. <u>BIOCHEMICAL AND BIOPHYSICAL ASPECTS IN NUTRITION :</u>** ▪ Enzyme-definition and examples, characteristic features and enzyme activity, primary concept of coenzyme, cofactor, prosthetic group, Apo-enzyme, holoenzyme, regulatory enzyme. Types of enzyme with special reference to digestive and metabolic enzymes ▪ Various biophysical process related to absorption : diffusion, osmosis, facilitated diffusion, active and passive transport (elementary concept with examples) **II. <u>BREAKDOWN OF FOOD : DIGESTION AND ABSORPTION</u>** ▪ Alimentary system and parts of alimentary canal (elementary concept) ▪ Digestion -process , site , digestive juices their source, components and functions namely- saliva, gastric juice, pancreatic juice, succus entericus and bile. ▪ Digestion and absorption of carbohydrates, proteins and fats.	**4** **15**	**12**
UNIT II NUTRITIVE PHASE OF METABOLISM	**I. <u>UTILISATION OF FOOD :METABOLISM OF CARBOHYDRATES PROTEIN AND FATS :</u>** ▪ Metabolism meaning and types ▪ Carbohydrate metabolism with special reference to Cori cycle and blood sugar regulation role of hormones,	**20**	

	hypoglycemia and hyperglycemia, glycosuria. ▪ Aerobic breakdown of Carbohydrates namely glycolysis and TCA Cycle, glycogenolysis. ▪ Anabolism of carbohydrates Glycogenesis and Gluconeogenesis (outline concept only) ▪ Protein metabolism with special reference to amino acid pool, deamination and urea synthesis through ornithine cycle, transamination, decarboxylation and transmethylation and site of protein synthesis. ▪ Fat Metabolism elementary concept of beta oxidation only and outline concept of Ketone bodies. (all metabolic pathway in flow chart) **II. <u>ENERGY REQUIREMENT OF HUMANS AND CONCEPT OF CALORIE :</u>** ▪ Calorie concept, measurement of calorie value of food and energy requirement of humans(elementary and outline concept) ▪ Physiological fuel value of food, SDA. ▪ BMR and factors controlling it. ▪ Reference man and woman. ▪ Energy requirement during rest and different physical activities and physiological conditions. (as per ICMR 2020)	**5**	**13**
UNIT III FOOD SAFETY AND SANITATION	**I. <u>SPOILAGE OF FOOD AND FOOD POISONING :</u>** ▪ Classification of food according to shelf life ▪ General idea of common microorganisms in different foods. ▪ Causes of food spoilage ▪ Common Food poisoning (elementary concept -their causes/sources, symptoms and preventive measures	**6**	

	only.) like *Salmonella*, Rota virus, Coliform, *Clostridium* and streptococcal poisoning. **II. <u>FOOD SAFETY AND PRESERVATION :</u>** ▪ Food sanitation practices, rules for food safety –HACCP, FSSAI (origin and significance), CODEX ALIMENTARIUS. ▪ Food preservation methods –concept, objectives and advantages of different food preservation methods. ▪ Household methods like freezing, drying, blanching etc. ▪ Commercial methods like aseptic canning, milk preservation through pasteurization, smoking of fish, irradiation ▪ Preservation using chemicals, sugar, salt, oil and spices. Concept of Class I and Class II preservatives (examples only). ▪ Primary concept of few common food additives. ▪ Food Adulteration (elementary idea) PFA Act, origin of ISI and AGMARK (in brief)	**10** **10**	**10**

SEMESTER III

CLASS TYPE	CONTACT HOURS
Theory Classes	60
Practical Classes	40
Remedial /Tutorial/Home Assignments	10
TOTAL	110

NUTRITION

CLASS XII SEMESTER IV

Course type: Theory

Full marks: 35 Theory Contact Hours: 60

UNIT	TOPIC/CHAPTERS	CONTACT HOURS	MARKS
UNIT I: DIETETICS AND DIET PLANNING	**CHAPTERS:** **I. NUTRITION IN PREGNANCY AND LACTATION** ▪ Elementary concept of pregnancy as a physiological demanding condition, complications and symptoms ▪ Nutritional allowances and balanced diet for pregnant women. ▪ Nutritional allowances and balanced diet for lactating mothers. **II. NUTRITION FOR INFANTS** ▪ Breast feeding – Colostrum and mature milk; their composition and significance in growth and development of infants. ▪ Top Milk (Elementary idea), Breast feeding vs. artificial feeding. ▪ Nutritional allowances for infants, Concept of weaning, need and types of weaning foods. ▪ Malting of food , Multipurpose food and Bal Ahar ▪ Feeding problems of Infants and defective feeding practices in relation to malnourishment **III. DIET THERAPY IN FEW COMMON DISEASES:** ▪ Dietetics and Diet Therapy concept and objectives ▪ Modification of Normal Diet to a Therapeutic diet (elementary concept of change in feeding technique, consistency and constituents) ▪ Elementary concept of Diet in metabolic and life style disorders like: Diabetes, Hypertension, Obesity, Coronary Heart Disease - Angina, Myocardial Infarction , Ischemia and Atherosclerosis, Gout, Febrile	**5** **10** **25**	**19**

	condition (inclusive of Typhoid and Tuberculosis) and Cancer (outline, risk factors and basic dietary principle only) ▪ Elementary concept of Diet in Gastric Disorders like: Peptic Ulcer, Diarrhea, Constipation, Celiac disease and IBS only ▪ Elementary concept of Diet in Renal Disorders like Acute and Chronic Nephritis , Renal stone ▪ Elementary concept of Diet in Liver and Gall Bladder diseases likes Jaundice and Viral Hepatitis, Cholecystitis and Cholelithiasis only.		
UNIT II: NUTRITION FOR THE COMMUNITY	**Chapters:** **I. COMMON DEFICIENCY DISEASES OF INDIA AND NATIONAL NUTRITIONAL PROGRAMMES TO COMBAT IT:** ▪ PEM, types, prevention and treatment ▪ Vitamin A deficiency and NAPPNB ▪ Nutritional Anemia and NNAPP ▪ Iodine deficiency Disorder and NIDDCP ▪ Other common vitamin related disorders like Osteoporosis, Osteomalacia, Rickets and Scurvy. ▪ National Diarrhoeal Disease Control Programme (NDDCP). **II. SUPPLEMENTARY FEEDING PROGRAMMES AND ORGANISATIONS TO COMBAT MALNUTRITION:** ▪ Relation between RDA, RDI and Supplementary feeding ▪ ICDS , MDMP (Poshan Abhigyan / Pradhan Mantri Poshan Shakti Nirman Scheme ▪ National Food Security Act (outline) ▪ Role of national and international organizations in combating malnutrition like i. FAO,WHO,UNICEF only ii. ICMR, NIN , NNMB, FNB,CINI and CFTRI only. **III. NUTRITION EDUCATION FOR THE COMMUNITY :** ▪ Nutrition education concept: objectives and principles. ▪ Centers and aids for nutrition education ▪ Methods of Nutrition Education.	**8** **8** **2**	**16**

	▪ Cooking demonstration as an effective tool for nutrition education. **IV. <u>NUTRITIVE VALUE OF FOODS :</u>** ▪ Use of food exchange list. ▪ Calculation of nutritive value of food using food value table.	**2**	

Semester IV

CLASS TYPE	CONTACT HOURS
Theory Classes	60
Practical Classes	20
Remedial /Tutorial/Home Assignments	10
TOTAL	90

NUTRITION CLASS XII (PRACTICAL)

FULL MARKS: 30 **Practical Contact Hours: 60**

Sub Topics:-

1	**Unit I: Food Safety and Sanitation :** Identification of common adulterants in food (any four to be done)through DART (Detect Adulteration with Rapid Test) method. i. Khesari powder in Besan (Chana flour) ii. Metanil Yellow in Turmeric powder / coloured food items iii. Iron dust in Tea leaves iv. Starch in Milk or Milk Powder v. Vanaspati in Butter vi. Brick powder in chilli powder
2	**UNIT II Dietetics and diet planning :** Preparation of food item or meal item for the following conditions or diseases and calculation of nutritive value of the item prepared. i. Balanced meal item for pregnant or lactating mother ii. High Protein high calorie febrile diet iii Low residue low fiber diarrhoeal diet iv. High Fibre low calorie diet for Obese person
3	**UNIT III: Community Nutrition (Investigatory/Activity based Project any one from below)** Visit to different Institutions/ Centre's /Units and report submission based on activities watched (any 1 to be selected by the teacher) ▪ Hospital or Nursing Home Dietetic Unit ▪ Primary or Rural Health Care Centre ▪ ICDS Centre ▪ Food Processing Unit/ industry ▪ Dairy Farm ▪ Mid Day Meal Programme in School **OR** Health and Nutrition Education given in urban slums or rural area / village on any topic of choice using Health Education Aids
	QUESTION PATTERN : 1. Community nutrition: Investigatory or activity based project 06 2. Food Safety : Adulterant detection in food 06 3. Dietetics and Diet Planning: Meal preparation and calculation of Nutritive value 10 4. Laboratory Note book 05 5. Viva 03 TOTAL MARKS 30

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII
SUBJECT : PHILOSOPHY (PHIL)

Aims and Objectives of the Proposed Curriculum

General Objectives :

- To prepare young minds to become constructive thinkers and responsible citizens.
- To impart an education that enables them to be capable of meaningfully contributing to a society that understands the environment and imbibes the ideals of sustainable development
- To impart an education that is not a mere collection of facts but is a tool that helps the student to find his or her status in society and life in general
- To impart an education that helps students in their character-building so that they embody empathetic social concerns and
- To ensure parity with the key ideals of NEP-2020, SEP-2023 as well as the CBSC curriculum
- To generate informative and intuitive knowledge as well as ensure skill development and analytical ability.
- To develop a mind oriented towards research and innovation.
- To develop social and ethical values in students
- To prepare students for the College /University entrance examination for higher education as well as different competitive exams

Subject-specific Objectives :

- Develop a foundational philosophical understanding of key issues relating to epistemology, metaphysics, logic, and ethics and take informed actions after identifying the assumptions that frame our thinking and actions
- Develop a foundational understanding of Classical Indian Philosophy as well as Western Philosophy
- Develop interest and basic knowledge of some key modern Indian philosophers
- Develop critical thinking abilities

CLASS - XI

SEMESTER – I

SUBJECT : PHILOSOPHY (PHIL)

FULL MARKS : 40 **CONTACT HOURS : 100 Hours**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 1 Introduction to Indian Philosophy	1. দর্শন শব্দের অর্থ (The meaning of the term *Darśana*)	3	2
	2. ভারতীয় দর্শন সম্প্রদায়গুলির শ্রেণীবিভাগঃ সংক্ষেপে (Classification of Indian Philosophical System: in brief)	8	3
	3. জ্ঞানলাভের ছয়টি পদ্ধতি – প্রমাণ সম্পর্কে ভারতীয় তত্ত্বসমূহ (Six ways of knowing – Indian theories of *pramāna*)	10	3
	4. চার্বাক কর্তৃক অনুমান প্রমাণ খণ্ডন (Refutation of inference by *Cārvāka*)	5	3
	5. ন্যায়সম্মত প্রত্যক্ষের লক্ষণ (*Nyāya* definition of *pratyakṣa* or perception)	6	3
	6. নির্বিকল্পক ও সবিকল্পক প্রত্যক্ষের পার্থক্য (Distinction between determinate & indeterminate perception)	6	3
	7. ন্যায় দর্শনের অনুমান সম্পর্কে বক্তব্য (*Nyāya* theory of inference): • অনুমিতির লক্ষণ (Definition of *anumiti*) • পক্ষ, সাধ্য ও হেতুর ধারণা (The concepts of *pakṣa, sādhya, hetu*) • ব্যাপ্তির স্বরূপ (The nature of *vyāpti*)	5 9 6	2 2 3

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 2 Introduction to Western Philosophy	1. দর্শনের স্বরূপ ও শাখাসমূহ (Nature and branches of Philosophy) 2. জ্ঞানের উৎসসমূহ (Sources of Knowledge)	10	6
	a. অভিজ্ঞতাবাদ -লক, বার্কলে, হিউম (Empiricism -- Locke, Berkeley, Hume)	16	5
	b. বুদ্ধিবাদ – ডেকার্ট, স্পিনোজা, লাইবনিজ (Rationalism -- Descartes, Leibnitz, Spinoza)	16	5

CLASS - XI

SEMESTER – II

SUBJECT : PHILOSOPHY (PHIL)

FULL MARKS : 40 **CONTACT HOURS : 80 Hours**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 1 Introduction to Logic	1. যুক্তিবিজ্ঞানের প্রকৃতি – অবরোহ এবং আরোহ (The nature of Logic – Deductive and Inductive)	4	2
	2. পদ, বাক্য, বচন, পদের ব্যাপ্যতা, সত্যতা ও বৈধতা (Terms, sentences, propositions, distribution of terms, truth & validity)	6	4
	3. বাক্য থেকে বচনে রূপান্তর (Changing sentences into logical forms)	8	4
	4. বচনের বিরোধিতা (Opposition of proposition)	4	3
	5. অমাধ্যম অনুমান – আবর্তন, বিবর্তন, সমবিবর্তন (Immediate Inferences: Conversion, Obversion, Contraposition)	8 10	4 4
	6. নিরপেক্ষ ন্যায় – মূর্তি ও সংস্থান এবং বৈধতা বিচার (Categorical Syllogism: Figure & Mood)& validity testing	6	3

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	7. যৌগিক যুক্তিঃ প্রাকল্পিক ও বৈকল্পিক (Compound arguments: Hypothetical and Disjunctive)		
Unit – 2 Introduction to Ethics	1. ভারতীয় নীতিবিদ্যা (Indian Ethics): a. পুরুষার্থ (*Purusartha*) b. শ্রীমদ্‌ভগবৎ গীতা – নিষ্কাম কর্মের ধারণা (Srimadbhagavad Gita – The concept of *Niskama Karma*) c. বৌদ্ধদের অষ্টাঙ্গিক মার্গের ধারণা (Buddhist concept of Eight-fold *Margas*) d. চার্বাক সুখবাদ (Carvaka Hedonism) 2. পাশ্চাত্য নীতিবিদ্যা (Western Ethics): a. নৈতিক প্রত্যয়সমূহ – নৈতিক, অনৈতিক, নীতি-বহির্ভূত; উদ্দেশ্য ও অভিপ্রায়; ঠিক ও ভুল; ভাল ও মন্দ; ন্যায়বিচার (Ethical concepts: moral, immoral, non-moral; motive and intention; right and wrong; good and bad; justice)	4 4 6 4 8 8	2 2 2 2 4 4

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	b. নৈতিক তত্ত্বসমূহ (Theories of Ethics): Teleological & deontological Theories		

PROJECT

Suggested Topics:

1. **Distinction between Ordinary and Extra-ordinary Contact (Laukika and Alaukika Sannikarsa)**
2. **Svarthanumiti and Pararthanumiti**
3. **Realism and Its Different Forms**
4. **Idealism – Subjective Idealism of Berkeley**

Project Guideline:

Project is a piece of planned work or an activity that is finished over a period and intended to achieve a particular purpose following some steps.

1. Topic or Title of the study
2. Purpose of the study
3. Method of the study
4. Analysis and findings of the study
5. Conclusions

Reference

Preliminary pages should contain-

i. Acknowledgement ii. Certificate iii. Content page

CLASS - XII

SEMESTER – III

SUBJECT : PHILOSOPHY (PHIL)

FULL MARKS : 40 **CONTACT HOURS : 100 Hours**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 1 Introduction to Metaphysics	1. Western Metaphysics: • Substance: Descartes, Spinoza & Leibnitz – Locke, Berkeley & Hume • Causality: Regularity Theory & Entailment Theory • Mind-Body Problem: Interactionism & Parallelism 2. Indian Metaphysics: • Vedanta 1. Dvaita and Advaita Vedanta 2. Brahman and Maya	16 12 10 15	1x12=12 1x8=8
Unit – 2 Ethics & Social and Political Philosophy	Ethics 1. Kant, Mill, Bentham 2. Environmental Ethics Social and Political Philosophy Basic Concept: Society, Community, Association, Institutions, State, Law	15 12 20	1x10=10 1x10 =10

CLASS - XII

SEMESTER – IV

SUBJECT : PHILOSOPHY (PHIL)

FULL MARKS : 40 **CONTACT HOURS : 80 Hours**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 1 **Western Logic**	1. Symbolic Logic • Truth-functions – Variables, Constants, Truth-functional propositions: Negation, Conjunction, Disjunction, Material Implication, Material Equivalence • Boolean Interpretation of categorical propositions • Venn Diagram of categorical propositions • Truth-Table method of determining forms of proposition : Tautology, Self-Contradictory, Contingent 2. Inductive Logic • Nature of Induction • Causality • Mill's Method of Experimental Enquiry	6 6 8 8 6 6 10	3 2 7 4 6
Unit – 2 **Contemporary Indian** Thoughts	• Rabindranath Tagore's Humanism • Swami Vivekananda's Karma yoga • Mahatma Gandhi's Ahimsa	10 10 10	6 6 6

PROJECT

Project Topics:

1. **Vaisesika Categories (padarthas)**
2. **Ontological Arguments for the Existence of God (Western Philosophy)**
3. **The Idea of Democracy**
4. **Science and Hypothesis**

Project Guideline

Project is a piece of planned work or an activity that is finished over a period and intended to achieve a particular purpose following some steps.

1. Topic or Title of the study
2. Purpose of the study
3. Method of the study
4. Analysis and findings of the study
5. Conclusions

Reference

Preliminary pages should contain-

i. Acknowledgement ii. Certificate iii. Content page

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII
SUBJECT : PHYSICS (PHYS)

Preamble:

This Higher Secondary level Physics syllabus has been framed in such a way that it can serve as a bridge between the general physical science course taught at the secondary level and the discipline based curriculum followed at higher education. Effort has been given to make this crucial transition as smooth as possible.

The syllabus is divided into **Units** spread over two year's duration. The Units are logically so arranged that the students can gradually learn the different topics of Physics with higher degree of difficulty. Conventional topics as well as modern concepts have been included in the syllabus so that the students can cope up with the present day needs of the society committed to the use of Physics and technology. Both breadth and depth wise the syllabus is comparable with the national as well as international standards. At the same time emphasis has been given to reduce the syllabus load by eliminating overlapping contents within the subject or with other subjects.

Hope the students will enjoy learning Physics at this stage and will develop passion for the subject.

Outcome:

- The students will learn the basic physics laws and will develop conceptual understanding of the physical processes.
- Students will be able to understand and analysis the real-life events from physics point of view.
- Develop problem solving ability, experimental ability and analytical skills.
- Sufficient conceptual background of physics will be created to make the students competent to meet the requirements of academic and professional courses after the higher secondary stage.
- Interest will be developed for pursuing career in Physics.
- Inculcate scientific aptitude in the learners.

Course Structure :

Class	Semester	Contact Hours				Marks		Credit	
		Theory	Remedial Tutorial	Practical	Total	Theory	Practical	Theory	Practical
11	I	70	10	30 + (50) 20	110	35	30		
	II	60	10		90	35			
12	III	70	10	30 + (50) 20	110	35	30		
	IV	60	10		90	35			

CLASS - XI

SEMESTER – I

SUBJECT: PHYSICS (PHYS)

FULL MARKS: 35 **CONTACT HOURS: 70 Hours**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
1	**PHYSICAL WORLD AND MEASUREMENT** Physics - scope and excitement, nature of physical Law, physics technology and society. Need for measurement, units of measurement, length, mass and time measurement, accuracy and precision of measuring instruments, error in measurement, rounding off and order of magnitude, significant figures. Dimensions of physical quantities, dimensional analysis and its applications.	6	3
2	**KINEMATICS** **SUB TOPIC : MOTION IN A ONE DIMENSION AND TWO DIMENSION** Frame of reference (inertial and non-inertial frames).Motion in a straight line, position - time graph, speed and velocity. Elementary concepts of differentiation and integration for describing motion. Uniformly accelerated motion. Graphical analysis: position - time and velocity - time graph and calculation of relevant quantities Relations for uniformly accelerated motion (using graphical and calculus method). **SUB TOPIC : MOTION IN A PLANE** Scalar and vector quantities, position and displacement vectors, general vectors and their notations, equality of vectors, multiplication of vectors by a real number, addition and subtraction of vectors. Relative velocity. Unit vector, resolution of a vector in a plane - rectangular and non - rectangular components. Scalar and vector product. Motion in a plane. Cases of uniform velocity and uniform acceleration - projectile motion.	24	12
3	**LAWS OF MOTION** Intuitive concept of force. Inertia, Newton's first law of motion. Momentum and Newton's second law of motion, impulse and concept of impulsive force, Newton's third law of motion and its examples.	16	8

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	Law of Conservation of Linear Momentum and its application, concept of free body diagram and its application (simple cases). Equilibrium of concurrent forces. Static and kinetic friction, laws of friction, ideas of coefficient of friction, angle of friction and angle of repose. Rolling friction. Dynamics of uniform circular motion, centripetal force, and example of circular motion (motion of a cyclist, vehicle on level circular road, vehicle on bank road). Concept of centrifugal force.		
4	**WORK ,ENERGY AND POWER** Work done by a constant force and variable force, kinetic energy. Work - energy theorem, power. Notion of potential energy, potential energy of a spring, conservative forces, conservation of mechanical energy (kinetic and potential energies). Non-conservative forces. Motion in a vertical circle. Elastic and inelastic collisions in one and two dimensions.	**10**	**5**
5	**MOTION OF SYSTEM OF PARTICLES AND RIGID BODY** Centre of mass of a two - particle system. Momentum conservation and motion of centre of mass. Centre of mass of a rigid body (examples of simple geometrical bodies). Moment of a force, torque, angular momentum, conservation of angular momentum with examples. Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motion, moment of inertia, radius of gyration. Values of moment of inertia for simple geometrical objects (no derivation). Statement of parallel and perpendicular axis theorem and their applications.	**14**	**7**

FOR SEMESTER I

- **CONTACT HOURS FOR THEORY PART – 70 HOURS**
- **CONTACT HOURS FOR PRACTICAL PART – 30 HOURS**
- **CONTACT HOURS FOR REMEDIAL CLASSES AND TUTORIAL – 10 HOURS**

SO TOTAL CONTACT HOURS FOR 1st SEMESTER IS 110 HOURS.

