

PROGRAMME OUTCOMES AND COURSE OUTCOMES

SUNDARBAN HAZI DESARAT COLLEGE
SESSION – 201920

DEPARTMENT OF ENGLISH

PROGRAMME OUTCOME AND COURSE OUTCOME

SUBJECT: ENGLISH GENERAL (UNDERGRADUATE)

B.A. PART III

PROGRAMME OUTCOME REPORT FOR ACADEMIC YEAR 2019-20

- PO1: **Awareness of Literary Traditions:** The Students will be able to gain awareness about the best literary traditions of English literature both from England and at home in India. Through their exposure of both the traditions, the students will be able to develop ability to critically think and analyse various forms of literature like prose, poetry, drama, and fiction.
- PO2: **Developing Interpretation Skills:** The students will be able to interpret literary language and literary artefacts as true of various forms of literature and apply their understanding of the various types of literary criticism in the interpretation of a literary work.
- PO3: **Obtaining Critical Insight:** A learner can obtain a critical understanding of reality, by being exposed to various social and cultural traditions and reading representative works from various periods. It is intended that they will be able to develop their own meaning about reality and his historical situatedness using their knowledge of diverse critical perspectives.
- PO4: **Sensitivity towards Sexuality and Gender:** A literature course instils in students the belief that their own sense of self is insufficient to persuade the rest of the world to agree with them. Male-female or masculine-feminine are no longer binary conceptions that humans must adhere to. They will discover that sex is a biological term based on biological traits, whereas gender is concerned with personal, societal, and cultural perspectives on sexuality. Students will be able to dispute decades of social custom and scientific opinion that support such and other forms of differentiations by using literary texts as cultural research instruments.
- PO5: **Developing Communication Capabilities:** The study of literature and language are inextricably linked. Learning different language patterns, phrase structures, and dialogue styles can help one communicate effectively with others in real life. Science, computing, diplomacy, and tourism all use English as their primary language. Students who are fluent in English have a better chance of landing a decent job in the future.
- PO6: **Development of Writing Skills and Processes:** Students will be able to recognise and grasp many types of English language, as well as establish their own writing style. Students studying English General Programmewould be made aware that textual analysis can be applied to political, journalistic, commercial, technological, and web-based writing with success. Their exposure to the ideas of a variety of writers, as well as their cultural backgrounds, is expected to influence their own

creative approaches. With the improvement of their writing skills and style, they may be able to work as future writers, editors, content creators, or teachers, among other things.

ARTS

SUBJECT: ENGLISH GENERAL (UNDERGRADUATE)

PROGRAMME OUTCOME REPORT FOR ACADEMIC YEAR 2019-20

Paper Name	Subject Code	Programme Outcomes
Paper III	ENGG	<ul style="list-style-type: none"> • Develop an understanding of the basic concepts of English Drama. • Describe the themes brought about in the plays and identify major literary characteristics of English theatre. • Identify the different forms of myths relevant to the texts. • Be familiar with predominant social and political movements and their influence on literature.
Paper IV		<ul style="list-style-type: none"> • Understanding of emergence of Indian literature as a distinct field of study. • Interpretation of the selected texts of important Indian authors. • Analysis and Development of integrated social, ethical, and cultural values in the Indian context. • Identify the various forms and types of poetry • Develop comprehensive ability for creative and critical writing • Explain the issues of social and gender identities relevant to the texts.

Course Outcome – BA (Hons in English) under CBCS System

Course	Course Name	COURSE OUTCOME
SEM- 1 CC 1: ENG-A-CC-1-1-TH/TU	History of Literature and philology	<ul style="list-style-type: none"> • A comprehensive knowledge about the origin of English Literature • Introduces with Medieval poetry • Enables to acquire a background of the Renaissance plays and poetry • Knowledge about the characteristics of Restoration comedy of manners and 18th