CLASS - XI

SEMESTER – II

SUBJECT: PHYSICS (PHYS)

FULL MARKS: 35 **CONTACT HOURS: 60 HOURS**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
6	**GRAVITATION** The universal law of gravitation. Acceleration due to gravity and its variation with altitude, depth and rotation of earth. Kepler's laws of planetary motion. Gravitational potential energy, Gravitational potential. Escape velocity, Orbital velocity of a satellite. Geostationary satellite.	9	5
7	**PROPERTIES OF BULK MATTER** **SUB TOPIC : MECHANICAL PROPERTIES OF SOLIDS** Elastic behavior, stress - strain relationship. Hooke's law, Young's modulus(Y), bulk modulus(K), shear modulus of rigidity(η), Poisson's ratio(σ), relation between Y, K, η,σ (no derivation). Elastic energy for stretched string andextended spring. **SUB TOPIC: MECHANICAL PROPERTIES OF FLUIDS** Streamline and turbulent flow, Critical velocity. Viscosity, Newton's law of viscosity, Stoke's law, terminal velocity, Reynolds' number. Bernoulli's theorem and its applications. Surface energy and surface tension, angle of contact, excess of pressure, application of surface tension, ideas to drops, bubbles. Capillary rise and fall (no derivation, only analytical treatment). **SUB TOPIC : THERMAL PROPERTIES OF MATTER** Heat, temperature, thermal expansion of solids, liquids, and gases. Anomalous expansion of water and its effects. Specific heat capacity, principle of calorimetry, change of state, latent heat capacity. Heat transfer: conduction, convection and radiation, black body radiation, Kirchhoff's law, absorptive and emissive powers, thermal conductivity. Newton's law of cooling, Wien's displacement law, Stefan's law and	17	10

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	Boltzmann's correction.		
8	**THERMODYNAMICS** Thermal equilibrium and definition of temperature, Zeroth law of thermodynamics. Heat, work and internal energy, First law of thermodynamics, C_P and C_V and determination of their relation. Isothermal and Adiabatic processes. P-V diagram, calculation of external work done in different cases. Second law of thermodynamics, reversible and irreversible processes. Heat engine, Calculation of efficiency of Carnot engine only, efficiency of refrigerator (only qualitative idea).	9	5
9	**KINETIC THEORY OF GASES** Assumptions for the kinetic theory of gases, RMS speed of gas molecules, degrees of freedom. Concept of pressure, kinetic energy and temperature in the light of kinetic theory, ideas of gas laws in the light of kinetic theory of gases. Law of equipartition of energy (statement only) and application regarding of specific heats of the gases. Concept of mean free path, Avogadro's number.	8	5
10	**OSCILLATION AND WAVES** **SUB TOPIC : OSCILLATION** Periodic motion-period, frequency, displacement as a function of time, Periodic functions. Simple harmonic motion (S.H.M) and its equation, phase, oscillation of a spring - restoring force and force constant, combination of springs, energy in S.H.M - kinetic and potential energies. Simple pendulum, loaded spring - derivation of expression for time period. Free, damped and forced oscillations, resonance (qualitative ideas only). **SUB TOPIC : WAVES** Wave Motion: longitudinal and transverse waves, speed of travelling wave motion. Velocity of sound in gaseous medium - Newton's law and Laplace's correction. Displacement relation for a progressive wave. Principle of superposition of waves. Formation of Stationary waves, reflection of waves in string and organ pipes: fundamental mode and harmonics. Formation of beats. Doppler effect of sound.	17	10

FOR SEMESTER II

- **CONTACT HOURS FOR THEORY PART – 60 HOURS**
- **CONTACT HOURS FOR PRACTICAL PART – 20 HOURS**
- **CONTACT HOURS FOR REMEDIAL CLASSES AND TUTORIAL – 10 HOURS SO TOTAL CONTACT HOURS FOR 2nd SEMESTER IS 90 HOURS.**

CLASS: XI

SUBJECT: PHYSICS (PHYS)

COURSE CODE: PRACTICAL

FULL MARKS: 30 **CONTACT HOURS: 50 HOURS (30+ 20)**

PRACTICAL WORKS + VIVA (16+4) = 20 MARKS

Given below is a list of required experiments.

In each experiment students are expected to record their observations in tabular form with unit at the column head.

Students should plot an appropriate graph where required, work out the necessary calculation and arrive at the result.

SECTION: A

No. OF EXPT.	TOPICS
1	To measure diameter of a small spherical / diameter and length of a cylindrical body using slide calipers, hence calculate its volume with proper formula
2	To measure the internal diameter and depth of a beaker using slide calipers and hence find its volume.
3	To measure diameter of a given thin wire using screw gauge
4	To determine the volume of an irregular but uniform thickness lamina using screw gauge and graph paper.
5	To determine the radius of curvature of a given spherical surface by a spherometer.
6	Consider equilibrium of three concurrent coplanar forces. To verify the parallelogram Law of forces and to determine weight of a body.
7	To study the force of limiting friction for a wooden block placed on horizontal plane surface and to study is relationship with normal reaction. To determine the coefficient of friction.
8	To study the downward force acting along the inclined plane on a roller due to gravitational pull of earth and to study its relationship with angle of inclination(θ) by plotting graph between force and sin θ.

SECTION: B

No. OF EXPT.	TOPICS
1	To study the acceleration due to gravity by measuring variation in time period (T) with effective length (L) of a simple pendulum, plot graphs of L - T and L - T^2. Determine the effective length of second pendulum from L - T^2 graph
2	To study the force constant of a spring and to study variation in time period of oscillation with mass (m) of a body suspended by a spring. To find the spring constant by plotting a graph of m – T^2
3	To study the force constant of a helical spring by plotting graph between load and extension.
4	To study the variation in volume with pressure for a sample of air at constant temperature by plotting graphs between P – (1 / V) and between P - V
5	To study the fall in temperature of a body (like hot water) with time, by plotting a cooling curve.

6	To study the surface tension of water by capillary rise method.
7	To study the coefficient of viscosity of a given viscous liquid by measuring the terminal velocity of given spherical body.
8	To study the speed of sound of in air at room temperature using resonance column apparatus by two resonance positions.
9	To study the frequency of a tuning fork using resonance column apparatus is by two resonance positions, where the data of the speed of sound in air medium at room temperature will be supplied
10	To study the relationship between frequency and length of a given wire under constant tension using sonometer

The students have to do one practical each from section A and section B in the examination.

PROJECT WORK (MARKS – 7)

All candidates will be required to do one project involving physics related topic/topics of their theory syllabus under the guidance of the Physics teacher.

Candidate should take under any one of the following types of projects:

1) Theoretical project

2) Working model

Candidates are to prepare a technical report formally written including title, abstract, some theoretical discussion, experiment set up, observations with tables of data collected, graph / chart (if any), analysis and discussion of result, deduction, conclusion etc. The report should be kept simple but neat and elegant.

No extra credit shall be given for typewritten material or decorative cover etc.

Suggested heading of project file for theory based project

Title of the project
Introduction
Contains
Analysis / material aid (graph, Data, Structure, diagram etc)
Conclusions/ comments

Suggested heading of project file for model based projects

Title of the project
Model construction
Principle used, concise project report
Conclusion / comments

PRACTICAL FILE – (MARKS – 3)

Teachers are required to access the students on the basis of Physics practical file maintained by them during the academic year. Generally students are not expected to write the procedure of the experiments. The students will write the working formula, draw the figure or circuit diagram, collection of data in proper tabular form, results and few ideas of precautions associated with the experiments.

PRACTICAL MARKS SCHEME

EXPERIMENT						SUB TOTAL (16)	VIVA (4)	L.N.B (3)	PROJECT (7)	TOTAL (30)
No. 1(2+5+1=8)			No. 2 (2+5+1=8)							
THEORY	RECORD	RESULT	THEORY	RECORD	RESULT					

CLASS - XII

SEMESTER – III

SUBJECT: PHYSICS (PHYS)

FULL MARKS: 35 **CONTACT HOURS: 70 Hours**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
1	**ELECTROSTATICS** **SUB TOPICS: ELECTRIC CHARGES AND FIELDS** Electric charges, conservation of charge. Coulomb's law - force between two point charges, forces between multiple charges, superposition principle and continuous uniform distribution of charges. Electric field: electric field due to a point charge, electric field lines. Electric dipole, electric field due to a dipole (at a point on its axis, at a point on its perpendicular bisector, at any point), torque on a dipole in uniform electric field. Electric flux, statement of Gauss's theorem and its application to find the field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside) **SUB TOPICS: ELECTROSTATIC POTENTIAL AND CAPACITANCE** Electric potential, potential difference, relation between electric field intensity and potential, electric potential : due to a point charge, a dipole and system of point charges, equipotential surface and its properties, electrical potential - energy of a system of two point charges and of electric dipole in electrostatic field. Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarization. Capacitors and capacitance, combination of capacitors in series and in parallel. Capacitance of parallel plate capacitors with or without dielectric medium between the plates. Capacitances of solid and hollow spherical capacitors. Energy stored in a capacitor. Example of capacitors in our daily life (only qualitative idea).	**18**	**8**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
2	**CURRENT ELECTRICITY** Electric current, flow of electric charge in a metallic conductor. Drift velocity, mobility and their relation with electric current. Ohm's law, electrical resistance, resistivity and conductivity. V-I characteristics for ohmic resistance, temperature dependence of resistance. Series, parallel and mixed grouping of resistances. Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel and in mixed grouping. Parallel combination of two cells of unequal emfs, series combination of n cells of unequal emfs. Kirchhoff's law and simple applications. Wheatstone bridge principle, Metre Bridge principle (end error correction not required). Potentiometer: principle and its applications to measure the potential difference and for comparing emfs of two cells and measurement of internal resistance of a cell.	**16**	**8**
3	**MAGNETIC EFFECTS OF CURRENT AND MAGNETISM** SUB TOPICS: MOVING CHARGE AND MAGNETIC FIELD Concept of magnetic field, Oersted's experiment. Biot - Savart law, calculation of magnetic field for linear and circular current carrying conductors and its simple applications. Ampere's circuital law and its application to infinitely long straight wire and straight solenoid. Force on a moving charge in a uniform magnetic and electric fields - Lorentz force. Motion of a charged particle in a perpendicular magnetic field (Cyclotron frequency). Force on a current carrying conductor in a uniform magnetic field. Force between two parallel current carrying conductors - definition of ampere. Torque experienced by a current carrying loop in uniform magnetic field, moving coil galvanometer -its current sensitivity. Conversion of galvanometer into ammeter and voltmeter. SUB TOPICS: MAGNETISM AND MATTER Current loop as a magnetic dipole and its magnetic dipole moment. Magnetic dipole moment of a revolving electron. Magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis. Torque on a magnetic dipole (bar magnet) in a uniform magnetic field, magnetic field lines. Magnetic properties of a material:	**16**	**8**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	magnetic permeability, magnetic susceptibility, intensity of magnetization, magnetic retentivity and coercivity. Hysteresis: B - H loop and its significance, (only qualitative idea) Earth's magnetic field and magnetic elements. Dia, Para and Ferro - magnetic substances with examples. Electromagnets and factor affecting their strengths.		
4	**ELECTROMAGNETIC INDUCTION AND ALTERNATING CURRENT** SUB TOPICS : ELCTROMAGNETIC INDUCTION Electromagnetic induction, concept of magnetic flux. Faraday's laws, induced emf and current, Lenz's law, Eddy current. Concept of self and mutual inductance, self-inductance of a solenoid and mutual inductance of two coaxial solenoids (qualitative ideas). SUB TOPICS : ALTERNATING CURRENT Alternating current, peak and RMS values of alternating current/voltage, reactance and impedance. Concept of phasor diagram, only resistive circuit, only inductive circuit , only capacitive circuit, LR circuit, CR circuit, and LCR series circuit, resonance, LC oscillator (qualitative idea only). Power in AC circuit, power factor in AC circuit, wattless current. AC generator and transformer.	**15**	**8**
5	**ELECTROMAGNNETIC WAVES** Basic idea of displacement current, electromagnetic waves and their characteristics (qualitative ideas only). Transverse nature of electromagnetic waves. Electromagnetic spectrum (radio waves, infrared, visible, ultraviolet, X-rays, Gamma Rays) including elementary facts about their uses.	**5**	**3**

FOR SEMESTER III

- **CONTACT HOURS FOR THEORY PART – 70 HOURS**
- **CONTACT HOURS FOR PRACTICAL PART – 30 HOURS**
- **CONTACT HOURS FOR REMEDIAL CLASSES AND TUTORIAL – 10 HOURS**

SO TOTAL CONTACT HOURS FOR 3RD SEMESTER IS 110 HOURS.

SEMESTER – IV

SUBJECT CODE : PHYSICS (PHYS)

FULL MARKS: 35 **CONTACT HOURS: 60 HOURS**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
6	**OPTICS** **SUB TOPICS : RAY OPTICS AND OPTCAL INSTRUMENTS** Reflection of light, spherical mirrors, mirror formula, refraction of light, total internal reflection and its applications, optical fibers. Refraction at spherical surfaces, lenses, thin lens formula. Lens -Maker's Formula. Displacement method to find the position of image (conjugate points), magnification power of a lens. Combination of thin lenses in contact, combination of lens and mirrors. Refraction and dispersion of light through a Prism. Scattering of light - blue colour of the sky and reddish appearance of the sun at sunrise and sunset. Optical instruments: human eye, image formation and accommodation, correction of eye defects (myopia and hypermetropia) only qualitative Ideas. Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers. **SUB TOPICS : WAVE OPTICS** Wave front and Huygens' principle, reflection and refraction of plane wave at a plane surface using Huygens' principle. Interference: interference of monochromatic light by double slits –Young's experiment, conditions for sustained interference of light - coherent sources, condition of maxima and minima in the term of path difference and phase difference, expression for the fringe width. Diffraction: Fraunhoffer's diffraction due to single slit, width of central maximum. Resolving power of microscope and astronomical telescope. Polarization, plane polarized light. Brewster's law, uses of plane polarized light and polaroid.	**25**	**14**
7	**DUAL NATURE OF RADIATION AND MATTER** Dual nature of radiation. Photoelectric effect. Hertz and Lenard's observations, Einstein's Photoelectric equation - particle nature of light. Matter waves - wave nature of particles, de Broglie relation and its simple applications.	**7**	**4**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
8	**ATOMS AND NUCLEI** **SUB TOPICS: ATOMS** Alpha - particle scattering experiment, Rutherford's model of atom, Bohr model of hydrogen like atoms, energy levels, hydrogen spectrum. Elementary theory of X -ray production, continuous and characteristic X-ray(their origin and properties only),Moseley's law. **SUB TOPICS : NUCLEI** Composition and size of nucleus, atomic mass, isotope, isobar, isotone. Radioactivity: alpha, beta and gamma particles / rays and their properties, radioactive decay law. Mass - energy relation, mass defect, binding energy per nucleon and its variation with mass number, Nuclear fission and fusion.	**10**	**6**
9	**ELETRONIC DEVICES** Thermal emission of electrons and only the basic concepts of vacuum diode and triodes. Energy bands in solids: conductors, insulators and semiconductors (qualitative idea only) Intrinsic and extrinsic semiconductors, band diagram. P- N junction diode, forward and reverse bias, I - V characteristics of junction diode (nonlinear concept). Special type of diodes: LED, photodiode, solar cell and Zener diode with their characteristics. Zener diode as a voltage regulator. Junction transistor, npn and pnp transistor, transistor action, characteristics of a transistor, transistor as an amplifier (common emitter configuration). Transistor as a switch. Elementary idea of analogue and digital signals. Concepts of decimal and binary numbers. Logic gates : OR,AND,NOT,NAND,NOR (Symbols, input, output Boolean equations, truth table, qualitative explanation). Simple cases of combination of gates.	**15**	**8**
10	**COMMUNICATION SYSTEM** Elements of a communication system (Block diagram only), concepts of amplitude and frequency modulation. Band width of signals (speech, TV and digital data). Band width of transmission medium. Propagation of electromagnetic waves in the atmosphere, sky wave and space wave propagation (qualitative idea only).	**5**	**3**

FOR SEMESTER IV

- **CONTACT HOURS FOR THEORY PART – 60 HOURS**
- **CONTACT HOURS FOR PRACTICAL PART – 20 HOURS**
- **CONTACT HOURS FOR REMEDIAL CLASSES AND TUTORIAL – 10 HOURS**

SO TOTAL CONTACT HOURS FOR 4^{TH} SEMESTER IS 90 HOURS.

CLASS: XII

SUBJECT: PHYSICS (PHYS)

COURSE CODE: PRACTICAL

FULL MARKS: 30 **CONTACT HOURS: 50 HOURS (30+ 20)**

PRACTICAL WORKS + VIVA (16+4) = 20 MARKS

The experiments for laboratory work are from two groups:

1) Experiment based on current electricity and Magnetism

2) Experiments based on ray optics and Semiconductor devices.

The main skill required in group 1 is understanding the circuit diagram and making connections, polarity of cells, meters, their ranges, zero error, least count, concept of magnetic lines of force and neutral point.

The main skill required in group 2 is to remove parallax between a needle and a real image of another needle. Basic circuit idea and knowledge of characteristic graphs of Semiconductor devices.

A graph is a convenient and effective way of representing result of measurement so it is an important part of the experiments. (Where it is applicable).

All the calculations should be rounded off up to proper decimal places or significant figures.

SECTION: A

No. OF EXPT.	TOPICS
1	Verify Ohm's law for a given unknown resistance (a 100 cm uniform wire) by plotting a graph of potential difference versus current. Calculate the resistance and hence resistance per cm of the wire from the slope of the graph.
2	Using a Metre Bridge determine the resistance of about 100 cm of uniform wire. If its length and diameter are supplied, calculate the specific resistance of the material of the wire.
3	To verify the law of series combination of resistances, using two resistances (2 ohm / 3 ohm range) in the Metre Bridge circuit.
4	To verify the law of parallel combination of resistances using two resistances (2 ohm / 3 ohm range) in Metre Bridge circuit.
5	To compare emfs of two cells using potentiometer circuit.
6	To determine the internal resistance of a cell using potentiometer circuit.
7	To determine resistance of a galvanometer by half deflection method and to find its figure of merit.
8	To convert a given Galvanometer (of known resistance and figure of merit) into an ammeter and voltmeter of desired range and verify same.
9	Draw the lines of forces for a magnet placing its north pole towards the geographic north. Also determine the position of neutral points on two sides of the magnet.

SECTION: B

No. OF EXPT.	TOPICS
1	To find the value of image distance (v) for different values of object distance (u) of a concave mirror. By drawing 1/ v - 1/ u graph determine the focal length of the mirror.
2	To find the focal length of a convex mirror, using a convex lens.
3	To find the focal length of a convex lens by plotting graphs between u - v and between 1/u - 1/ v
4	To find the focal length of a concave lens using a convex lens.
5	To determine the angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation
6	To determine the refractive index of a glass slab using a travelling microscope.
7	To draw I - V characteristic curves of a P - N junction diode in forward and reverse bias.
8	To draw the reverse bias characteristics of Zener diode and to determine its breakdown voltage
9	To study the characteristic of common emitter configuration of NPN or PNP transistor and to find dynamic resistances and amplification factor.

The students have to do one practical each from section A and section B in the examination.

PROJECT WORK (MARKS – 7)

All candidates will be required to do one project involving physics related topic/topics of their theory syllabus under the guidance of the Physics teacher.

Candidate should take under any one of the following types of projects:

1) Theoretical project

2) Working model

Candidates are to prepare a technical report formally written including title, abstract, some theoretical discussion, experiment set up, observations with tables of data collected, graph / chart (if any), analysis and discussion of result, deduction, conclusion etc. The report should be kept simple but neat and elegant.

No extra credit shall be given for typewritten material or decorative cover etc.

Suggested heading of project file for theory based project

Title of the project
Introduction
Contains
Analysis / material aid (graph, Data, Structure, diagram etc)
Conclusions/ comments

Suggested heading of project file for model based projects

Title of the project
Model construction
Principle used, concise project report
Conclusion / comments

PRACTICAL FILE – (MARKS – 3)

Teachers are required to access the students on the basis of Physics practical file maintained by them during the academic year. Generally students are not expected to write the procedure of the experiments. The students will write the working formula, draw the figure or circuit diagram, collection of data in proper tabular form, results and few ideas of precautions associated with the experiments.

PRACTICAL MARKS SCHEME

EXPERIMENT						SUB TOTAL (16)	VIVA (4)	L.N.B (3)	PROJECT (7)	TOTAL (30)
No. 1(2+5+1=8)			No. 2 (2+5+1=8)							
THEORY	RECORD	RESULT	THEORY	RECORD	RESULT					

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII
SUBJECT : POLITICAL SCIENCE (POLS)

Overview and Objective :

Political Science as a discipline deals with understanding the social structures and methods used to understand a government or a State. It also deals with the historical, philosophical, constitutional, and legal foundation of the political society. It further provides scope to identify the political values and ideas, governing institutions and their policy making processes. The subject enhances the ability to address the functions and processes of government and politics both at the National and International level.

The present WBCHSE curriculum of Political Science is framed in a systematic manner to facilitate students to have an understanding of political ideas, ideologies, institutions, policies, processes, and behaviour. The contents enrich student's writing, communication, data analysis skills and also develop knowledge about current and past political events across the world.

CLASS - XI

SEMESTER – I

SUBJECT : POLITICAL SCIENCE (POLS)

TOPIC : 1. POLITICAL SCIENCE: THEORIES AND CONCEPTS

2. INDIAN CONSTITUTION

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE : THEORY

Sub Topic :

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 1	**Nature and Scope of Political Science as a Discipline** Definition Nature of Political Science Scope of Political Science	15	04
UNIT 2	**State: Definition and Characteristics** Definition of State Characteristics of State	10	05
UNIT 3	**Citizenship** Meaning and Definition of Citizenship Methods of Acquisition of Citizenship Reasons of Loss of Citizenship Citizenship in the Constitution of India	15	07
UNIT 4	**Understanding Constitutions: Definition and types** Definition of Constitution Types of Constitution- Written, Unwritten, Rigid, Flexible- Merits and Demerits	20	06
UNIT 5	**Making and the Philosophy of the Constitution** Functions of the Constitution Framing of the Constitution : Demand for the establishment of a Constituent Assembly, Composition of the Assembly, Methods of deliberation, Role of Dr. B.R. Ambedkar Preamble – ideals and significance Incorporating features of the constitutions of the different countries of the world	25	08

UNIT 6	**Salient Features of the Constitution of India** Largest Constitution Written Constitution Partly Rigid and Partly Flexible Parliamentary System Federalism- Quasi-Federal Structure Fundamental Rights and Duties and Directive Principles Independence of the Judiciary Single Citizenship Anti-Defection Law Reservation Minority Rights Secularism Universal Adult Suffrage Supremacy of the Constitution	15	10
	TOTAL	**100 Hours**	**40**

CLASS - XI

SEMESTER – II

SUBJECT : POLITICAL SCIENCE (POLS)

TOPIC : 1. POLITICAL SCIENCE: THEORIES AND CONCEPTS

2. INDIAN CONSTITUTION

FULL MARKS: 40 **CONTACT HOURS: 80 Hours**

COURSE CODE : THEORY

Sub Topic :

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 1	**Key Concepts of Political Theory:** Law – Source and Classification Liberty – Meaning, Classification, Safeguards Equality- Meaning and Nature, Different forms (Social, political, legal, economic, culture, gender equality) Justice – Meaning, Forms Separation of Powers - Definition, Arguments for and against the notion	15	08
UNIT 2	**Nation and Nationalism** Meaning of Nation and Nationalism Elements of Nationality National Self- Determination Tagore's views of Nationalism	10	06
UNIT 3	**Forms of Government** Definition and Basic Features – Democracy, Authoritarianism, Totalitarianism	15	08
UNIT 4	**Contemporary Indian Political Thought: Selected thinkers** Mahatma Gandhi: *Satyagraha, Non-Violence and Trusteeship* Vivekananda: *Socio-Political reforms* Netaji Subhas Chandra Bose: *Freedom and Nationalism* Maulana Abul Kalam Azad: *Freedom and Education*	15	06
UNIT 5	**Fundamental Rights:** Meaning and Types Directive Principles Fundamental Duties of Indian Citizens	10	06
UNIT 6	**Election and Representation**: First Past the Post-System Election Commission of India - Composition and Functions	15	06
	TOTAL	**80 Hours**	**40**

[Note:20 Hours reserved for Remedial classes, Tutorials and Home Assignments.]

CLASS: XI

SUBJECT : POLITICAL SCIENCE (POLS)

COURSE CODE: PROJECT

FULL MARKS: 20

Sub Topic :

1.	Success and Problems of the Application of Universal Adult Franchise (local area studies)
2.	Right to Education and its Actual Implementation- Problem of Dropouts (Local Area Studies)
3.	Role of Media in Democracy
4.	Fundamental Rights in the Indian Constitution and Two Case Studies Indicating Violation of any of these Fundamental Rights

CLASS - XII

SEMESTER – III

SUBJECT : POLITICAL SCIENCE (POLS)

TOPIC : 1. CONTEMPORARY WORLD POLITICS

2. INDIAN GOVERNMENT AND CONTEMPORARY POLITICS

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE : THEORY

Sub Topic :

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 1	**International Relations in the Post Second World War Period** Cold War Era Bipolarity and End of Bipolarity Non-Aligned Movement	20	08
UNIT 2	**International Organizations and Institutions** United Nations- Aims and Principles General Assembly – Composition and Functions Security Council -Composition and Functions ECOSOC - Composition and Functions International Court of Justice Agencies- UNICEF, UNESCO, WHO World Bank and International Monetary Fund (IMF)	20	08
UNIT 3	**Security in the Contemporary World**: Traditional Security – Internal and External Non-traditional Security – Human Security, Terrorism, Migration, Poverty, Epidemics Environmental Security	10	07
UNIT 4	**Challenges of Nation-Building** Partition of India Refugee problem Integration of Princely States Linguistic Re-organization of States	20	05
UNIT 5	**Political Parties and Party System** Definition and Features of Political Parties Functions of Political Parties Election Process of India and Electoral Reforms	20	05
UNIT 6	**India's Foreign Policy** India and her Neighbours - Sri Lanka, Pakistan, Bangladesh, Nepal, Bhutan, Maldives Major Powers-US, Russia and China India's Nuclear Policy - Pokhran 1, Pokhran 2, PTBT, CTBT,NPT	10	07
	TOTAL	**100 Hours**	**40**

CLASS - XII

SEMESTER – IV

SUBJECT : POLITICAL SCIENCE (POLS)

TOPIC : 1. CONTEMPORARY WORLD POLITICS

2. INDIAN GOVERNMENT AND CONTEMPORARY POLITICS

FULL MARKS: 40 **CONTACT HOURS: 80 Hours**

COURSE CODE : THEORY

Sub Topic :

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 1	**International Relations -Key Concepts and Political Doctrines** Evolution of IR as a Discipline Realism, Idealism, Liberalism, Marxism- Brief Outline	18	08
UNIT 2	**Major Regional and Sub-regional Organisations** European Union SAARC ASEAN BIMSTEC	10	06
UNIT 3	**Globalisation** Economic, Political and Cultural consequences, India and Globalisation Globalization- Critical Analysis	08	06
UNIT 4	**Organs of the Indian Government:** Executive - Powers and Functions (President, PM, Governor, CM,Bureaucracy) Legislature - Composition and Functions (Lok Sabha, Rajya Sabha, Vidhan Sabha, Vidhan Parishad, Speaker- Power and Functions) Judiciary- Importance and Independence (Supreme Court, High Court, PILs, Consumer Courts, Lok Adalat),	24	08
UNIT 5	**Contemporary Civil Society Movements in India** Brief Outline : Bhoodan Movement CSR Acts and Roles Right to Information: Act 2005	08	06
UNIT 6	**Constitutional Amendments and Local Self-Government** Methods of Amendments (Article 368) 73rd Amendment -Rural Local Self-Governemnt – 3 tier panchayat system- Composition, Functions and Source of Income 74th Amendment -Urban Local Self-Government-Municipality and Corporation – Composition and Functions and Source of Income	12	06
	TOTAL	**80 Hours**	**40**

[Note:20 Hours reserved for Remedial classes, Tutorials and Home Assignments.]

CLASS: XII

SUBJECT : POLITICAL SCIENCE (POLS)

COURSE CODE: PROJECT

FULL MARKS : 20

Sub Topic :

1.	Survey and observation on the functioning of Gram Panchayat/Panchayat Samiti /Zilla Parishad/ Municipality/ Borough Committee/ Ward Committee etc.
2.	Women's Participation in Local Level Politics
3.	Major Initiatives to Empower Women- *Kanyashree (2013)/ Beti Bachao, Beti Padao (2015)*
4.	Indian Foreign Policy- Analyses of India's relation with any one major power/ South Asian Neighbour
5.	Globalisation– Its impact on India

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII
SUBJECT : PSYCHOLOGY (PSYC)

Course Overview

Psychology has been introduced as an elective subject in Higher Secondary school education as a social science aiming wholesome development of the students. The discipline Psychology explores the human mental processes and life experiences shaped by biology and rooted in a definite socio-historic and cultural perspective. The syllabus focuses on teaching fundamental principles, explanations and methods of Psychology. Introduction of the discipline at this academic level aims to create a critical reasoning, rational thinking and deeper understanding of human experiences with an application based orientation in resolving human problems.

Course Objective

* The aim is to orient the students to learn about human behaviour, life experiences in the socio-cultural context.
* To develop in the students an attitude to understand and apply the knowledge to solve day to day life problems.
* To help the students to become socially aware, receptive, self- reflective and to facilitate their personal growth.
* To enhance the ability of adjustment of the students with the environment.

Career Prospect

* This discipline helps the student to build a critical and rational thinking about human psychological processes and socio-cultural context. Thus they can engage themselves in academic and research career.
* The students are also being trained to apply the knowledge in practical field. Thus they can engage themselves later as psychologists for curative, rehabilitation and organizational purposes.

CLASS - XI

SEMESTER – I

SUBJECT : PSYCHOLOGY (PSYC)

FULL MARKS : 35 **CONTACT HOURS : 70 Hours**

COURSE CODE : THEORY

Sub-topics

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 1	**What is Psychology** i) Introduction ii) Definition and scope of Psychology Psychology as a discipline and its evolution Psychology as natural and social science iii) Understanding mind and behaviour iv) Psychology in India v) Branches in Psychology vi) Relevance of psychology in everyday life	10 hours contact hours for sub-topics (1+1 + 3+ 2+2+1)	07
Unit – 2	**Methods of enquiry in Psychology** i) Introduction ii) Steps in conducting scientific research iii) Methods of Psychology with advantages and limitations, Quantitative and qualitative methods, Observation, . Experimentation, . Correlational research, . Survey research, . Interview . Case study iv) Psychological testing, v) Ethical Issues	10 hours contact hours for sub-topics (1+1+4+2+2)	07
Unit – 3	**Bases of Human Behaviour** i) Introduction ii) Evolutionary perspective iii) Biological bases of behaviour, Structure and functions of neuron iv) Classification of Nervous system - Structure and functions v) Endocrine system and its relation with behaviour and experience	20 hours contact hours for sub-topics (1+2+3+8+6)	07

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 4	**Sensory, Attentional and Perceptual processes** i) Introduction ii) Types of senses - Visual, auditory, olfactory, tactual, gustatory Special senses Organic senses - visceral, motor Other senses - kinaesthetic, vestibular iii) Attentional process Determinants of attention, shift, fluctuation, oscillation, selective and sustained attention iv) Perception Perceptual Process, Principles of perception, . Perception of space, depth, distance, motion, . monocular and binocular cues v) Illusion, types of illusions vi) Social and cultural influences on perception	20 hours contact hours for sub-topics (1+6+2+7+2+2)	07
Unit – 5	**Thinking** i) Introduction ii) Nature of thinking Building blocks of thought iii) Culture and thinking iv) The process of thinking Problem solving, Reasoning, Decision making v) Nature and process of creative thinking vi) Thought and language	10 hours contact hours for sub-topics (1+1+1+3+2+2)	07

CLASS - XI

SEMESTER – II

SUBJECT : PSYCHOLOGY (PSYC)

FULL MARKS : 35 **CONTACT HOURS : 70 Hours**

COURSE CODE : THEORY

Sub-topics

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 6	**Human Development** i) Introduction ii) Meaning of development Concept of growth, maturation and evolution iii) Lifespan perspective on development iv) Factors influencing development(Heredity & Environment) v) Overview of developmental stages - . Prenatal development, . Infancy(Motor, Cognitive, Socio-emotional), . Childhood, (Motor, Cognitive, Socio-emotional) . Adolescence and its challenges, (Physical, Moral, Cognitive) vi) Adulthood and Old age	15 hours contact hours for sub-topics (1+2+1+3+6+2)	Consult Question Pattern to be published by the Council
Unit – 7	**Learning** i) Introduction ii) Nature of Learning iii) Paradigms of learning . Classical conditioning - Pavlov . Instrumental conditioning - Skinner . Observational learning . Cognitive learning . Verbal learning Skill learning iv) Transfer of learning v) Factors facilitating learning vi) Learning disabilities	20 hours contact hours for sub-topics (1+2+12+2+2+1)	

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 8	**Human Memory** i) Introduction ii) Nature of memory iii) Information processing approach: the stage model iv) Memory systems: Sensory, short term and long term memories v) Types of long term memory - declarative, procedural, episodic and semantic vi) Levels of processing vii) Forgetting - concept, nature, causes viii) Theories of forgetting - .Trace, . decay, . Interference and retrieval failure ix) Enhancing memory	15 hours contact hours for sub-topics (1+1+2+2+2+1+2+3+1)	
Unit – 9	**Motivation** i) Introduction ii) Nature of motivation iii) Types of motives - Biological, psychological, social iv) Maslow's hierarchy of needs v) Extrinsic and intrinsic motivation – Differences with examples	10 hours contact hours for sub-topics (1+1+3+3+2)	
Unit – 10	**Emotion** i) Introduction ii) Nature of emotions iii) Expression of emotion - Emotional expression and labelling Culture and emotion iv) Managing negative emotions vi) Enhancing positive emotions	10 hours contact hours for sub-topics (1+1+4+2+2)	

CLASS - XI

SEMESTER – II

SUBJECT : PSYCHOLOGY (PSYC)

FULL MARKS : 30 **CONTACT HOURS : 40 Hours**

COURSE CODE : PRACTICAL

Sub-topics

1	Compare the rate of perceptual reversibility between two respondents using visual stimulus (Rubin's Cross/human profile-Flower vase) and interpret the result.	7 hours
2	Compare the responses of three respondents to optical illusory figures (Muller- Lyer) and interpret the result	7 hours
3	Compare the rate of learning of two respondents varying modality (auditory & visuals) and interpret the result	8 hours
4	Determine the effect of meaning on memorization capacity of the respondent	8 hours
	PROJECT 1) Biological bases of Behaviour (Neuron, spinal cord, Brain and endocrine glands) - File work on above mentioned topic explaining structure and functions with diagrams.	10 hours

[**Note** : 20 Hours reserved for Remedial classes, Tutorials and Home Assignments.]

Distribution of Marks in Practical (Total =30)

Topics	Marks
Practical Problem	10
Project	10
Practical File	5
Viva voce	5

Distribution of Marks in Theory (Total 35+35=70)

Semester I

Type of Question	Allotted Marks	Marks Pattern
MCQ	35	1 x 35
		Total = 35

Semester II

Types of Question	Allotted Marks	Marks Pattern
SAQ	6	2 x 3
LAQ	9	3 x 3
LAQ	8	4 x 2
LAQ	12	6 X 2
		Total = 35

CLASS - XII

SEMESTER – III

SUBJECT : PSYCHOLOGY (PSYC)

FULL MARKS : 35 **CONTACT HOURS : 70 Hours**

COURSE CODE : THEORY

Sub-topics

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 1	**Variations in Psychological attributes** i) Introduction ii) Individual differences in human functioning iii) Assessment of psychological attributes - different domains- intelligence, aptitude, interest, personality, values iv) Methods of assessments - Psychological test, interview, observetion, case study, self report v) Intelligence - Concept vi) Theories of intelligence - .Spearman's two-factor theory, . Guilford's structure of intellect model, . Gardner's Multiple intelligences, . . Sternberg's Triarchic theory of intelligence, . Pass Model by Das vii) . Individual difference in intelligence with special reference to normal probability curve - . Concept of IQ and categories of intellectual ability with special reference to Weschler. viii) Classification of Intelligence test ix) . Emotional intelligence - Concept by Salovey and Mayer, Goleman x) Creativity	20 hours contact hours for sub-topics (1+1+3+4+2+4+2+2+1)	09

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 2	**Social Influence and Group Processes** i) Introduction ii) Group - Concept and characteristics iii) Types of groups iv) Why do people join groups v) Formation of group - Factors and stages of group formation vi) Influence of group on individual behaviour - . Social Facilitation, .social Loafing, . Group Polarization vii) Process of social influences - .Conformity, . Compliance, .Obedience	15 hours contact hours for sub-topics (1+2+2+1+2+4+3)	09
Unit – 3	**Identity Development** i) Introduction ii) Identity - concept iii) Identity development - Erikson's theory of psycho-social development. iv) Identity crisis - Theory of Erikson and Marcia v) Factors influencing identity development	10 hours contact hours for sub-topics (1+1 + 3+ 2+2+1)	08
Unit – 4	**Meeting life challenges** i) Introduction ii) Nature, types and sources of Stress iii) Effect of Stress . General adaptation syndrome . Stress and immune system . Lifestyle iv) Coping with stress - . Stress management techniques v) Promoting positive health and wellbeing - . Life skills, . positive health	25 hours contact hours for sub topics (2+6+6+2+4)	09

CLASS - XII

SEMESTER – IV

SUBJECT : PSYCHOLOGY (PSYC)

FULL MARKS : 35 **CONTACT HOURS : 70 Hours**

COURSE CODE : THEORY

Sub Topics

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 5	**Attitude and Social Cognition** i) Introduction ii) Explaining social behaviour - .Social Cognition, . Schemas and . Different pro-social behaviour iii) Nature and components of attitude: A-B-C components iv) Attitude formation and change - . Attitude formation, .Attitude change, . Attitude -behaviour relationship v) Prejudice,Stereotype and Discrimination vi) Strategies for handling prejudice	12 hours contact hours for sub-topics (1+3+2+4+3+1)	Consult Question Pattern to be published by the Council
Unit – 6	**Self and Personality** i) Introduction ii) Self and Personality - .concepts of Self - Personal and Social self iii) Cognitive and Behavioural aspects of self - . Self concept, . Self esteem, .Self efficacy, . Self regulation iv) Culture and Self v) Concept and characteristics of personality vi) Major approaches to the study of personality - . Type approaches, .Trait approaches, . Psychodynamic approach, . Behavioural approach, . Humanistic approach vii) Assessment of Personality - .Self report Measures, Projective Techniques, Behavioural Analysis	15 hours contact hours for sub-topics (1+2+3+1+2+4+2)	

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit – 7	**Psychological Disorders** i) Introduction ii) Concept of Abnormality and Psychological Disorder . Classification of Psychological Disorders (ICD 11 & DSM V) iii) Factors underlying abnormal behaviour - . Biological, . Psychological and . Socio-economic iv) Major Psychological Disorders - . Anxiety Disorders, . Obsessive -compulsive and Related Disorders, . Somatic symptoms and related disorders, . Dissociative disorders, . Depressive disorders, . Bipolar and related disorders, . Schizophrenia spectrum and other psychotic disorders, . Neuro-developmental disorders, . Disruptive, Impulse control and Conduct disorders . Substance related and Addictive disorders	25 hours contact hours for sub-topics (1+3+6+15)	
Unit – 8	**Therapeutic approaches** i) Introduction ii) Nature and process of Psychotherapy iii) Therapeutic Relationship iv) Types of Therapies - . Psychodynamic Therapy . Behaviour Therapy . Cognitive Therapy . Humanistic - Existential Therapy . Alternative Therapies - Kriya Yoga v) Ethics in Psychotherapy vi) Rehabilitation	18 hours contact hours for sub-topics (1+2 + 2+ 10+2+1)	

CLASS - XII

SEMESTER – IV

SUBJECT : PSYCHOLOGY (PSYC)

FULL MARKS : 30 **CONTACT HOURS : 40 Hours**

COURSE CODE : PRACTICAL

Sub-topic

1	Students will administer and interpret any one Intelligence Test from the following. . Intelligence Tests -Alexander Pass along test/ Dearborn Form Board Test	10 hours
2	Students will administer and interpret Academic Stress Scale [Educational Stress Scale for Adolescents -(ESSA) by Sun, Dunne, Xiang-yu Hou and Xu] This test should be administered on two participants to compare and interpret the results.	10 hours
3	Students will administer and interpret any one Personality Test from the following. Personality tests - Kundu Neurotic Personality Inventory-KNPI/ Kundu Introversion Extroversion Inventory -KIEI	10 hours
	PROJECT Development of a comparative case study using General health questionnaire of male and female participants.	10 hours

[**Note** : 20 Hours reserved for Remedial classes, Tutorials and Home Assignments.]

Distribution of Marks in Practical (Total= 30)

Topics	Marks
Practical Problem	10
Project	10
Practical File	5
Viva Voce	5

Distribution of Marks in Theory (Total 35+35=70)

Semester III

Type of Question	Allotted Marks	Marks Pattern
MCQ	35	1 x 35
		Total = 35

Semester IV

Types of Question	Allotted Marks	Marks Pattern
SAQ	6	2 x 3
LAQ	9	3 x 3
LAQ	8	4 x 2
LAQ	12	6 X 2
		Total = 35

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASSES XI AND XII

SUBJECT : SANSKRIT (SNSK)

COURSE OVERVIEW :

Sanskrit has been an enlightening language since the dawn of Indian intellectual endeavour. It has the indomitable power to disseminate the pearls of wisdom along with its adorable potential to impel human spirit to undertake a rapturous journey to the abode of truth. In the contemporary times when the Artificial Intelligence (AI) is gaining a commanding influence on earth and almost taking over the human intelligence, this wonderful language has the ability to strengthen human intelligence and raise to a higher degree of perfection. Moreover, the spirit of Indian knowledge systems and culture is enshrined in this divine language. The vastness of Sanskrit literature, in innumerable fields of diversities, at once awakens awe and wonder. It encompasses varied disciplines like literature, grammar, linguistics, philosophy, mathematics, astronomy, *yoga*, *āyurveda*, law and ethics, polity, economics, sociology, fine arts, natural science and technology. Sanskrit is not merely a carrier of thought but is the cradle of profound ideas, throbbing emotions and ethical values permeated in Indian culture. Therefore, cultivation of this language is not only an intellectual pursuit but is a dynamic force in building a self-reliant, self-enabled, prosperous and awakened nation.

The new syllabus of the Sanskrit (SNSK) course, prepared for the students of Higher Secondary classes under the umbrella of the West Bengal Council of Higher Secondary Education, is offering a scope for acquiring a profound knowledge about several genres of Sanskrit literary heritage.

The new syllabus of the Sanskrit (SNSK) course has introduced texts and/or narratives from the *Rāmāyaṇa*, the *Mahābhārata* (including *Śrīmadbhagavadgītā*), the Buddhist *Avadānaśataka*, the *Carakasaṁhitā*, the works of Kālidāsa, Bhāsa, Bhavabhūti and two authors of modern Sanskrit literature also. Sanskrit grammar is always an essential part of Sanskrit learning. Therefore, the new syllabus also includes a few topics of Sanskrit grammar. A student of Sanskrit requires to develop a holistic idea about the Sanskrit literary heritage. So, a basic outline of the history of Sanskrit literature will be taught in this course.

A student having a basic knowledge of any of the Indian vernacular languages may opt for this course.

It aims to encourage the students of Sanskrit to continue with their higher studies and researches on several domains of Indian knowledge system.

OBJECTIVES OF THE COURSE :

The new syllabus of the Sanskrit (SNSK) course, prepared for the students of Higher Secondary classes under the umbrella of the West Bengal Council of Higher Secondary Education, aims to offer an intensive knowledge about several genres of Sanskrit literary heritage.

The following are the main objectives of the course:

- Develop the skill of reading and comprehending Sanskrit texts.
- Make the students acquainted with the fundamentals of Sanskrit grammar, which would help them analysing the grammatical applications of Sanskrit texts.
- Introduce the salient features of Vedic, Epic, Purāṇic and Classical Sanskrit literatures including the texts on Āyurveda and other scientific and technical literature through the lessons on History of Sanskrit Literature.
- Offer a general idea about the socio-cultural, socio-political and socio-economic conditions of the ancient, mediaeval and even contemporary India to boost their management skill and to inspire them to choose the areas of interdisciplinary studies and researches in future.
- Introduce the basics of health-awareness, human values and self-management through certain texts.
- Encourage the students of Sanskrit to continue with their higher studies and researches on several domains of Indian knowledge system.
- Inspire the students to utilise their acquired knowledge of ethics, values and self-management for building a self-reliant, self-enabled, prosperous and awakened nation.

CLASS - XI

SEMESTER – I

SUBJECT: SANSKRIT (SNSK)

FULL MARKS : 40 **CONTACT HOURS : 100 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: MCQ]
Part I	1. **সংস্কৃত সাহিত্য (Sanskrit Literature)**	**40**	**15**
Unit - I	**গদ্য (Prose):** উপমন্যুকথা (বৈয়াসিক-মহাভারতের আদিপর্বের নির্বাচিত অংশ অবলম্বনে) [*Upamanyukathā* (narrative based on select portion from *Ādiparvam* of *Vaiyāsika-Mahābhāratam*]		**05** [1 × 5 = 5]
Unit - II	**পদ্য (Poetry/Verse) :** বর্ষাবর্ণনম্ (বাল্মীকি-রামায়ণের কিষ্কিন্ধ্যাকাণ্ডের অংশ বিশেষ) [*Varṣāvarṇanam* (select portion from *Kiṣkindhyākāṇḍam* of *Vālmīki-Rāmāyaṇam*)]		**05** [1 × 5 = 5]
Unit III :	**দৃশ্যকাব্য (Drama):** কৃপণঃকপালী (শ্রীজীব ন্যায়তীর্থ-কৃত 'চিপিটকচর্বণম্'-এর নির্বাচিত অংশ) [*KṛpaṇaḥKapālī* (select portion from *Cipiṭakacarvaṇam* of Srijeeb Nyayatirtha)]		**05** [1 × 5 = 5]
Part II	**সংস্কৃত ব্যাকরণ ও সংস্কৃত সাহিত্যের ইতিহাস (Sanskrit Grammar & History of Sanskrit Literature)**	**60** **(40 + 20)**	**25**
Unit IV :	**ব্যাকরণ (Grammar):**	**40**	**15**
	1. সন্ধি [Sandhi] - ➢ স্বরসন্ধি [Vowel sandhi] - সবর্ণদীর্ঘ, গুণ ও বৃদ্ধি (*savarṇadīrgha*, *guṇa* and *vṛddhi*) ➢ ব্যঞ্জনসন্ধি [Consonant sandhi] - শ্চুত্ব,ষ্টুত্ব ও জশ্ত্ব (*ścutva*, *ṣṭutva* and *jaśtva*)		[1 × 3 = 3] [1 × 3 = 3]
	2. শব্দরূপ [Declension] - ➢ অজন্ত শব্দ- বালক, লতা, ফল, কবি, মতি, বারি, নদী [এবং এইগুলির সমতুল অন্যান্য শব্দ] (Words ending with vowel: *bālaka*,*latā*,*phala*,*kavi*,*mati*,*vāri*,*nadī* and similar words) ➢ সংখ্যাবাচক শব্দ- এক, দ্বি (তিন লিঙ্গে) (Numerals: *eka*, *dvi* in three genders) ➢ সর্বনাম শব্দ- অস্মদ্, যুষ্মদ্ (Pronouns: *asmad*, *yuṣmad*)		[1 × 3 = 3]

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: MCQ]
	3. ধাতুরূপ [Conjugation] - লট্, লঙ্ ও লৃট্- এই তিন লকারে (in three tenses: present, past, future) ➢ পরস্মৈপদী - √ভূ, √গম্, √কৃ, √পূজ্ (*Parasmaipadī* - √*bhū*, √*gam*, √*kṛ*, √*pūj*)		[1 × 3 = 3]
	4. প্রত্যয় [Suffix]- ➢ ক্ত, ক্তবতু, ক্ত্বা, ল্যপ্, ক্তিন্ (*kta*, *ktavatu*, *ktvā*, *lyap*, *ktin*)		[1 × 3 = 3]
Unit V :	**বৈদিক, জাতীয় মহাকাব্য ও লৌকিক সংস্কৃত সাহিত্যের ইতিহাস (History of Vedic, Epic & Classical Sanskrit Literature):**	**20**	**10**
	1. বৈদিক সাহিত্য (সংক্ষিপ্ত পরিচয়) [Brief Introduction to Vedic Literature] - ➢ ঋগ্বেদ, সামবেদ (*Ṛgveda*, *Sāmaveda*)		[1 × 4 = 4]
	2. বাল্মীকি-রামায়ণ (রচয়িতা ও বিষয়বস্তুর সংক্ষিপ্ত পরিচয়) [Brief Introduction to the author and subject-matter of *Valmīki-Rāmāyaṇa*]		[1 × 3 = 3]
	3. সংস্কৃত গল্পসাহিত্য (রচয়িতা ও বিষয়বস্তুর সংক্ষিপ্ত পরিচয়) [Brief Introduction to the author and subject-matter of Sanskrit Narrative Literature] - ➢ পঞ্চতন্ত্র, হিতোপদেশ, কথাসরিৎসাগর (*Pañcatantra*, *Hitopadeśa*, *Kathāsaritsāgara*)		[1 × 3 = 3]

CLASS - XI

SEMESTER – II

SUBJECT: SANSKRIT (SNSK)

FULL MARKS : 40 **CONTACT HOURS : 80 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: SAQ including DQ]
Part I	**সংস্কৃত সাহিত্য (Sanskrit Literature)**	**40**	**20**
Unit - I	**গদ্য (Prose):** প্রতিজ্ঞাসাধনম্ (পণ্ডিত অম্বিকাদত্ত ব্যাস রচিত 'শিবরাজবিজয়ম্' এর অংশ বিশেষ) [*Pratijñāsādhanam* (selected portion from *Śivarājavijayam* of Ambikadatta Vyasa]		**20** • SAQ: 06 Marks 3 questions out of 4 (covering all the given texts of this part) each containing 2 marks to be answered in Sanskrit [সংক্ষিপ্ত উত্তরের প্রশ্ন: চারটি (এই অংশে প্রদত্ত সকল গ্রন্থ অবলম্বনে) ২ নং-এর প্রশ্নের মধ্যে যেকোনো তিনটির সংস্কৃত-তে উত্তর করতে হবে]. **[2×3=6]**
Unit - II	**পদ্য (Poetry/Verse):** ঋতুচর্যা ('চরকসংহিতা'র নির্বাচিত অংশ) [*Ṛtucaryā* (selected portion from *Carakasaṁhitā*)]		• SAQ: 04 Marks 2 questions out of 3 (1+1+1) each containing 2 marks to be answered in Sanskrit/Bengali/ English/ Hindi [সংক্ষিপ্ত উত্তরের প্রশ্ন: তিনটি (১+১+১) ২ নং-এর প্রশ্নের মধ্যে যেকোনো দু'টির সংস্কৃত / বাংলা / ইংরাজি / হিন্দি-তে উত্তর করতে হবে]. **[2×2=4]**
Unit III	**দৃশ্যকাব্য (Drama):** দানবীরঃ কর্ণঃ (মহাকবি-ভাস-রচিত 'কর্ণভারম্' রূপকের অংশ) [*Dānavīraḥ Karṇaḥ* (selected portion from Bhāsa's *Karṇabhāram*]		• DQ: 10 Marks 2 questions out of 3 (1+1+1) each containing 5 marks to be answered in Sanskrit/Bengali/ English/ Hindi [ব্যাখ্যামূলক উত্তরের প্রশ্ন: তিনটি (১+১+১) ৫ নং-এর প্রশ্নের মধ্যে যেকোনো দু'টির সংস্কৃত/বাংলা/ইংরাজি/ হিন্দি-তে উত্তর করতে হবে]. **[5×2=10]**

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: SAQ including DQ]
Part II	**সংস্কৃত ব্যাকরণ ও সংস্কৃত সাহিত্যের ইতিহাস (Sanskrit Grammar & History of Sanskrit Literature)**	**40 (20+20)**	**20**
Unit IV :	**ব্যাকরণ (Grammar):** 1. সন্ধি [Sandhi] - ➢ স্বরসন্ধি [Vowel sandhi] - যণ্, অয়াদি (*yaṇ*, *ayetcetera*) ➢ ব্যঞ্জনসন্ধি [Consonant sandhi]-অনুস্বার, পরসবর্ণ (*anusvāra*, *parasavarṇa*) ➢ বিসর্গসন্ধি [*Visarga*-sandhi] - উত্ব, রুত্ব, লোপ, বিসর্গস্থানেস্, শ্, ষ্ (*utva*, *rutva*, deletion, and replacement of *visarga* by *s*, *ś*, *ṣ*) 2. শব্দরূপ [Declension] - ➢ অজন্ত শব্দ - শিশু, ধেনু, মধু, মাতৃ, পিতৃও সমতুল অন্যান্য শব্দ (Words ending with vowel: *śiśu*, *dhenu*, *madhu*, *mātṛ*, *pitṛ* and similar words) ➢ হলন্ত শব্দ - রাজন্, ভবৎ, কর্মন্, পথিন্, গুণিন্, দিশ্, আত্মন্ [এবং এইগুলির সমতুল অন্যান্য শব্দ] (Words ending with consonant: *rājan*, *bhavat*, *karman*, *pathin*, *guṇin*, *diś*, *ātman* and similar words) ➢ সংখ্যাবাচক শব্দ- ত্রি, চতুঃ (তিন লিঙ্গে) (Numerals: *tri*, *catuḥ* in three genders) ➢ সর্বনাম শব্দ- সর্ব, তদ্, ইদম্, কিম্ (তিন লিঙ্গে) (Pronouns: *sarva*, *tat*, *idam*,*kim* in three genders)	**20**	**10** SAQ: 10 Marks 5 questions out of 6/7(covering all the topics of this unit) each containing 2 marks to be answered as per given instructions [সংক্ষিপ্ত উত্তরের প্রশ্ন: (এই অংশের সকল বিষয় অবলম্বনে প্রদত্ত) ছয়/সাতটি ২ নং-এর প্রশ্নের মধ্যে যেকোনো পাঁচটির প্রদত্ত নির্দেশানুসারে উত্তর করতে হবে]. **[2×5=10]**

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: SAQ including DQ]
	3. ধাতুরূপ [Conjugation] - লট্, লঙ্ ও লৃট্- এই তিন লকারে (in three tenses: present, past, future) ➢ পরস্মৈপদী -√দা, √স্থা, √শ্রু, √দৃশ্ (*Parasmaipadī*- √*dā*, √*sthā*, √*śru*, √*dṛś*) 4. প্রত্যয় [Suffix] - ➢ তুমুন্, শতৃ, শানচ্, কৃত্য প্রত্যয় (*tumun*, *śatṛ*, *śānac*, *kṛtya* suffixes)		
Unit V :	**বৈদিক, জাতীয় মহাকাব্য ও লৌকিক সংস্কৃত সাহিত্যের ইতিহাস (History of Vedic, Epic & Classical Sanskrit Literature):** 1. বৈদিক সাহিত্য (সংক্ষিপ্ত পরিচয়) [Brief Introduction to Vedic Literature] - ➢ যজুর্বেদ, অথর্ববেদ ও বেদাঙ্গ [*Yajurveda*, *Atharvaveda* and *Vedāṅga*s] 2. বৈয়াসিক-মহাভারত (রচয়িতা ও বিষয়বস্তুর সংক্ষিপ্ত পরিচয়) [Brief Introduction to the author and subject-matter of *Vaiyāsika-Mahābhārata*] 3. সংস্কৃত গীতিকাব্য (রচয়িতা ও বিষয়বস্তুর সংক্ষিপ্ত পরিচয়) [Brief Introduction to the authors and subject-matters of Sanskrit lyrical poetries] - ➢ গীতগোবিন্দ ও মেঘদূত (*Gītagovinda* and *Meghadūta*)	**20**	**10** • SAQ: 6 Marks 3 questions out of 4 (covering all the topics of this unit) each containing 2 marks to be answered in Sanskrit/Bengali/ English/ Hindi [সংক্ষিপ্ত উত্তরের প্রশ্ন: (এই অংশের সকল বিষয় অবলম্বনে প্রদত্ত) চারটি ২ নং-এর প্রশ্নের মধ্যে যেকোনো তিনটির সংস্কৃত/বাংলা/ইংরাজি/হিন্দি-তে উত্তর করতে হবে]. **[2×3=6]** • DQ: 4 Marks 1 question out of 2 each containing 4 marks to be answered in Sanskrit/Bengali/ English/ Hindi [ব্যাখ্যামূলক উত্তরের প্রশ্ন: দুটি ৪ নং-এর প্রশ্নের মধ্যে যেকোনো একটির সংস্কৃত/বাংলা/ইংরাজি/হিন্দি-তে উত্তর করতে হবে]. **[4×1=4]**

CLASS: XI

SUBJECT: SANSKRIT (SNSK)

COURSE CODE: PRACTICAL/PROJECT

FULL MARKS : 20 **CONTACT HOURS : 20**

	Sub Topic (Project)	Contact hours	Marks
1.	প্রাচীন ভারতের জনপদ, পাহাড়, নদ-নদী থেকে একটি বিষয় [Provinces, Mountains and Rivers of ancient India – any one topic]	**20**	Pictorial and Informative Project work in Sanskrit language with Devanāgarī script on any two topics [ছবি ও তথ্যসহ সংস্কৃত ভাষায় দেবনাগরী লিপিতে যে কোনো দুটি বিষয় অবলম্বনে প্রকল্প-কর্ম] **[10 + 10 = 20]**
2.	প্রথম ও দ্বিতীয় সেমেস্টার-এর পাঠ্যান্তর্গত বিষয়সমূহ (সংস্কৃত সাহিত্য ও সাহিত্যের ইতিহাস) থেকে একটি বিষয় [Any one topic from the syllabus of Semester I or II (Sanskrit Literature and History of Sanskrit Literature)]		
3.	অনুচ্ছেদ রচনা (প্রকৃতি-বিষয়ক, জীবনী-বিষয়ক, নীতি/শিক্ষা-বিষয়ক) –একটি [Paragraph writing (Nature, Biography, Ethics/Morality/Education) – any one topic]		

CLASS - XII

SEMESTER – III

SUBJECT: SANSKRIT (SNSK)

FULL MARKS : 40 **CONTACT HOURS : 100 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: MCQ]
Part I	**সংস্কৃত সাহিত্য (Sanskrit Literature)**	**40**	**15**
Unit – 1	**গদ্য (Prose):** শ্রীমতী ('অবদানশতকম্'-এর অংশ বিশেষ) [*Śrīmatī* (selected portion of *Avadānaśatakam*)]		**05** [1 × 5=5]
Unit – 2	**পদ্য (Poetry/Verse):** অভ্যাসবশগংমনঃ ('শ্রীমদ্ভগবদ্গীতা'-র নির্বাচিত অংশ) [*Abhyāsavaśagaṁmanaḥ* (selected portion from *Śrīmadbhagavadgītā*)]		**05** [1 × 5=5]
Unit – 3	**দৃশ্যকাব্য (Drama):** বীরঃ সর্বদমনঃ (মহাকবি-কালিদাস-রচিত 'অভিজ্ঞান-শাকুন্তলম্' নাটকের অংশ বিশেষ) [*Vīraḥ Sarvadamanaḥ* (select portion from Kālidāsa's *Abhijñāna-Śākuntalam*)]		**05** [1 × 5=5]
Part II	**সংস্কৃত ব্যাকরণ ও সংস্কৃত সাহিত্যের ইতিহাস (Sanskrit Grammar & History of Sanskrit Literature)**	**60 (40+20)**	**25**
Unit – 4	**ব্যাকরণ (Grammar):**	**40**	**15**
	1. প্রত্যয় [Suffix] - ➢ তদ্ধিত- অণ্, মতুপ্, তরপ্, ঈয়সুন্, তমপ্, ইষ্ঠন্ (*taddhita*: *aṇ*, *matup*, *tarap*, *īyasun*, *tamap*, *iṣṭhan*) ➢ নামধাতু-প্রত্যয়- কাম্যচ্, ক্যচ্, ক্যঙ্ (suffix for *nāmadhātu*: *kāmyac*,*kyac*, *kyaṅ*)		[1 ×5=5]
	2. কারক-বিভক্তি ও সমাস [Case-ending and Compound]- ➢ কারক-বিভক্তি- কর্তৃ, কর্ম, করণ (Case-endings: *kartṛ*, *karma*, *karaṇa*) ➢ সমাস- অব্যয়ীভাব, তৎপুরুষ (Compounds: *avyayībhāva*, *tatpuruṣa*)		[1 × 5=5] [1 × 5=5]

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: MCQ]
Unit – 5	**পৌরাণিক ও লৌকিক সংস্কৃত সাহিত্যের ইতিহাস (History of Purāṇic and Classical Sanskrit Literature):**	**20**	**10**
	1. পুরাণের সংক্ষিপ্ত পরিচয় [Brief Introduction to the *Purāṇa*s]		[1 ×3=3]
	2. ভাস, কালিদাস ও ভবভূতির সাহিত্যকৃতির সংক্ষিপ্ত পরিচয় [Brief Introduction to the literary works of Bhāsa, Kālidāsa and Bhavabhūti]		[1 ×4=4]
	3. আর্যভট ও বরাহমিহির [গ্রন্থকার ও গ্রন্থের সংক্ষিপ্ত পরিচয়] [Brief Introduction to Āryabhaṭa and Varāhamihira and their works]		[1 ×3=3]

CLASS - XII

SEMESTER – IV

SUBJECT: SANSKRIT (SNSK)

FULL MARKS : 40 **CONTACT HOURS : 80 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: SAQ including DQ]
Part I	**সংস্কৃত সাহিত্য (Sanskrit Literature)**	**40**	**20**
Unit – 1	**গদ্য (Prose):** হাসবিদ্যকথা (কবি-বিদ্যাপতি-কৃত 'পুরুষপরীক্ষা'র অংশ বিশেষ) [*Hāsavidyakathā* (selected portion from *Puruṣaparīkṣā* of Vidyāpati)]		• SAQ: 06 Marks 3 questions out of 4 (covering all the given texts of this part) each containing 2 marks to be answered in Sanskrit [সংক্ষিপ্ত উত্তরের প্রশ্ন: চারটি (এই অংশে প্রদত্ত সকল গ্রন্থ অবলম্বনে) ২ নং-এর প্রশ্নের মধ্যে যেকোনো তিনটির সংস্কৃত-তে উত্তর করতে হবে]. **[2×3=6]**
Unit – 2	**পদ্য (Verse):** বনেচরভাষণম্ (ভারবি-রচিত 'কিরাতার্জুনীয়ম্' মহাকাব্যের প্রথম সর্গের নির্বাচিত অংশ) [*Vanecarabhāṣaṇam* (selected portion from the 1st canto of *Kirātārjunīyam* of Bhāravi)]		• SAQ: 04 Marks 2 questions out of 3 (1+1+1) each containing 2 marks to be answered in Sanskrit /Bengali / English/ Hindi [সংক্ষিপ্ত উত্তরের প্রশ্ন: তিনটি (১+১+১) ২ নং-এর প্রশ্নের মধ্যে যেকোনো দু'টির সংস্কৃত/বাংলা/ইংরাজি/ হিন্দি-তে উত্তর করতে হবে]. **[2×2=4]**
Unit – 3	**দৃশ্যকাব্য (Drama):** আত্রেয়ী-বনদেবতা-সংবাদঃ (মহাকবি-ভবভূতি-রচিত 'উত্তররামচরিতম্' এর দ্বিতীয় অঙ্কের প্রারম্ভে বিষ্কম্ভকের নির্বাচিত অংশ) [*Ātreyī-vanadevatā-saṁvādaḥ* (selected portion from the *Viṣkambhaka* part of 2nd act of *Uttararāmacaritam* of Bhavabhūti)]		• DQ: 10 Marks 2 questions out of 3 (1+1+1) each containing 5 marks to be answered in Sanskrit/Bengali/ English/ Hindi [ব্যাখ্যামূলক উত্তরের প্রশ্ন: তিনটি (১+১+১) ৫ নং-এর প্রশ্নের মধ্যে যেকোনো দু'টির সংস্কৃত/বাংলা/ইংরাজি/ হিন্দি-তে উত্তর করতে হবে]. **[5×2=10]**
Part II	**সংস্কৃত ব্যাকরণ ও সংস্কৃত সাহিত্যের ইতিহাস (Sanskrit Grammar & History of Sanskrit Literature)**	**40 (20+20)**	**20**

UNIT NO.	TOPICS	CONTACT HOURS	MARKS [Question type: SAQ including DQ]
Unit – 4	**ব্যাকরণ (Grammar):** 1. প্রত্যয় [Suffix]- ➢ সনাদি - সন্, যঙ্, ণিচ্ (*san*, *yaṅ*, *ṇic*) ➢ স্ত্রী - টাপ্, ঙীপ্ (*strī*: *ṭāp*, *ṅīp*) 2. কারক-বিভক্তি ও সমাস[Case-ending and Compound] - ➢ কারক-বিভক্তি - সম্প্রদান, অপাদান, অধিকরণ ও সম্বন্ধপদ (Case-endings: *sampradāna*, *apādāna* and *sambandhapada*) ➢ সমাস – সাধারণ-কর্মধারয়, দ্বিগু (সমাহার), দ্বন্দ্ব, বহুব্রীহি (সমানাধিকরণ, ব্যধিকরণ, নঞ্) (Compounds: *sādhāraṇa-karmadhāraya*, *samāhāra-dvigu*, *dvandva*, *bahuvrihi* - *samānādhikaraṇa*, *vyadhikaraṇa*, *nañ*)	**20**	SAQ: 10 Marks 5 questions out of 6/7(covering all the topics of this unit) each containing 2 marks to be answered as per given instructions [সংক্ষিপ্ত উত্তরের প্রশ্ন: (এই অংশের সকল বিষয় অবলম্বনে প্রদত্ত) ছয়/সাতটি ২ নং-এর প্রশ্নের মধ্যে যেকোনো পাঁচটির প্রদত্ত নির্দেশানুসারে উত্তর করতে হবে]. **[2×5=10]**
Unit – 5	**লৌকিক ও আধুনিক সংস্কৃত সাহিত্যের ইতিহাস (History of Classical and Modern Sanskrit Literature):** 1. গদ্য - দণ্ডী ও বাণভট্টের সাহিত্যকৃতি (সংক্ষিপ্ত পরিচয়) [Brief Introduction to Daṇḍī and Bāṇabhaṭṭa and their literary works] 2. চম্পূ - নলচম্পূ ও ভারতচম্পূ (সংক্ষিপ্ত ধারণা) [Brief Introduction to *Nalacampū* and *Bhāratacampū*] 3. আয়ুর্বেদ - চরক ও সুশ্রুত (গ্রন্থকার ও গ্রন্থের সংক্ষিপ্ত পরিচয়) [Brief Introduction to Caraka and Suśruta and their works] 4. আধুনিক বাঙালি সংস্কৃতসাধক ও সাহিত্যকৃতি (সংক্ষিপ্ত পরিচয়) [Bengalee authors of Modern Sanskrit literary works: a brief Introduction] - ➢ সিদ্ধেশ্বর চট্টোপাধ্যায়, সীতানাথ আচার্য, তারাপদ ভট্টাচার্য, বীরেন্দ্রকুমার ভট্টাচার্য ও শ্রীজীব ন্যায়তীর্থ (Siddheswar Chattopadhyay, Sitanath Acharya, Tarapada Bhattacharya, Birendrakumar Bhattacharya, Srijeeb Nyayatirtha)	**20**	• SAQ: 6 Marks 3 questions out of 4 (covering all the topics of this unit) each containing 2 marks to be answered in Sanskrit/Bengali/ English/ Hindi [সংক্ষিপ্ত উত্তরের প্রশ্ন: (এই অংশের সকল বিষয় অবলম্বনে প্রদত্ত) চারটি ২ নং-এর প্রশ্নের মধ্যে যেকোনো তিনটির সংস্কৃত/বাংলা/ইংরাজি/ হিন্দি-তে উত্তর করতে হবে]. **[2×3=6]** • DQ: 4 Marks 1 question out of 2 each containing 4 marks to be answered in Sanskrit/Bengali/ English/ Hindi [ব্যাখ্যামূলক উত্তরের প্রশ্ন: দুটি ৪ নং-এর প্রশ্নের মধ্যে যেকোনো একটির সংস্কৃত/বাংলা/ইংরাজি/ হিন্দি-তে উত্তর করতে হবে]. **[4×1=4]**

CLASS: XII

SUBJECT: SANSKRIT (SNSK)

COURSE CODE : PRACTICAL/PROJECT

FULL MARKS : 20 **CONTACT HOURS : 20 HOURS**

	Sub Topic (Project)	CONTACT HOURS	MARKS
1.	সংস্কৃত মনীষায় বিজ্ঞানচেতনা [Scientific thoughts in Sanskritic intellectual tradition]	**20**	1. Pictorial and Informative Project work in Sanskrit language with Devanāgarī script on any one from first two topics & 2. Dialogue/Debate in Sanskrit in any relevant topic ১. ছবি ও তথ্যসহ সংস্কৃত ভাষায় দেবনাগরী লিপিতে প্রথম দুটি বিষয়ের মধ্যে যে কোনো একটি বিষয় অবলম্বনে প্রকল্প-কর্ম এবং ২. সংস্কৃত বার্তালাপ/বিতর্ক – যেকোনো প্রাসঙ্গিক বিষয়ে] **[10 + 10 = 20]**
2.	প্রথম ও দ্বিতীয় সেমেস্টার-এর পাঠ্যান্তর্গত বিষয়সমূহ (সংস্কৃত সাহিত্য ও সাহিত্যের ইতিহাস) থেকে একটি বিষয় [Any one topic from the syllabus of Semester III or IV (Sanskrit Literature and History of Sanskrit Literature)]		
3.	বার্তালাপ/বিতর্ক – যেকোনো প্রাসঙ্গিক বিষয়ে [Dialogue/Debate in any relevant topic]		

SUGGESTED READING :

1.	*Helps to the Study of Sanskrit*, Janakinatha Sastri, Kolkata: Sanskrit Book Depot.
2.	*সংস্কৃত সাহিত্যের ইতিহাস ও সংস্কৃত ত্রিধারা*, শ্রীকৃষ্ণগোপাল গোস্বামী ও আলপনা গোস্বামী। কলকাতা : গোস্বামী প্রকাশনী।
3.	*সমগ্র ব্যাকরণ কৌমুদী*, ঈশ্বরচন্দ্র বিদ্যাসাগর, হেমচন্দ্র ভট্টাচার্য্য বিদ্যাবিনোদ সম্পাদিত। কলকাতা : চলন্তিকা প্রকাশক।
4.	*সমগ্র ব্যাকরণ কৌমুদী*, ঈশ্বরচন্দ্র বিদ্যাসাগর, দুর্গাচরণ সাংখ্য-বেদান্ততীর্থ সম্পাদিত। কলকাতা : দেব সাহিত্য কুটীর প্রাইভেট লিমিটেড।
5.	*নবরূপে ব্যাকরণ কৌমুদী*, শ্রীকৃষ্ণগোপাল গোস্বামী ও আলপনা গোস্বামী। কলকাতা : গোস্বামী প্রকাশনী।
6.	*সংস্কৃত সাহিত্যের ইতিহাস*, যুধিষ্ঠির গোপ। কলকাতা : সংস্কৃত বুকডিপো।
7.	*বেদের পরিচয়।* যোগীরাজ বসু। কলকাতা : ফার্মা কেএলএম প্রাইভেট লিমিটেড।
8.	*বৈদিক সাহিত্যের রূপরেখা।* শান্তি বন্দ্যোপাধায়। কলকাতা : সংস্কৃত পুস্তক ভাণ্ডার।
9.	*সংস্কৃত সাহিত্যের ইতিহাস (বৈদিক ও লৌকিক)*, জাহ্নবীচরণ ভৌমিক। কলকাতা : সংস্কৃত পুস্তক ভাণ্ডার।

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII
SUBJECT: SOCIOLOGY(SOCG)

COURSE OVERVIEW:

Sociology is a wide-ranging modern social science discipline which investigates the structure of society and the diversity of social activity in theory and practice. Sociology evolves alongside society, with its focus areas ranging from globalization and societal structures to cultural practices and customs as well as diverse social relationships.

Sociology is introduced as an elective subject at the senior secondary stage. The syllabus is designed to help learners to reflect on what they hear and see in the course of everyday life and develop a constructive attitude towards society in change; to equip the learners to understand the dynamics of human behaviour in all its complexities and manifestations. The learners of today need answers and explanations to satisfy the questions that arise in their minds while trying to understand social world. Therefore, there is a need to develop an analytical approach towards the social structure so that they can meaningfully participate in the process of social change.

There is scope in the syllabus not only for interactive learning, based on exercises and project work but also for the teachers and students to jointly innovate new ways of learning and divergent thinking.

OBJECTIVES :

- Sociological outlook makes it possible to challenge everyday assumptions and consciously distance the learners from notions that are considered self-evident.
- It would help the learners to relate the theoretical knowledge with the actual social practices.
- It enables the learners to appreciate socio-cultural differences and develop empathy and inclusive attitude towards 'others'.
- It equips the learners to unearth the underlying meanings of reality and suggest new alternatives to bring about changes in desired direction.

CLASS - XI

SEMESTER – I

SUBJECT: SOCIOLOGY (SOCG)

COURSE STRUCTURE

Theory: 80 marks + Project: 20 marks

(Type:MCQ)

FULL MARKS: 40 **CONTACT HOURS: 100 Hours**

COURSE CODE: THEORY

UNIT NO.	TOPICS	SUB TOPICS	CONTACT HOURS	MARKS
Unit 1	Introducing Sociology	• What is sociology- 'Sociological Imagination'; C.W.Mills- Sociology and its relationship with other social sciences (Anthropology, History, Political Science, Economics, Philosophy and Psychology) • Emergence of sociology: French Revolution, Industrial Revolution, Enlightenment (a very brief outline) • Founding fathers of sociology: a) Auguste Comte- Law of Three Stages b) Emile Durkheim- Division of Labour c) Max Weber- The Protestant Ethic and the Spirit of Capitalism • Is Sociology a science- the debate	30	06
Unit 2	Basic Sociological Concepts (only conceptual outlines to be discussed)	• Society- structure, process • Community and Association • Social Institutions • Social Organization • Social Groups • Social Stratification • Social Change • Social Investigations- a) Definition and Stages b) Methods: i) Field Studies with special reference to Participant	25	15

UNIT NO.	TOPICS	SUB TOPICS	CONTACT HOURS	MARKS
		Observation ii)Social Survey c) Tools: Questionnaire and Interview Schedule		
Unit 3	Culture and Society	• Meaning and Importance • Material and Non-material Culture (e.g. Technology and Language) • Culture as a Normative System- Institutions, Values, Norms, Beliefs, Folkways, Mores and Laws • Cultural Lag, Sub-culture, Counter Culture, Mass Culture, Folk Culture, Consumer Culture, Multiculturalism, Ethnocentrism, Xenocentrism (only conceptual understanding of each topic) • Culture, Personality and Society	25	15
Unit 4	Socialization	• Concept and Importance • Socialization and Social Interaction (verbal and non verbal) • Agencies- Family, Peer, Educational Institutions, Work Place and Media • Formation of 'Self'- stages • Social Reproduction and Social Transformation	20	04

CLASS - XI

SEMESTER – II

SUBJECT: SOCIOLOGY (SOCG)

COURSE STRUCTURE

Theory: 80 marks + Project: 20 marks

(Type: SAQ & LAQ)

FULL MARKS: 40 **CONTACT HOURS: 80 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	SUB TOPICS	CONTACT HOURS	MARKS
Unit 5	Social Institutions	• Kinship, Family and Marriage- forms and functions; changing trends like single parent family, same sex marriage etc. • Economic Institutions- Work, Market, Online Transaction • Political Institutions- Power and Authority (concept), State (concept); Government (Democratic, Dictatorship, Parliamentary, Presidential); Non-State Institution (UN- in brief) • Cultural Institution- Religion, Education, Fashion (cultural variation) • Health and Illness – concept (physical and mental health); Health Scare- Pandemic (e.g. COVID 19)	60	30
Unit 6	Social Control and Crime	• Concept and meaning • Conformity and Non conformity • Deviance and Delinquency • Types of Crime (White-Collar Crime, Cyber Crime, Organized Crime-Terrorism)	20	10

PROJECT WORK: Full marks- 20	
A. Written Internal Assessment- Any topic of social relevance can be investigated applying social science research methods and tools • 1.Introduction- • 2.Research Question- 2 Marks • 3. Research Objectives- 2 Marks • 4. Method of Data Collection and its Rationale-3 Marks • 5. Data Analysis- 3 Marks • 6. Conclusion- • 7. Reference and Bibliography- 2 Marks • Report Writing- 3 Marks	15 Marks
B.Viva-voce- on the basis of the assigned work	05 Marks

- Project to be submitted during the second semester or within the guideline as directed by the Council.
- For Remedial Classes, Tutorials and Home Assignments no. of periods allotted- 15

CLASS - XII

SEMESTER – III

SUBJECT: SOCIOLOGY (SOCG)

COURSE STRUCTURE

Theory: 80 marks + Project: 20 marks

(Type: MCQ)

FULL MARKS: 40 **CONTACT HOURS: 100 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	SUB TOPICS	CONTACT HOURS	MARKS
Unit 1	Sociology in India	• Pioneers of Indian Sociology 1. G.S. Ghurye- Caste and Race 2. R.K. Mukherjee- Social Ecology 3. M.N. Srinivas – Sanskritization and Westernization	30	8
Unit 2	Social Change in India: Continuity and Change	• Colonialism, Nationalism • Post-Colonial India- Liberalization and Globalization	20	7
Unit 3	Change in Social Structure	• Family: Changes in structure and functions, factors of change, recent trends (family disorganization) • Rural and Urban Communities: Difference between City and Village, emerging Agrarian Society in the 21st century, Panchayat, Municipality, Smart City • Caste and Tribe: Pollution and Purity, Caste Association – SC, ST, OBC, Tribal Absorption, Tribal movements • Religion: Communalism, Secularism • Education: Education Policy perspective in Independent India, SarvaShikshaAbhiyan (SSA), Right To Education (RTE),State Education Policy of West Bengal (2023)in the context of National Education Policy (NEP- from foundation to senior secondary level, in brief)	50	25

CLASS - XII

SEMESTER – IV

SUBJECT: SOCIOLOGY (SOCG)

COURSE STRUCTURE

Theory: 80 marks + Project: 20 marks

(Type : SAQ & LAQ)

FULL MARKS: 40 **CONTACT HOURS: 80 HOURS**

COURSE CODE: THEORY

UNIT NO.	TOPICS	SUB TOPICS	CONTACT HOURS	MARKS
Unit 4	Contemporary Social Issues	• Population Explosion, Poverty, Illiteracy and Unemployment, Mobility and Migration, Consequences and Remedies • Corruption: Concept, Recent Legislations • Gender and Sexuality: Concept of Sex and Gender, Women and Different forms of Sexuality (LGBTQ), Different forms of gender violence • Environment: Crisis and Responses (State and Non- State Initiatives) • Mass Media: Print and Tele Media, Social Media- Facebook, Instagram, Reddit, Linkedln, Vloggs, Reels and their impact in social life • Social Movements: Women's movement and Environment movement	80	40

PROJECT WORK: Full marks – 20	
A. Written Internal Assessment- Any topic of social relevance can be investigated applying social science research methods and tools • 1.Introduction- 2 Marks • 2.Objectives- 2 Marks • 3. Research Question- 2 Marks • 4. Methodology and its Rationale- 2 Marks • 5. Data Analysis- 3 Marks • 6. Conclusion- 2 Marks • 7. Reference and Bibliography- 2 Marks	15 Marks
B. Viva-voce- on the basis of the assigned work	05 Marks

- Project to be submitted during the fourth semester or within the guideline as directed by the Council.
- For Remedial Classes, Tutorials and Home Assignments no. of periods allotted- 15

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
SYLLABUS FOR CLASSES XI AND XII
SUBJECT : STATISTICS (STAT)

COURSE OVERVIEW :

Nowadays , Statistics has become an indispensible subject in every sphere of life, specially in the fields of Engineering, Commerce, Industry, Agriculture, Bio-Technology , Education , Economics, Physical Science and Social Science.

Sincere attempt has been taken in including the topics in Class XI and Class XII, so that students are familiarized with the content and ideas of those topics.

This Higher Secondary Statistics Syllabus included all the topics covered by the leading boards of India in HS level. Utmost care has been taken in selecting and preparing the topics for both the classes. Most of the topics will help HS students in their All India Entrance Examinations and Entrance tests of the reputed Institutions. Not only that, the students who are willing to pursue their studies in basic sciences will also get immense help.

For some advance topics, only a few salient features have been discussed to give the students a brief idea.

CLASS - XI

SEMESTER – I

SUBJECT : STATISTICS (STAT)

FULL MARKS: 35 **CONTACT HOURS: 60 Hours**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 1	Introduction: Meaning of statistics, Nature of statistics, Importance of statistics, Relation with some allied subjects, Uses of statistics, Misuses of statistics	03	02
	Types of data: Primary and Secondary data, Quantitative data and Qualitative data, Discrete data and continuous data, Time series , Spatial series data and cross-sectional data, ordinal data and nominal data, Illustration with examples	06	04
UNIT 2	Collection of data: Questionnaire and its basic characteristics, Definition of Schedule and pilot survey, Designing a questionnaire and schedule, concept of outliers.	05	01
	Scrutiny of data: Checking internal consistency and detection of error in collection and in recording.	04	02
UNIT 3	Presentation of data: Textual representation, Tabular representation, Diagrammatic representation (line diagram, Multiple axes diagram and multiple line diagram), Bar diagram (Horizontal and vertical bar diagrams, multiple and divided bar diagrams), Pie diagram	09	04
UNIT 4	Frequency distribution, Cumulative frequency distribution and their graphical representation (Column diagram, Step diagram, ogive, Histogram, frequency curve of different types, Stem and leaf diagram)	09	05
UNIT 5	Official Statistics: Structure and activities of some organizations (NSSO, CSO, DGCSIR, Labour Borough, Agricultural Statistics, MOSPI)	04	03
UNIT 6	Concept of Central Tendency and its measures with properties including AM≥GM≥HM.	13	09
UNIT 7	Index No.: Definition of Index Number, Types of Index No.(Price Index, Quantity Index, Value Index), Construction of Price Index No. and its uses, Various Price Index formulae(Laspeyres', Paasche's, Edgeworth-Marshall and Fisher), Tests of consistency (Time reversal test and Factor reversal test)	07	05
	TOTAL	**60 Hours**	**35**

CLASS - XI

SEMESTER – II

SUBJECT : STATISTICS (STAT)

FULL MARKS: 35 **CONTACT HOURS: 40 Hours**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 1	Measures of Dispersion: Range, Mean deviation, Standard deviation, Quartile deviation, Coefficient of variation, Quantile and Percentile with relation between different measures	10	10
UNIT 2	Raw and central moments up to fourth order and their conversions Cauchy –Schwartz Inequality Measures of Skewness and Kurtosis: Different measures based on moments and quantities(associated inequalities involving b_1 and b_2 coefficients)	07	06
UNIT 3	Random experiment: Sample Space, Notion of events and operations with events. Definition of Probability: Classical and Relative frequency approach to probability with limitations. Axiomatic Definition of Probability (Statement only) Theorem of Total Probability, Bonferroni's inequality, Boole's inequality. Compound Probability, Conditional Probability and Bayes' theorem, Statistical Independence of events (No. of events not more than three) and related problems.	12	12
UNIT 4	Concept of polynomials, Different forms of *n*-th degree polynomials relating to two different interpolation formulae, Remainder theorem. Concept of Interpolation, Δ and E operators and their relation. Simple Interpolation : Newton's Forward and Backward Interpolation formulae (without Derivation)	05	03
UNIT 5	Population Statistics: Introduction: Vital events, Sources of data on Vital events, Rates and Ratio of vital events. Measurement of Mortality: CDR,SDR,STDR Measurement of Fertility: CBR,GFR,ASFR,TFR Measurement of Population Growth: Crude rate of Natural increase and Vital index.	06	04
	TOTAL	**40 Hours**	**35**

[Note:20 Hours reserved for Remedial classes, Tutorials and Home Assignments.]

CLASS - XII

SEMESTER – III

SUBJECT : STATISTICS (STAT)

FULL MARKS: 35 **CONTACT HOURS: 60 Hours**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 1	Mathematics: Concept of series and sequence, Concept of convergence and divergence and related sums. Infinite series, e-series and log series and related sums. Concept of Maximum and Minimum, Concept of Partial derivative, Concept of Infinite Integral(Gamma integral and Beta integral and their relation with factorial)	16	06
UNIT 2	Probability Distributions Random Variables and its Probability distribution, Cumulative distribution function, Probability Mass Function, Probability density function , Expectation, Variance	15	10
UNIT 3	Some Discrete Distribution Uniform distribution, Binomial distribution, Poisson distribution, Geometric distribution and their properties with related problem Sums. Fitting of above distributions.	16	12
UNIT 4	Least square method and curve fitting (linear and exponential)	04	02
UNIT 5	Time series Analysis Introduction, Different components of time series, Different models of time series, Trend determination by method of simple moving averages and by fitting Mathematical curves (straight line and exponential curve)using least square principle.	09	05
	TOTAL	**60 Hours**	**35**

CLASS - XII

SEMESTER – IV

SUBJECT : STATISTICS (STAT)

FULL MARKS: 35 **CONTACT HOURS: 40 Hours**

COURSE CODE : THEORY

UNIT No.	TOPICS	CONTACT HOURS	MARKS
UNIT 1	Descriptive Statistics: Bivariate Data, Scatter diagram, Two - way frequency distribution, Marginal and conditional distribution. Simple correlation and its properties. Simple regression Analysis and its related results Rank data and rank correlation.(Spearman's Rank Correlation coefficient –case of no tie)	09	10
UNIT 2	Some Continuous Distribution Rectangular distribution and Normal distribution. their properties with related problem Sums. Fitting of above distributions.	07	07
UNIT 3	Sampling theory and Sampling distribution Population and Sample, Parameter and Statistic, Complete Enumeration and sample surveys, Basic principles of sample survey, Advantages of Sample survey over complete enumeration. Concept of probability sampling, Practical methods of drawing a random sample using a random Number Table, SRSWR and SRSWOR, Concept of Sampling distribution of sample mean and its standard error.	06	05
UNIT 4	p.d.f and shape of χ^2 , t and F with expectation and variance (without derivation)	03	02
UNIT 5	Estimation Idea of inference, Point estimation, Interval estimation, Estimator and estimate. Four basic criteria of Estimator, Concept of bias. Idea of unbiasedness and minimum variance unbiasedness. Point estimation of Binomial proportion, Poisson mean ,normal mean and variance (using method of moments).	05	03

UNIT 6	Testing of Hypothesis: Statistical test of Hypothesis-Null and Alternative hypothesis, Simple and Composite Hypothesis, Type I and Type II error, Critical region, level of significance, Power of a test, One sided and Two sided tests. Critical Value. Tests of significance related to a single Binomial Proportion and Poisson Mean(using Large sample approximation), Mean and Variance of a single univariate Normal distribution.	06	05
UNIT 7	Statistical Quality Control Introduction, Idea of Quality and Quality Control, Advantages of Statistical Quality Control, Process and Lot control, Control chart technique. Construction of control charts by variables $(\bar{X}\ R)$ and attributes(*p*, *np*)	04	03
	TOTAL	**40 Hours**	**35**

[Note:20 Hours reserved for Remedial classes, Tutorials and Home Assignments.]

CLASS: XI

SUBJECT : STATISTICS (STAT)

COURSE CODE: PRACTICAL

FULL MARKS: 30 **CONTACT HOURS: 80**

PROBLEMS FOR PRACTICAL EXAMINATION: 18 (5×2+4×2)

LABORATORY NOTE BOOK : 04, PROJECT WORKS : 05, VIVA-VOCE : 03

List of Problem Sets :

1. Tabular Presentation of Data, Scrutiny of Data
2. Diagrammatic Representation of Data (Non-Frequency Type)
3. Construction of Frequency Distribution and Graphical Representation of them (Univariate Data only, both Discrete and Continuous Variables)
4. Calculations Relating to Measures of Central Tendency (Problems involving Open Ended Classes, Missing Frequencies, Pooling of Two Sets of Data, Checking Empirical Relations, Finding Median Graphically using Ogives, Finding Mode using Histogram, Checking the Correctness of the Measures etc.)
5. Calculations Relating to Measures of Dispersion (Problems involving Open Ended Classes, Missing Frequencies, Pooling of Two Sets of Data, Step Deviation Methods using shift of Origin and/or Change of Scale, Checking the correctness of the Measures etc.)
6. Calculations Relating to Moments and Measures of Skewness and Kurtosis

   (Comment on the Nature of Frequency Distribution, Verification of the Inequalities involving b_1 and b_2 is desirable)
7. Problems involving Polynomial, Δ-Operator, Finite Difference Table etc.
8. Calculations Relating to Index Numbers and their tests
9. Calculations Relating to Mortality Rates and Fertility Rates
10. **Project Works:** It will be based on Descriptive Statistics.

    Here, we propose some **mini-projects** :

    (a) Prepare a questionnaire for collecting data on age-sex composition of different families of the locality of a student.

    (b) Collect data on age, family size, place of residence (Urban/Rural) and religion of all the students of your class or other class. Construct frequency distribution of all the variables and represent them by suitable diagrams.

    (c) Collect data on height and weight of all the students of your class or other class. Construct frequency distribution of all the variables and represent them by suitable diagrams.

    (d) Collect the maximum daily temperature (℃) and minimum daily temperature (℃) of your city from weather report for consecutive 30 days. Then compare these two distributions using suitable diagrams.

    (e) Collect data on the percentage of marks obtained in the last public examination of all the students of your class and present the data using suitable diagrams.

    (f) Collect data on height/weight of a group of students. Calculate the different measures of Central Tendency. Comment on the nature of data (skewness) based on the result you obtained.

CLASS: XII

SUBJECT : STATISTICS (STAT)

COURSE CODE: PRACTICAL

FULL MARKS: 30 **CONTACT HOURS: 80**

PROBLEMS FOR PRACTICAL EXAMINATION: 18 (5×2+4×2)

LABORATORY NOTE BOOK : 04, PROJECT WORKS : 05, VIVA-VOCE : 03

List of Problem Sets :

1. Scatter Diagram, Calculation of Correlation Coefficient and Regression Coefficient, Identifying the Regression Equations, Finding the Regression Equations from Bivariate Data, Problems on Spearman's Rank Correlation Coefficient (case of no tie).
2. Application and Fitting of Binomial, Poisson and Normal Distributions.
3. Drawing of Random Samples in SRSWR and SRSWOR using Random Number Tables.
4. Sampling Distribution of Sample Mean from a Finite Population based on SRSWR and SRSWOR (Start with a population having a finite number of values (4, 5, 6 etc.); choose a sample size of 2, 3 etc.; list all possible samples of the chosen size; calculate sample mean based on each such sample; obtain the sampling distribution of the sample mean and display this distribution diagrammatically).
5. Estimation of Population Mean and Standard Error of the Estimator of Population Mean under SRSWR and SRSWOR.
6. Testing of Hypothesis in case of Poisson Parameter, Mean and Variance of Normal Distribution, χ^2 goodness of fit.
7. Determination of Trend in Time Series Data using Moving Average Method (period of moving average even and odd), Linear trend equation and Exponential trend equation.
8. Construction of Control Chart (p, np, $\bar{x}$, R)
9. **Project Works :**

   Here, we propose some mini-projects :

   (a) Collect the marks obtained in Test Examination and in Final Examination in MP for the students of a year. Plot the data to obtain a scatter diagram showing the relation between these two sets of scores. Calculate Correlation Coefficient and also obtain the Regression Lines. Estimate Final score based on Test score for the students. Compare estimated scores and actual scores. Are they same? If not, then what is the interpretation of it? Explain this in the conclusion of your project report.

   (b) Collect data on heights (in inches) and weights (in kg) of a group of students of same gender and same age group. Draw the scatter diagram of these bivariate data. Calculate correlation coefficient and then compute the regression equations of both the types.

   (c) Collect data on age of father and mother of a group of your friends. Rank the data. Using ranked data, calculate Rank Correlation Coefficient. Comment on the result you obtained.

(d) Collect the maximum daily temperature (℃) and minimum daily temperature (℃) of your city from weather report for consecutive 30 days. Then plot the data using a suitable scale. Comment on the nature of the data you obtained.

(e) Purchase 10 different chocolates from a nearby shop. Ask your two friends separately to rank them according to their preference. Using these data, check whether their preferences are related or not.

(f) From a group of students of a class select a sample of size 10 using Random Number Table by SRSWR and SRSWOR. Estimate sample mean and sample variance based on the result you obtained.

(g) Collect the data on the movement of BSE SENSEX for last two weeks. Fit a linear trend to the data and calculate the predicted value for next two days. Verify the correctness of the predicted values with the actual values. Comment on the result you obtained.

INSTRUCTIONS for Laboratory Session and

Preparation of Laboratory Note Book for STATISTICS.

1. For Laboratory Note Book, square sheets and white sheets both are to be used by the students, but if the square sheets are not available then the students may use Laboratory Note Book as used in practical of Biological Sciences, Physics and Chemistry etc.

2. Strictly, HB pencil is to be used in laboratory sessions. Scientific calculators (Non-Programmable) may be used. If required, Statistical Tables are to be supplied by the institutions. Geometry Box may also be used.

3. A problem set on a specific topic covering different numerical problems based on Secondary data is to be supplied to the students in a laboratory session. This may be typed or printed or neatly hand-written in white papers.

   Each problem set should carry at the top

   (a) The problem set number

   (b) Heading (in capital letters)

   (c) Working date

4. While solving any problem in any of the problem sets, students must mention the necessary theory along with relevant formula and notations, in brief, wherever and whenever needed in the square sheets. No derivation or discussion is needed. Use tables for showing the calculations.

5. The necessary calculations are to be shown stepwise with specification of units, wherever required. Calculations should be presented neatly, whenever required, in a square sheet or in the ruled side of the inter-leaf sheet.

6. For graphs and diagrams the cm/mm graph papers are to be used. Both the axes should be labelled clearly, scales to be mentioned and the name of the charts/ diagrams are to be mentioned clearly. The graph sheets are to be presented adjacent to the relevant calculations of the problems concerned.

7. All the problem sets enlisted in the syllabus must be completed, examined and signed with date by the teacher concerned. Finally, it should be arranged serially according to the content index.

8. There should be a content index at the very beginning of the Laboratory Note Book which consists of

   (a) Serial Number of the Chapters

   (b) Heading of the Chapters

   (c) Working Date

   (d) Running Page Number

RULES for the Practical Examination

1. The Practical Examination is to be held on a **single date** simultaneously in all the institutions.
2. If it is not possible to hold the examination on a single date, then there should be **at least three sets of questions** for different dates since Statistics Practical is a numerical problem based practical.
3. The Practical Examination will be of **two hours** duration including Viva-Voce.
4. Questions of Viva-Voce may be asked by the **External Examiner** to test the depth and understanding of the student in both theory and practical, preferably on Project Work.
5. Only **non-programmable** scientific calculators are allowed in the examination.
6. Statistical table will not be given in the question paper. Only some required values will be given in the question paper. **Statistical tables,** if required, should be supplied by the institutions on the date of examination for consultation of the students.
7. The completed Laboratory Note Book **duly checked** covering all the topics/chapters as prescribed in the syllabus must be submitted during the Practical Examination of both Class XI and Class XII.
8. Students **must bring the completed Project Work** given to them on the date of Practical Examination.

WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION

SYLLABUS FOR CLASS XI AND XII

SUBJECT : VISUAL ARTS (VISA)

CLASS – XI

(THEORY + PRACTICAL)

FULL MARKS : 100

MARKS DIVISION : THEORY - 50 + PRACTICAL - 50

Course Objectives -

This course is outlined to give students with a well-rounded education in the visual arts by integrating technical skills, historical knowledge, critical thinking and personal expression.

The objectives of this course are -

- To enhance and develop awareness and understanding of the natural world and the world of the visual arts, through a thorough study of art principles and observational practices.
- Learn about the history of notable art, architecture and artists and regional folk art.
- Teach students how to analyse and understand works of art critically.
- To strengthen their observational skills and recognition ability of the complexities and continual rearrangement of various design elements like line, shape, rhythm, colour, texture etc .
- Become familiar with the selected medium for communication and idea generation.
- To improve their ability to control different art materials, tools, and techniques.
- To develop concepts and ideas about weight, volume of an object, two or three dimensional object, play with forms in space etc.
- To help and enable students to develop concepts and professional competence in making Lettering, Poster, Logo design etc.
- Guide students in developing a portfolio reflecting their yearly activities.
- To develop one's artistic attitude, values as well as aesthetic sense of beauty

CLASS - XI

SEMESTER – I

SUBJECT : VISUAL ARTS (VISA)

FULL MARKS : 20 **CONTACT HOURS : 70 HOURS**

COURSE CODE : THEORY

GROUP A - INDIAN AND WESTERN ART

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit 1 Indian Art	Pre-historic Rock Painting ● Introduction to pre-historic cave painting in India. ● Cave Paintings of Bhimbetka Indus Valley Art ● Introduction to Indus Valley Art ● Sculpture - Dancing Girl, Priest, Mother Goddess ● Other artworks - Seals, Pottery, Toys and Ornaments Arts of Maurya and Sunga Period ● Introduction to Art during Mauryan and Sunga Period ● Lion Capital of Sarnath, Bull Capital of Rampurva, Capital of Lauriya Nandangarh, Elephant Sculpture of Dhauli ● Yaksha and Yakshini sculptures of Bharhut ● Sanchi Stupa I, Bharhut Stupa(structure and relief sculptures of gateways)	8 8 9	6
Unit 2 Western Art	Pre-historic Art of Europe ● Introduction to Pre-historic cave paintings of Europe (Palaeolithic Age) ● Venus of Willendorf of Austria ● Altamira and Lascaux cave paintings Egyptian Art and Architecture ● Introduction to Egyptian Art ● Great Pyramid of Giza- Structure and statue of Sphinx ● Step Pyramid of Djoser ● Sculptures of Tutenkhamen, The Seated Scribe & Nefertiti ● Wall Paintings of Pyramids ● Paintings of Papyrus	8 8	6

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	Greek and Roman Art ● Introduction to ancient Greek Art ● Greek Architecture- Parthenon Temple ● Greek Sculptures - Discobolus, Zeus of Olympia, Athena of Parthenon, Doryphoros, Diadumenos, Hermes of Praxiteles, Venus de Milo, Lacoon Family, Nike of Samothrace ● Painting - Black and Red figure Vase Painting ● Roman Sculpture- Augustus from Prima Porta, The Orator and Head of a Roman Patrician	9	
GROUP B- CREATIVE HANDICRAFTS & DESIGN			
UNIT No.	**TOPICS**	**CONTACT HOURS**	**MARKS**
Unit- 3 Creative Handicrafts & Design	Clay Work ● Materials required for clay work ● Preparation of clay ● Process of making clay sculpture	6	8
	Traditional Clay Handicrafts of Bengal ● Dolls, Pottery, Toys, Idols etc.	8	
	Design ● Basic principles of design ● Introduction of Logo design ● Different types of Logo design	6	
	TOTAL	**70**	**20**

CLASS - XI

SEMESTER – II

SUBJECT : VISUAL ARTS (VISA)

Short and Descriptive Type Question & Answer

FULL MARKS : 30 **CONTACT HOURS : 60 HOURS**

COURSE CODE : THEORY

GROUP A - INDIAN AND WESTERN ART

UNIT No.	TOPICS	CONTACT HOURS	MARKS
Unit 1 Indian Art	Art of Mauryan Period ● Kushan Period- Introduction to Gandhara and Mathura and Amaravati Art ➢ Amaravati Stupa ➢ Gandhara Buddha and Bodhisattva Sculptures, Statue of Kaniska ➢ Seated Buddha and Katra Matura ● Gupta Period - Introduction of Art during the Gupta Dynasty ➢ Ajanta Cave Paintings ➢ Seated Buddha Sculptures of Sarnath Temple Sculptures and Architecture of Post-Gupta Period ● Introduction to Ellora Cave Temples; Kailashnath Temple of Ellora ● Descent of Ganga (Pallava Period, Mahabalipuram and 7th Century AD) ● Sun Temple of Konark (13th Century) Introduction to Indian Bronze sculpture ● Nataraja (Chola Period. 12th Century)	**9** **9** **2**	**11**
Unit- 2 Western Art	Early Renaissance and Renaissance Period ● Development of Art from Early Renaissance and Renaissance Period ● Renaissance Art - Characteristic features and styles ● Artists and Artwork to be studied during these periods - **Artists** **Artwork** a. Giotto - Death of St. Francis b. Botticelli - Birth of Venus c. Van Eycks- - Ghent Altarpiece/ Adoration of the Mystic Lamb d. Leonardo da Vinci - Monalisa & The Last Supper e. Michelangelo - Pieta, Sistine Chapel Ceiling Fresco f. Raphael - Madonna Series	**15** **10**	**10**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	Baroque Art Movement ● Origin and Development of Baroque Art Movement ● Style and Characteristic Feature of Baroque Art ● Artworks to be studied - ➢ The Nightwatch by Rembrandt ➢ Girl with a Pearl Earring by Johannes Vermeer ➢ Ecstasy of Saint Teresa by Bernini ➢ The Elevation of the Cross by Rubens		

GROUP B - CREATIVE HANDICRAFTS AND DESIGN

UNIT No.	TOPICS	CONTACT HOURS	MARKS
3	Wooden Work ● Materials needed for wooden work ● Different hand tools and equipment for wooden work (with diagrams) ● Process of making wooden relief work **Wooden, cane and bamboo handicrafts of Bengal**	**15**	**9**
	TOTAL	**60**	**30**

CLASS - XI

SUBJECT : VISUAL ARTS (VISA)

COURSE CODE : PRACTICAL

FULL MARKS : 50 **CONTACT HOURS : 50 HOURS**

GROUP A- DRAWING & PAINTING

UNIT No.	TOPICS	CONTACT HOURS	MARKS
1	Drawing ● Drawing from Nature such as trees, flowers, foliage, fruits, vegetables, birds, animals, fish, human figures etc. using pencil, dry pastel or pen and ink. ● Drawing Different Objects - cup & saucer, vase, jar, glass, bottles etc. ● Drawing from Copy Book (Rupabali by Nandalal Bose)	15	10
2	Painting ● Study of still life or flowers or foliage or fruits or vegetables or domestic or other artificial objects in pastel & watercolour ● Painting Composition - Affairs from daily life (indoor & outdoor), Games (indoor/outdoor), and Nature.	20	15

GROUP B- SCULPTURE, CRAFT AND DESIGN

UNIT No.	TOPICS	CONTACT HOURS	MARKS
1	● Mask Making, Lettering (English & Bengali)& Logo designing ● Clay Modelling- Relief or Round (animal, bird, fish, human figure etc.)	15	15

GROUP C - PORTFOLIO ASSESSMENT

UNIT No.	TOPICS	CONTACT HOURS	MARKS
1	Assessment of the entire year's performance from sketch to finished product	—----------	10

Note : No separate hour to be allotted for Portfolio Assessment since it will be a continuous evaluation as mentioned in the syllabus.

Guidelines for Question Pattern -

Group A - DRAWING & PAINTING

DRAWING

- Draw from Nature such as fruits, foliage, vegetables, birds, animals or human figures or group of different objects by pencil, pen –ink or dry pastel on a drawing paper of one fourth size. The drawings should be proportionate to the size of the paper.
- Draw from book Rupabali with exact measurement.

PAINTING

- Draw and paint the still-life arranged on a place before you. Draw it from a fixed point of view on a drawing paper of ¼ size using watercolour. The objects should be painted in realistic manner with proper light and shade.
- Make a composition on any of the following two subjects from the given syllabus on a $1/4^{th}$ drawing paper. Use watercolour or poster colour for painting. Your composition should be original. Credit will be given to a well composed drawing, proper use of medium, emphasis on the subject matter and utilisation of full space.

Note: Drawing objects arrangement and selection of the subjects for composition to be decided by subject teacher.

Group B-

- Make a mask related with circus, different rituals or tribal dance from India or abroad by paper board and poster colour. Decorate it with suitable materials.
- Prepare a logo of **any two** FMCG products (packaged food items, snacks, soft drinks, cosmetics, laundry detergents and cleaning agents)
- Clay modelling must include basic human forms, birds, animals and vegetation in relief or round shapes.

Guidelines for Conducting Practical Examination

Instruction for the selection of the object for drawing and painting

- A collection of artificial or natural things, which may include cut flowers, fruits, vegetables, growing plants, domestic or other artificial items, human figures, birds, animals etc.
- For still life one or two draperies (one in dark and other in light tone) must be included for background and foreground.
- Arrange necessary source of light for still life painting.

- Selection of subjects for composition to be decided by the school from the topics mentioned in the syllabus.
- Drawing papers should be provided by the examination centres. Other art materials like - colour, pencil, board, and other necessary items to be carried by the examinee.

Instruction to decide the subject for sculpture, craft and design

- Selection of subjects for design or clay modelling to be decided by the school from the topics mentioned in the syllabus.
- All necessary items (clay, board, colour etc.) to be carried by the examinee during the examination.

Group C- Portfolio Assessment

The entire year's performance of the students from sketches to finished work to be evaluated.

Suggested Readings -

- Bharoter Chitrakala - Asoke Mitra (1st and 2nd part)
- Pashchim Europer Chitrakala- Ashoke Mitra
- Bageshwari Shilpo Prabandhabali- Abanindranath Thakur
- Shilpo O Shilpi- Krishnalal Das (1st, 2nd and 3rd part)
- Shilpe Bharat O Bahirbharat- Manindrabhushan Gupta
- Rupabali- Nandalal Bose
- Bharatiya Prachin Chitrakala- Surendranath Dasgupta
- Biswa Shilper Ruprekha - Mrinal Ghosh
- Shilpo Charcha - Atul Bose
- Ajanta Aporupa - Narayan Sanyal
- Bharat Shilpo - Nirmal Kumar Ghosh
- Cultural History of Ancient India - Jayanta Vyas
- The History of Indian Art- Sandhya Ketkar, Anil Rao
- The History of Western Art- Sandhya Ketkar
- A History of Fine Arts in India and the West – Edith Tomory

CLASS - XII

SUBJECT : VISUAL ARTS (VISA)

(THEORY + PRACTICAL)

Full Marks : 100

MARKS DIVISION : THEORY 50 + PRACTICAL 50

SEMESTER – III

FULL MARKS : 20 **CONTACT HOURS : 70 HOURS**

COURSE CODE : THEORY

GROUP A & B - INDIAN & WESTERN ART

UNIT No.	TOPICS	CONTACT HOURS	MARKS
1 Indian Art	Miniature Paintings of India ● Introduction to Mughal Miniature Paintings in India ● Development & salient features of Mughal Miniature Paintings during the reign of Samrat Akbar & Jahangir ● Notable artworks & artists of Mughal Miniature Paintings during the reign of Samrat Akbar & Jahangir ● Rajput Miniature Painting - Introduction of Rajput Miniature Painting ● Salient features & techniques, notable artworks & artists of Rajasthani school of art ● Origin, salient features & techniques of Pahari School of Art at Kangra, Basohli and Guler ● Ragamala Paintings - Introduction & characteristic features with notable artworks Temple Architecture of India ● Introduction to Hindu Temple Architecture ● Various styles of temple architecture - Nagara, Dravida & Vesara style of temple architecture with examples Terracotta temple of Bishnupur ● Origin, Structure & Terracotta relief sculpture of Jor-Bangla Temple & Raas Mancha Manuscript Painting of Bengal ● Pala Manuscript - Salient features, techniques & notable paintings of the manuscript	**12** **7** **6**	**6**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
2 Western Art	Romanticism, Realism & Impressionism ● Origin & Development of Romanticism, Realism and Impressionism art movement in Europe during 18th and 19th centuries. Art works to be studied from these periods **John Constable** a. The Hay Wain (1821), b. Salisbury Cathedral from the Meadows (1831) **William Turner** a. The Slave Ship (1840) b. Rain-Steam-Speed (1844) **Eugène Delacroix** a. Orphan girl at the cemetery (1824), b. Liberty leading the people (1830) **Francisco Goya** a. The third of May 1808(1814) b. Saturn Devouring his Son (1823) **Gustave Courbet** a. The Stone Breakers (1849) b. The Painter's Studio (1955) **J.F Millet** a. The Sower (1850) b. The Gleaners (1857) **Claude Monet** a. Impression Sunrise (1872) b. The Waterlily Pond (1899) **Edouard Manet** a. Olympia (1863), b. The Fifer (1866) **Auguste Renoir** a. Luncheon of the Boating Party (1881), b. Two Sisters (1881) **Edgar Dega** a. The Star - The Dancer on Stage (1878), b. Little Dancer of Fourteen Years (1880) **Francisco Rodin** a. The Thinker (1904) b. The Gates of Hell (1917) I. J.F Millet a. The Sower (1850)	**8** **17**	**6**
GROUP B - HANDICRAFTS, DESIGN AND SCULPTURE			
3	Traditional Handicrafts of Bengal ● Solapith works, Jute works & Conch shell work ● Dashavatar Cards & Masks ● Nakshi Kantha, Silk and Tant sarees ● Alpana & Chalchitra Plaster Casting ● Materials needed for plaster casting ● Process of plaster casting to make a mould Poster Design ➢ Concept of poster, method and principles of poster design	**8** **6** **6**	**8**
TOTAL		**70**	**20**

CLASS - XII

SUBJECT : VISUAL ARTS (VISA)

SEMESTER – IV

FULL MARKS : 30 **CONTACT HOURS : 60 Hours**

COURSE CODE : THEORY

GROUP A- INDIAN ART & WESTERN ART

UNIT No.	TOPICS	CONTACT HOURS	MARKS
1 Indian Art	Traditional Art of Bengal ● Scroll Patachitra of Bengal ● Kalighat Patachitra Bengal School of Painting ➢ Origin & Development of Bengal School of Art ➢ Contribution of Abanindranath Tagore & Nandalal Bose in Indian Art Modern Trends in Indian Art ● Critical Appreciation of Art Works created by the following artists - Ravi Varma, Jamini Roy, Gaganendranath Tagore, Rabindranath Tagore, Ramkinkar Baij, Amrita Shergil, Binod Behari Mukhopadhyay, Debiprasad Roychowdhury & M.F. Hussain	**5** **7** **10**	**11**
2 Western Art	Post-Impressionism, Fauvism and Cubism Art movements in Europe ● Origin & Development & Salient Features ● Art Works to be studied during these periods - **Artists** — **Art Work** **Vincent Van Gogh** — a. Vase With Fifteen Sunflowers (1888), b. The Starry Night (1889) **Paul Cezanne** — a. The Basket of Apples (1893) b. The Card Players (1895) **Paul Gaguin** — a. Vision after the Sermon (1888) b. Tahitan Women on the Beach (1891) **Georges Seurat** — A Sunday Afternoon on the Island of La Grande Jatte (1886) **Henri Matisse** — a. The Open Window (1905)	**8** **15**	**10**

UNIT No.	TOPICS	CONTACT HOURS	MARKS
	b. The Dessert: Harmony in Red (1908) **Georges Braque** Woman with a Guitar (1913) **Pablo Picasso** a. Girl Before a Mirror (1932) b. Guernica (1937)		
GROUP B - HANDICRAFTS & DESIGN			
UNIT No.	**TOPICS**	**CONTACT HOURS**	**MARKS**
3	<u>Batik Design</u> g. Introduction to Batik Art h. Origin & Development of Batik Design in India i. Method, Materials and Principles of Batik Design <u>Traditional Handicrafts of India</u> ● Pashmina of Kashmir ● Phulkari of Punjab ● Puppetry of Rajasthan ● Madhubani of Bihar ● Gond of Madhya Pradesh ● Dokra of West Bengal ● Bidri Craft Works of Karnataka	**7** **8**	**9**
TOTAL		**60**	**30**

CLASS - XII

SUBJECT : VISUAL ARTS (VISA)

FULL MARKS : 50 **CONTACT HOURS : 50 Hours**

COURSE CODE : PRACTICAL

GROUP A - DRAWING AND PAINTING

UNIT No.	TOPICS	CONTACT HOURS	MARKS
1	Drawing ➢ Drawing from architectures (buildings, houses, boxes, almirah etc) showing perspectives with soft pencil on paper. ➢ Drawing from Nature, landscapes, people, animals, birds, flowers etc. with soft pencil on paper.	**15**	**10**
2	Painting Composition of a painting depicting any festival of India, market or fair, street corner shop, fantasy or imagination using pencil, pen & ink, oil pastels, watercolour or poster colour or mixed media on paper.	**15**	**15**

GROUP B-CRAFTS AND DESIGN

UNIT No.	TOPICS	CONTACT HOURS	MARKS
1	● Decorative design on Art paper that will include 2 or 3 motifs suitable for T-shirt/saree/dress material/bed sheet/carpet or any other form of textile by poster colour **Or** Book cover design ● Painting pottery with poster / fabric colour **Or** Make a poster on Social Awareness or Environment using poster colour on paper.	**20**	**15**

GROUP C - PORTFOLIO ASSESSMENT

UNIT No.	TOPICS	CONTACT HOURS	MARKS
1	Assessment of the entire year's performance from sketch to finished product.	—----------	**10**

Note: No separate hour to be allotted for Portfolio Assessment since it will be the entire year's performance as mentioned in the syllabus

Guidelines for Question Pattern

Group A(Drawing and Painting)

- Draw from nature, landscapes, people, animals, birds or groups of different things to form a composition from daily life by pencil, pen–ink or dry pastel on a drawing paper of one fourth size. The drawings should be proportionate to the size of the paper.
- Draw from architecture (school building, houses, classroom, apartments from different points of view like exterior view/interior view etc.), boxes, almirah, table, chair, benches etc showing proper perspective by soft pencil on a 1/4th of full size art paper.
- Make a composition on any of the following two subjects from the given syllabus on a 1/4 th of full size drawing paper. Use watercolour, poster colour or mixed media for paint. Your composition should be original. Credit will be given to a well composed drawing, proper use of colour, emphasis of light on the subject matter and utilisation of full space.

Group- B (Design)

- Make a design with two or three motifs suitable for T- shirt/ saree/ dress material/ bed sheet/ carpet or any other form of textile by poster colour on art paper.

OR

Prepare a book cover (front, back and spine) of a famous novel, story or poem book with suitable illustration by watercolour, poster colour, pen-ink or mixed media on 1/4th of full size art paper.

- Decorate a clay pot with suitable motifs by poster or acrylic colour.

OR

Make a poster on any one of two specific subjects with a slogan from the syllabus by poster colour on 1/4th of art paper. Credit will be given to creativity, originality, emphasis on subject matter, composition, proper utilisation of space, lettering and proper use of medium**.**

Group A

Instruction for the selection of the subject for drawing and painting

- Life and Nature from our surroundings which may include plants, trees, gardens, animals, people or groups of people to form a composition.
- For perspective drawing, arrange/select necessary things like boxes,almirah, table, chair,bench etc. which will be available inside the school premises or at the examination centre. For interior or exterior view of any building or room, select the location inside or adjacent to the examination centre.
- Drawing papers should be provided by the examination centres. Other art materials like - colour, pencil, board and other necessary items to be carried by the examinee.

Group-B

Instruction to decide the subject for design

- Instruction for design on clay pot and paper to be decided by W.B.C.H.S.E.
- For creating a book cover, the examinee can choose any famous book they have read. The title and author's name should be mentioned.
- Selection of the subjects for poster on social, environment or cultural issues to be decided by the W.B.C.H.S.E.. The subject should be given according to Class XII standard.
- All necessary items (clay pot, board, colour etc.) to be carried by the examinee during the examination. The drawing papers should be provided by the examination centre.

Group C- Portfolio Assessment

The entire year's performance of the students from sketches to finished work to be evaluated. Credit will be given to creativity, originality, skills, technique, execution of composition, proper use of medium, experiment quality etc.

General Instructions for Conducting Practical Examination

- The duration for practical examination (excluding the break) will be of 4 hours
- Each work of Groups A, B and C, after assessment is to be marked as "Examined" and duly signed.
- Examinee will be able to take a break of 30 minutes after two and a half hours of examination.

Suggested Readings -

1. Bharoter Chitrakala - Asoke Mitra (1st and 2nd parts)
2. Paschim Europer Chitrakala- Ashoke Mitra
3. Bageshwari Shilpo Prabandhabali- Abanindranath Thakur
4. Shilpo O Shilpi- Krishnalal Das(1st, 2nd and 3rd parts)
5. Shilpe Bharat O Bahirbharat- Manindrabhushan Gupta
6. Rupabali- Nandalal Bose
7. Bharatiya Prachin Chitrakala- Surendranath Dasgupta
8. Biswa Shilper Ruprekha - Mrinal Ghosh
9. Banglar Chitrakala- Ashok Bhattacharya
10. Darbari Shilper Swarup: Mughal Chitrakala- Ratnaboli Chattopadhyay
11. Paschimbanger Lokoshilpo O Shilpi Samaj- Tarapado Santra
12. Contemporary Art in India: A Perspective- Pran Nath Mago

SUBJECT: ALTERNATIVE ENGLISH

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Prose	13X1=13
2	Poetry	12X1=12
3	Grammar	15X1=15

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS:**

TOPIC	SHORT ANSWER TYPE QUESTIONS (3 marks)	DESCRIPTIVE TYPE QUESTIONS (4/6/10 marks)	TOTAL
Prose	1X3=3	1X4=4	07
Poetry	1X3=3	1X4=4	07
Short Stories	-	1X6=6	06
Writing Skill: Letter Writing and Essay	-	2x10=20	20
TOTAL	06	34	40

Class XII TOTAL Theory MARKS:

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Prose	13X1=13
2	Poetry	12X1=12
3	Grammar	15X1=15

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS:**

TOPIC	SHORT ANSWER TYPE QUESTIONS (3 marks)	DESCRIPTIVE TYPE QUESTIONS (4/6/10 marks)	TOTAL
Prose	1X3=3	1X4=4	07
Poetry	1X3=3	1X4=4	07
Short Stories	-	1X6=6	06
Writing Skill: Comprehension & Precis/Report Writing	-	2X10=20	20
TOTAL	06	34	40

SUBJECT: ARABIC

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Prose	10X1=10
2	Poetry	10X1=10
3	History of Arabic Literature	10X1=10
4	Grammar	5X1=5
5	Translation	5X1=5

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (4/5 marks)	TOTAL
Prose	3X2=6	1X4=4	10
Poetry	3X2=6	1X4=4	10
History of Arabic Literature	-	1X5=5	05
Grammar	3X2=6	1X4=4	10
Translation	-	1X5=5	05
TOTAL	18	22	40

Class XII TOTAL Theory MARKS: 80

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Prose	10X1=10
2	Poetry	10X1=10
3	History of Arabic Literature	10X1=10
4	Grammar	5X1=5
5	Translation	5X1=5

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (4/5 marks)	TOTAL
Prose	3X2=6	1X4=4	10
Poetry	3X2=6	1X4=4	10
History of Arabic Literature	-	1X5=5	05
Grammar	3X2=6	1X4=4	10
Translation	-	1X5=5	05
TOTAL	18	22	40

SUBJECT: BENGALI A

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40**

Sl No	Topic	Marks allotted
1	**গল্প**	**8X1=8**
2	**প্রবন্ধ**	**5X1=5**
3	**কবিতা**	**7X1=7**
4	**আন্তর্জাতিক গল্প ও ভারতীয় কবিতা**	**5X1=5**
5	**ভাষা**	**10X1=10**
6	**বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস**	**5X1=5**

- **Class XI SEMESTER 2 TOPICS: [SAQ,LAQ] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5/10 marks)	TOTAL
গল্প	-	-	1X5=5	05
কবিতা	1X2=2	1X3=3	-	05
নাটক	-	-	1X5=5	05
পূর্ণাঙ্গ সহায়ক গ্রন্থ	2X2=4	2X3=6	-	10
বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস	1X2=2	1X3=3	-	05
প্রবন্ধ রচনা	-	-	1X10=10	10
TOTAL	08	12	20	40

Class XII TOTAL Theory MARKS: 80

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 40**

Sl No	Topic	Marks allotted
1	**গল্প**	**8X1=8**
2	**প্রবন্ধ**	**5X1=5**
3	**কবিতা**	**7X1=7**
4	**ভারতীয় গল্প ও আন্তর্জাতিক কবিতা**	**5X1=5**
5	**ভাষা**	**10X1=10**
6	**বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস**	**5X1=5**

- **Class XII SEMESTER 2 TOPICS: [SAQ,LAQ] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5/10 marks)	TOTAL
গল্প	-	-	1X5=5	05
কবিতা	1X2=2	1X3=3	-	05
নাটক	-	-	1X5=5	05
পূর্ণাঙ্গ সহায়ক গ্রন্থ	2X2=4	2X3=6	-	10
বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস	1X2=2	1X3=3	-	05
প্রবন্ধ রচনা	-	-	1X10=10	10
TOTAL	08	12	20	40

SUBJECT: BENGALI B

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40**

Sl No	Topic	Marks allotted
1	**গল্প**	**8X1=8**
2	**প্রবন্ধ**	**5X1=5**
3	**কবিতা**	**7X1=7**
4	**আন্তর্জাতিক গল্প ও কবিতা**	**5X1=5**
5	**ভাষা**	**10X1=10**
6	**বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস**	**5X1=5**

- **Class XI SEMESTER 2 TOPICS: [SAQ,LAQ] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5/10 marks)	TOTAL
গল্প	-	-	1X5=5	05
প্রবন্ধ	-	-	1X5=5	05
কবিতা	1x2=2	1x3=3	-	05
পূর্ণাঙ্গ সহায়ক গ্রন্থ	2X2=4	2X3=6	-	10
বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস	1X2=2	1X3=3	-	05
প্রবন্ধ রচনা	-	-	1X10=10	10
TOTAL	08	12	20	40

Class XII TOTAL Theory MARKS: 80

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 40**

Sl No	Topic	Marks allotted
1	**গল্প**	**8X1=8**
2	**কবিতা**	**7X1=7**
3	নাটক	**5X1=5**
4	**ভারতীয় গল্প ও কবিতা**	**5X1=5**
5	**ভাষা**	**10X1=10**
6	**বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস**	**5X1=5**

- **Class XII SEMESTER 2 TOPICS: [SAQ,LAQ] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5/10 marks)	TOTAL
গল্প	-	-	1X5=5	05
কবিতা	1X2=2	1X3=3	-	05
নাটক	-	-	1X5=5	05
পূর্ণাঙ্গ সহায়ক গ্রন্থ	2X2=4	2X3=6	-	10
বাংলা শিল্প-সাহিত্য ও সংস্কৃতির ইতিহাস	1X2=2	1X3=3	-	05
প্রবন্ধ রচনা	-	-	1X10=10	10
TOTAL	08	12	20	40

SUBJECT: English A

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Prose	10X1=10
2	Verse	10X1=10
3	Rhetoric	5X1=5
4	Grammar Non textual)	5X1=5
5	Reading Comprehension (unseen)	10X1=10

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (5/6 marks)	TOTAL
Prose	2X2=4	1X6=6	10
Verse	2X2=4	1X5=5	09
Textual : Prosody	-	1X6=6[3+3]	06
Non Textual Grammar	-	1X5=5[3+2]	05
Reading Comprehension	2X2=4	1X6=6[Precis]	10
TOTAL	12	28	40

Class XII TOTAL Theory MARKS:

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Prose	10X1=10
2	Verse	10X1=10
3	Drama	5X1=5
4	Textual Grammar	5X1=5
5	Reading Comprehension (unseen)	10X1=10

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS:**

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (5/6/10 marks)	TOTAL
Prose	2X2=4	1X6=6	10
Verse	2X2=4	1X6=6	10
Drama	-	1X5=5 [any 1 question out of 2 questions]	05
Non Textual Grammar	-	1X5=5[2+3]	05
Writing Skill : Essay	-	1X10=10	10
TOTAL	08	32	40

SUBJECT: ENGLISH B

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Unit	Topic	Marks allotted
1	Prose	10X1=10
2	Verse	10X1=10
3	Rapid Reader	10X1=10
4	Textual Grammar	5X1=5
5	Reading Comprehension(Unseen)	5X1=5

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

Unit	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (5/6/10 marks)	TOTAL
Prose	2X2=4 [Any 2 questions out of 4 questions]	1X6=6 [Any 1 question out of 3 questions]	10
Verse	2X2=4 [Any 2 questions out of 4 questions]	1X6=6 [Any 1 question out of 2 questions]	10
Rapid Reader	-	1X5=5 [Any 1 question out of 3 questions]	05
Non Textual Grammar	-	Fill in the blanks : (6X1/2)=3 + 1x2=2 [1 question to be attempted out of two questions from Transformation of sentences **or** Correction of errors]	05
Writing Skill : Paragraph Writing OR Formal Letter Writing & Event Report Writing	-	1X10=10 OR 2X5=10	10
TOTAL	08	32	40

Class XII TOTAL Theory MARKS: 80

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Unit	Topic	Marks allotted
1	Prose	10X1=10
2	Verse	10X1=10
3	Drama [Scene 1]	5X1=5
4	Textual Grammar	5X1=5
5	Reading Comprehension(Unseen)	10X1=10

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

Unit	SHORT ANSWER TYPE QUESTIONS (2/3 marks)	DESCRIPTIVE TYPE QUESTIONS (5/6/10 marks)	TOTAL
Prose	2X2=4 [Any 2 questions out of 4 questions]	1X6=6 [Any 1 question out of 2 questions]	10
Verse	2X2=4 [Any 2 questions out of 4 questions]	1X6=6 [Any 1 question out of 3questions]	10
Drama	-	1X5=5 [Any 1 question out of 2 questions]	05
Non Textual Grammar	1X2=2 1X3=3	-	05
Writing Skill : Essay or Precis	-	1X10=10	10
TOTAL	13	27	40

SUBJECT: HINA

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 mark per question]**

Sl No	Topic	Marks allotted
1	Sahitya (Kavya & Gadya)	20X1=20
2	Upanyas	5X1=5
3	Apathit Bodh (Kavya & Gadya)	5X1=5
4	Vyakaran	5X1=5
5	Paribhashik Shabda	5X1=5

- **Class XI SEMESTER 2 TOPICS: [SAQ,LAQ] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Sahitya(Kavya & Gadya)	4X2=8	2X3=6	2X5=10	24
Upanyas	-	2X3=6	1X5=5	11
Rachana	-	-	1X5=5	05
TOTAL	08	12	20	40

Class XII TOTAL Theory MARKS: 80

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 mark per question]**

Sl No	Topic	Marks allotted
1	Sahitya (Kavya & Gadya)	20X1=20
2	Natak	5X1=5
3	Apathit Bodh (Kavya & Gadya)	5X1=5
4	Vyakaran	5X1=5
5	Paribhashik Shabda	5X1=5

- **Class XII SEMESTER 2 TOPICS: [SAQ,LAQ] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Sahitya(Kavya & Gadya)	4X2=8	2X3=6	2X5=10	24
Natak	-	2X3=6	1X5=5	11
Rachana	-	-	1X5=5	05
TOTAL	08	12	20	40

SUBJECT: HINDI B

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 mark per question]**

Sl No	Topic	Marks allotted
1	Sahitya (Kavya & Gadya)	20X1=20
2	Natak	5X1=5
3	Apathit Bodh (Kavya & Gadya)	5X1=5
4	Vyakaran	5X1=5
5	Paribhashik Shabda	5X1=5

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions]MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Sahitya(Kavya & Gadya)	4X2=8	2X3=6	2X5=10	24
Natak	-	2X3=6	1X5=5	11
Rachana	-	-	1X5=5	05
TOTAL	08	12	20	40

Class XII TOTAL Theory MARKS: 80

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 mark per question]**

Sl No	Topic	Marks allotted
1	Sahitya (Kavya & Gadya)	20X1=20
2	Upanyas	5X1=5
3	Apathit Bodh (Kavya & Gadya)	5X1=5
4	Vyakaran	5X1=5
5	Paribhashik Shabda	5X1=5

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Sahitya(Kavya & Gadya)	4X2=8	2X3=6	2X5=10	24
Upanyas	-	2X3=6	1X5=5	11
Rachana	-	-	1X5=5	05
TOTAL	08	12	20	40

SUBJECT: ODIA

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Prabandha	7X1=7
2	Kabita	7X1=7
3	Galpa	7X1=7
4	Bhasa	12X1=12
5	Odia Sahitya Samaj , Sanskrutir Itihas	7X1=7

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (4/10 marks)	TOTAL
Prabandha	1X2=2	1X4=4	06
Kabita	1X2=2	1X4=4	06
Galpa	1X2=2	1X4=4	06
Bhasa	3X2=6	1X10=10	16
Odia Sahitya Samaj , Sanskrutir Itihas	1X2=2	1X4=4	06
TOTAL	14	26	40

Class XII TOTAL Theory MARKS: 80

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Prabandha	7X1=7
2	Kabita	7X1=7
3	Galpa	7X1=7
4	Bhasa	12X1=12
5	Odia Sahitya Samaj , Sanskrutir Itihas	7X1=7

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (4/10 marks)	TOTAL
Prabandha	1X2=2	1X4=4	06
Kabita	1X2=2	1X4=4	06
Galpa	1X2=2	1X4=4	06
Bhasa	3X2=6	1X10=10	16
Odia Sahitya Samaj , Sanskrutir Itihas	1X2=2	1X4=4	06
TOTAL	14	26	40

SUBJECT: PERSIAN

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Prose(including forms of Prose)	13X1=13
2	Poetry (including forms of Poetry)	12X1=12
3	Applied Grammar	10X1=10
4	Translation	5X1=5

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (5/6 marks)	TOTAL
Prose	1X2=2	1X5=5 1X6=6[comprehension]	13
Poetry	1X2=2	1X5=5	07
Applied Grammar	5X2=10	-	10
Translation	-	2X5=10 [2 passages Persian to English & English to Persian]	10
TOTAL	14	26	40

Class XII TOTAL Theory MARKS: 80

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Prose(including forms of Prose)	13X1=13
2	Poetry (including forms of Poetry)	12X1=12
3	Applied Grammar	10X1=10
4	Translation	5X1=5

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (5/6 marks)	TOTAL
Prose	1X2=2	1X5=5 1X6=6[comprehension]	13
Poetry	1X2=2	1X5=5	07
Applied Grammar	5X2=10	-	10
Translation	-	2X5=10 [2 passages Persian to English & English to Persian]	10
TOTAL	14	26	40

SUBJECT: SANTHALI

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Prose & Story	10X1=10
2	Poetry	10X1=10
3	Translated Prose	5X1=5
4	Rapid Reader	5X1=5
5	History of Literature	5X1=5
6	Grammar	5X1=5

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS:**

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/5 marks)	TOTAL
Prose & Story	-	2X5=10	10
Poetry	-	2X5=10	10
Translated Poetry	-	1X5=5	05
Rapid Reader	-	1X5=5	05
History of Literature	1X2=2	1X3=3	05
Grammar	1X2=2	1X3=3	05
TOTAL	04	36	40

Class XII TOTAL Theory MARKS:

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Prose & Story	10X1=10
2	Poetry	10X1=10
3	Rapid Reader	5X1=5
4	Play	5X1=5
5	History of Literature	5X1=5
6	Grammar	5X1=5

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/5 marks)	TOTAL
Prose & Story	-	2X5=10	10
Poetry	-	2X5=10	10
Rapid Reader	-	1X5=5	05
Play	-	1X5=5	05
History of Literature	1X2=2	1X3=3	05
Grammar	1X2=2	1X3=3	05
TOTAL	04	36	40

SUBJECT: SANSKRIT

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 mark per question]**

Sl No	Topic	Marks allotted
1	Unit 1 : Prose	5X1=5
2	Unit 2 : Verse	5X1=5
3	Unit 3 : Drama	5X1=5
4	Unit 4 : Grammar	15X1=15
5	Unit 5 : History of Vedic , Epic & Classical Sanskrit Litrerature	10X1=10

- **Class XI SEMESTER 2 TOPICS: [SAQ,DQ] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (4 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Unit 1 : Prose	5X2=10 5 questions out of 6 questions	-	2X5=10 2 questions out of 3 questions	20
Unit 2 : Verse				
Unit 3 : Drama				
Unit 4 : Grammar	5X2=10 5 questions out of 6/7 questions			10
Unit 5 : History of Vedic , Epic & Classical Sanskrit Litrerature	3X2=6 5 questions out of 4 questions	1X4=4 1 question out of 2 questions		10
TOTAL	26	04	10	40

Class XII TOTAL Theory MARKS: 80

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 mark per question]**

Sl No	Topic	Marks allotted
1	Unit 1 : Prose	5X1=5
2	Unit 2 : Verse	5X1=5
3	Unit 3 : Drama	5X1=5
4	Unit 4 : Grammar	15X1=15
5	Unit 5 : History of Purāṇic and Classical Sanskrit Literature	10X1=10

- **Class XII SEMESTER 2 TOPICS: [SAQ,DQ] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (4 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Unit 1 : Prose	5X2=10 5 questions out of 6 questions	-	2X5=10 2 questions out of 3 questions	20
Unit 2 : Verse				
Unit 3 : Drama				
Unit 4 : Grammar	5X2=10 5 questions out of 6/7 questions			10
Unit 5 : History of Classical and Modern Sanskrit Literature	3X2=6 5 questions out of 4 questions	1X4=4 1 question out of 2 questions		10
TOTAL	26	04	10	40

SUBJECT: Telugu

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Poetry	15X1=15
2	Prose	15X1=15
3	History of Telugu Literature	6X1=6
4	Grammar	4X1=4

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (4 marks)	TOTAL
Poetry	2X2=4	1X4=4	08
Prose	2X2=4	1X4=4	08
History of Telugu Literature & Biography of a Poet	-	4X4=16	16
Grammar	-	2X4=8	08
TOTAL	08	32	40

Class XII TOTAL Theory MARKS: 80

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Poetry	15X1=15
2	Prose	15X1=15
3	History of Telugu Literature	6X1=6
4	Grammar	4X1=4

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS:**

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (4 marks)	TOTAL
Poetry	2X2=4	1X4=4	08
Prose	2X2=4	1X4=4	08
History of Telugu Literature & Biography of a Poet	-	4X4=16	16
Grammar	-	2X4=8	08
TOTAL	08	32	40

SUBJECT: URDU

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Prose	10X1=10
2	Poetry	10X1=10
3	Fiction	5X1=5
4	Drama	5X1=5
5	History of Urdu Literature	10X1=10

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS (1/2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/4 marks)	TOTAL
Prose	2X2=4	2X3=6	10
Poetry	2X2=4 1X1=1	2X3=6 1X4=4	15
Fiction	1X2=2	1X3=3	05
History of Urdu Literature	1X2=2	1X3=3	05
Grammar	1X2=2	1X3=3	05
TOTAL	15	25	40

Class XII TOTAL Theory MARKS: 80

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Prose	10X1=10
2	Poetry	10X1=10
3	Fiction	5X1=5
4	Drama	5X1=5
5	History of Urdu Literature	10X1=10

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS (1/2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/4 marks)	TOTAL
Prose	2X2=4	2X3=6	10
Poetry	2X2=4 1X1=1	2X3=6 1X4=4	15
Fiction	1X2=2	1X3=3	05
History of Urdu Literature	1X2=2	1X3=3	05
Grammar	1X2=2	1X3=3	05
TOTAL	15	25	40

SUBJECT: ARTIFICIAL INTELLIGENCE

Class XI TOTAL Theory MARKS: 70

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 MARK PER QUESTION]**

Unit	Topic	Marks allotted
1	Computer Fundamentals	15X1=15
2	Introduction to Python Programming	15X1=15
3	Introduction to Linear Algebra	5X1=5

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 35**

Unit	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/4/5 marks)	TOTAL
4 : Foundation of AI & Search as optimization	1X2=2	2X5=10 2X3=6	18
5: Knowledge representation and reasoning	3X2=6	1X4=4	10
6: Uncertainty Management	-	1X5=5	05
7: Preliminary Concept of Chatbots	1X2=2 2	-	02
TOTAL	10	25	35

Class XII TOTAL Theory MARKS: 70

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 MARK PER QUESTION]**

Unit	Topic	Marks allotted
1	Foundation of Statistics for Machine Learning	5X1=5
2	Introduction to Machine Learning	15X1=15
3	Supervised Learning	15X1=15

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 35**

Unit	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/4/5 marks)	TOTAL
4 : Unsupervised Learning	3X2=6	3X3=9	15
5: Artificial Neural Network	2X2=4	2X5=10 1X3=3	17
6: Ethics in AI	-	1X3=3	03
TOTAL	10	25	35

SUBJECT: BIOLOGICAL SCIENCE

Class XI TOTAL Theory MARKS: 70

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 mark per question]**

Sl No	Topic	Marks allotted
1	Unit I : Diversity of Living Organism Chapter 1 : The Living World Chapter 2 : Biological Classification Chapter 3 : Animal Kingdom	8X1=8
2	Unit II : Structural Organizations in Plants and Animals Chapter 5 : Morphology of Flowering Plants Chapter 6 : Anatomy of Flowering Plants Chapter 7 : Structural Organization in Animals	12X1=12
3	Unit III : Cell Structure and Functions Chapter 8 : Cell- The Unit of Life Chapter 9 : Biomolecules Chapter 10 : Cell Cycle and Cell Division	15X1=15

- **Class XI SEMESTER 2 TOPICS: [SAQ,LAQ] MARKS: 35**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	Competency based QUESTIONS (4 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Unit IV : Plant Physiology Chapter 11 : Photosynthesis in Higher Plants Chapter 12 : Respiration in Plants Chapter 13 : Plant- Growth and Development	2X2=4	3X3=9	1X4=4	-	17
Unit V : Human Physiology Chapter 14 : Digestion and Absorption Chapter 15 : Breathing and Exchange of Gases Chapter 16 : Body Fluids and Circulation Chapter 17 : Excretory Products and their elimination Chapter 18 : Locomotion and Movement Chapter 19 : Neural Control and Coordination Chapter 20 : Chemical Coordination and Integration	2X2=4	3X3=9	-	1X5=5	18
TOTAL	08	18	04	05	35

Class XII TOTAL Theory MARKS: 70

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 mark per question]**

Sl No	Topic	Marks allotted
1	Unit VI : Reproduction Chapter 1 : Sexual Reproduction in Flowering Plants Chapter 2 : Human Reproduction Chapter 3 : Reproductive Health	15X1=15
2	Unit VII : Genetics and Evolution Chapter 4 : Principles of Inheritance and Variation Chapter 5 : Molecular basis of inheritance Chapter 6 : Evolution	20X1=20

- **Class XII SEMESTER 2 TOPICS: [SAQ,LAQ] MARKS: 35**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	Competency based QUESTIONS (4 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Unit VIII : Biology and Human Welfare Chapter 7 : Human Health and Diseases Chapter 8 : Improvement in food production Chapter 9 : Microbes in Human Welfare	2X2=4	2X3=6	-	-	10
Unit IX : Biotechnology and its application Chapter 10 : Biotechnology and its application	1X2=2	2X3=6	1X4=4	-	12
Unit X : Ecology and Environment Chapter 11 : Organisms and Populations Chapter 12 : Ecosystem Chapter 13 : Biodiversity and its conservation Chapter 14 : Environmental issues	1X2=2	2X3=6	-	1X5=5	13
TOTAL	08	18	04	05	35

SUBJECT: Chemistry

Class XI TOTAL Theory MARKS: 70

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Some Basic Concepts of Chemistry	3X1=3
2	Structure of Atom	6X1=6
3	Classification of elements and periodicity in properties	4X1=4
4	Chemical Bonding & Molecular structure	6X1=6
5	States of Matter: Solids & Gases	4X1=4
6	s-block elements	5X1=5
7	Some p-block elements	7X1=7

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 35**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Thermodynamics	1X2=2	-	1X5=5	07
Equilibrium	-	2X3=6	-	06
Redox Reactions	-	1X3=3	-	03
Organic Chemistry : some basic principles	1X2=2	-	1X5=5	07
Hydrocarbons	1X2=2	2X3=6	-	08
Environment Chemistry	2X2=4	-	-	04
TOTAL	10	15	10	35

Class XII TOTAL Theory MARKS: 70

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Liquid State	8X1=8
2	p-block elements	8X1=8
3	Haloalkanes and Haloarenes	5X1=5
4	Alcohols, Phenols and Ethers	5X1=5
5	Biomolecules : Carbohydrates , Proteins and Nucleic Acids	5X1=5
5	Polymers	4X1=4

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 35**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Electrochemistry	1X2=2	1X3=3	-	05
Chemical Kinetics	1X2=2	-	1X5=5	07
d and f block elements	-	2X3=6	-	06
Co-ordination compounds	1X2=2	1X3=3	-	05
Aldehydes , Ketones and Carboxylic acids	-	-	1X5=5	05
Organic compounds containing Nitrogen	2X2=4	1X3=3	-	07
TOTAL	10	15	10	35

SUBJECT:COMS

CLASS XI TOTAL THEORY MARKS:70

- **CLASS XI SEMESTER I TOPICS: (MCQ) MARKS: 35 1 MARKS PER QUESTION**

Sl No	Topic	Marks obtain
1.	Computer System and Organisation	15X1=15
2.	Programming Fundamentals	10X1=10
3.	Introduction to C	10X1=10

- **CLASS XI SEMESTER II TOPICS: (Short Answer Questions, Descriptive Questions) MARKS:35**

TOPIC	Short Answer Type Questions (2 Marks)	Short Answer Type Questions (3 Marks)	Descriptive Type Questions (5 Marks)	Total
Data Structure	1X2=2	1X3=3	2X5=10	15
Computer networks	1X2=2	1X3=3	1X5=5	10
Ethics	1X2=2	1X3=3	1X5=5	10
TOTAL:	**6**	**9**	**20**	**35**

CLASS XII TOTAL THEORY MARKS:70

- **CLASS XI SEMESTER I TOPICS: (MCQ) MARKS: 35 1 MARKS PER QUESTION**

Sl No	Topic	Marks obtain
1.	Python Programming	25X1=25
2.	E-Commerce	10X1=10

- **CLASS XI SEMESTER II TOPICS: (Short Answer Questions, Descriptive Questions) MARKS:35**

TOPIC	Short Answer Type Questions (2 Marks)	Short Answer Type Questions (3 Marks)	Descriptive Type Questions (5 Marks)	Total
Data Base Management System	1X2=2	1X3=3	3X5=15	20
Foundation of Artificial Intelligence	1X2=2	1X3=3	2X5=10	15
TOTAL:	**4**	**6**	**25**	**35**

SUBJECT: DATA SCIENCE

Class XI TOTAL Theory MARKS: 70

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 MARK PER QUESTION]**

Unit	Topic	Marks allotted
1	Computer Fundamentals	15X1=15
2	Introduction to Python Programming	15X1=15
3	History of AI and Introduction to Linear Algebra	5X1=5

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 35**

Unit & TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/5 marks)	TOTAL
4: History of Data Science and Statistics	2X2=4	2X3=6 1X5=5	15
5 : Data Visualization	2X2=4	2X3=6	10
6 : Database Management	-	1X5=5	05
7 : Basics of Business Theory	1X2=2	1X3=3	05
TOTAL	10	25	35

Class XII TOTAL Theory MARKS: 70

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 MARK PER QUESTION]**

Unit	Topic	Marks allotted
1	Foundation of Statistics for Machine Learning	5X1=5
2	Introduction to Machine Learning	15X1=15
3	Supervised Learning	15X1=15

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 35**

Unit & TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/5 marks)	TOTAL
4 : Decision Tree Learning and Unsupervised Learning	1X2=2	1X3=3 1X5=5	10
5 : Data Visualization Technique	2X2=4	2X3=6	10
6 : Artificial Neural Network	2X2=4	2X3=6	10
7 : Case Studies in Data Science	-	1X5=5	05
TOTAL	10	25	35

SUBJECT: Mathematics

Class XI TOTAL Theory MARKS: 80

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Sets , Relation and Functions , Trigonometric Functions	15X1=15
2	Algebra : Complex Numbers and Quadratic Equations, Linear Inequations , Permutations and Combinations	15X1=15
3	Calculas : Limit and Derivatives	10X1=10

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/4 marks)	TOTAL
Principle of Mathematical Induction	-	1X3=3	03
Binomial Theorem	1X2=2 [one alternative]	1X4=4	06
Sequence and Series	1X2=2	1X4=4 [one alternative]	06
Coordinate Geometry	2X2=4 [one alternative]	1X3=3 2X4=8 [one alternative with 4 mark question]	15
Statistics	-	1X3=3 [one alternative]	03
Probability	2X2=4 [one alternative]	1X3=3	07
TOTAL	12	28	40

Class XII TOTAL Theory MARKS: 80

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 40 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Relations and Functions , Inverse Trigonometric Functions	7X1=7
2	Algebra : Matrices and Determinants	10X1=10
3	Calculas : Continuity & Differentiability , Application of Derivatives	15X1=15
4	Probability	8X1=8

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 40**

TOPIC	SHORT ANSWER TYPE QUESTIONS (2 marks)	DESCRIPTIVE TYPE QUESTIONS (3/4 marks)	TOTAL
Vectors	1X2=2	1X3=3 [one alternative]	05
Three-Dimensional Geometry	1X2=2 [one alternative]	2X4=8 [one alternative]	10
Integrals	1X2=2	1X3=3 1X4=4 [one alternative with 4 mark question]	09
Application of Integrals	1X2=2 [one alternative]	1X4=4	06
Differential Equation	1X2=2	1X3=3 [one alternative]	05
Linear Programming	1X2=2 [one alternative]	1X3=3	05
TOTAL	12	28	40

SUBJECT: PHYSICS

Class XI TOTAL Theory MARKS: 70

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Physical World & Measurement	3X1=3
2	Kinematics	12X1=12
3	Laws of Motion	8X1=8
4	Work , Energy , Power	5X1=5
5	Motion of System of particles & Rigid body	7X1=7

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 35**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
1. Gravitation	1X2=2	1X3=3	-	05
2. Properties of Bulk matter	1X2=2	1X3=3	1X5=5	10
3. Thermodynamics	1X2=2	1X3=3	-	05
4. Behaviour of perfect gases and Kinetic Theory	1X2=2	1X3=3	-	05
5. Oscillation & Wave	1X2=2	1X3=3	1X5=5	10
TOTAL	10	15	10	35

Class XII TOTAL Theory MARKS: 70

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Electrostatics	8X1=8
2	Current Electricity	8X1=8
3	Magnetic Effect of Current	8X1=8
4	Electromagnetic Induction	8X1=8
5	Electromagnetic Waves	3X1=3

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 35**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
1. Optics	3X2=6	1X3=3	1X5=5	14
2. Dual Nature of Matter	2X2=4	-	-	04
3. Atomic Nuclei	-	2X3=6	-	06
4. Electronic Device	-	1X3=3	1X5=5	08
5. Communication	-	1X3=3	-	03
TOTAL	10	15	10	35

SUBJECT: Statistics

Class XI TOTAL Theory MARKS: 70

- **Class XI SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Unit 1	10X1=10
2	Unit 2	6X1=6
3	Unit 3	12X1=12
4	Unit 4	3X1=3
5	Unit 5	4X1=4

- **Class XI SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 35**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Unit 1	1X2=2	1X3=3	1X5=5	10
Unit 2	-	2X3=6	-	06
Unit 3	2X2=4	1X3=3	1X5=5	12
Unit 4	-	1X3=3	-	03
Unit 5	2X2=4	-	-	04
TOTAL	10	15	10	35

Class XII TOTAL Theory MARKS: 70

- **Class XII SEMESTER 1 TOPICS: [MCQ] MARKS: 35 [1 MARK PER QUESTION]**

Sl No	Topic	Marks allotted
1	Unit 1	6X1=6
2	Unit 2	10X1=10
3	Unit 3	12X1=12
4	Unit 4	2X1=2
5	Unit 5	5X1=5

- **Class XII SEMESTER 2 TOPICS: [Short Answer Questions , Descriptive Questions] MARKS: 35**

TOPIC	SHORT ANSWER TYPE QUESTIONS Type 1 (2 marks)	SHORT ANSWER TYPE QUESTIONS Type 2 (3 marks)	DESCRIPTIVE TYPE QUESTIONS (5 marks)	TOTAL
Unit 1	1X2=2	1X3=3	1X5=5	10
Unit 2	1X2=2	-	1X5=5	07
Unit 3	1X2=2	1X3=3	-	05
Unit 4	1X2=2	-	-	02
Unit 5	-	1X3=3	-	03
Unit 6	1X2=2	1X3=3	-	05
Unit 7	-	1X3=3	-	03
TOTAL	10	15	10	35