		<p>century novel</p> <ul style="list-style-type: none"> • A brief history from 1740s to modern period • give an awareness about the historical, social and linguistic factors that led to the making of English Language and its nature.
SEM-1 CC2: ENG-A-CC-1-2-TH/TU	European Classical Literature	<ul style="list-style-type: none"> • Acquire knowledge about Greek epic and tragedy • Introduces with classical myths and Roman comedy • Helps understand the trend of Satires as developed by Horace
SEM-2 CC3: ENG-A-CC-2-3-TH/TU	Indian writing in English	<ul style="list-style-type: none"> • Understanding the formation and growth of Indian English poetry along with the study of first important figures in this discipline • Acquire knowledge of the origin of English novel in the context of Bengal • introduction to the Indian English drama
SEM-2 CC4: ENG-A-CC-2-4-TH/TU	British Poetry and Drama	<ul style="list-style-type: none"> • a broad introduction to Chaucer • deeper understanding of Elizabethan sonnets and major Metaphysical poets • provides a comprehensive view of Shakespearean and Marlovian plays
SEM-3 CC5: ENG-A-CC-3-5-TH/TU	American Literature	<ul style="list-style-type: none"> • gives a comprehensive view of the growth of modern American Poetry and its various aspects • helps understand the American cultural forms and its socio-historical background through the reading of major novelists and short story writers. • Acquaintance with the American dream and its tragedy through Arthur Miller's tragedy
SEM-3 CC6: ENG-A-CC-3-6-TH/TU	Popular Literature	<ul style="list-style-type: none"> • Provides a complete understanding of the idea of Popular Culture • Helps analyse the growth of English nonsense literature • Introduces with development of popular comic literature • Gives a view of Children's literature in Bengal

SEM-3 CC7:ENG-A-CC-3-7-TH/TU	British poetry and drama (17 th -18 th century)	<ul style="list-style-type: none"> Enables to learn a brief history of socio-cultural background of the 17th-18th century England Helps understand Milton's style and critically analyse his work Gives an awareness about the salient features and differences of Jacobean tragedy and restoration comedy
SEM-4 CC8: ENG-A-CC-4-8-TH/TU	18 TH century British literature	<ul style="list-style-type: none"> Acquire the main features of Neo-classical period and its politico-cultural background Identify the transition from Augustan to Romantic period though the study of the Age of Sensibility Understand the formation and growth of English novel <ul style="list-style-type: none"> A comprehensive view of the proliferation of periodicals and journals in the 18th century
SEM-4 CC9: ENG-A-CC-4-9-TH/TU	British Romantic Literature	<ul style="list-style-type: none"> A broad introduction to the ideas that went into the shaping of the British Romantic movement Acquaintance with the critical ideas of Blake, Wordsworth, Coleridge, Shelley, Keats Analyse and appreciate the British Romantic Literature
SEM-4 CC10: ENG-A-CC-4-10-TH/TU	19 TH century British Literature	<ul style="list-style-type: none"> A comprehensive view of major Victorian poets Acquaintance with the poetic technique of those poets Helps look at the different perspectives of social, cultural and literary environment 19th England through the study of two eminent novelists – Jane Austen and Charles Dickens

Department of Bengali

In the Session 2019-2020 there are two programs A) PART III under 1+1+1 system in 3rd year. And B) in 2nd year Semester 3 & 4 along with Semester 1&2 in 1st year

Programme-Based Outcomes

- 1) Higher Studies (Such as M.A., M.Phil., Ph.D.)
- 2) Teaching Profession (Schools & Colleges)
- 3) Journalism
- 4) Translation work
- 5) Content writing & Script Writing
- 6) Work at Publishing House (such as Editing, Proof Reading)
- 7) Work at Media House (print, audio & video)
- 8) Competitive Exam- such as W.B.C.S, IAS

COURSE OUTCOME: BENGALI HONOURS

PART III

Paper 5:

Literary types of Bengali poetry and some texts of 20th centuries poetry.

The students will be able to:

Understand the definition, and classify the types of literary forms of Bengali poetry like Ballad, Epic, Lyric, Epistle and Sonnet.

Learn about the details of mythological women such as Tara wife of deva guru (Mentor of the deities) Brihaspati, Surpanakha, Sakuntala ,Jana and others love story with their lovers.

Know about the ‘Sonar tari’ lyrical poetry of Rabindranath Tagore which is fully bearing the characteristics of romanticism.

Understand the poetry ‘Sanchita’ composed by Kazi Nazrul Islam and learn about the another expressions of romanticism which is related with love and ground reality.

Know the 20th centuries evolution of Bengali poetry with its forms, matters and many others characteristics from 19th century. The text is collections of some modern Bengali poetry named ‘E kaler kabita sanchayan’ and is published by the University of Calcutta.

Paper 6:

Bengali novels and short stories (Pre & Post Independence of India.)

The students will be able to:

Know about the novel ‘Putul nacher itikatha’ written by Manik Bandyapadhyay .The story of the novel has been formed with the altre ego of the hero and his inner conflicts with other characters and facts.

Learn about ‘Aranyer adhikar’. It is a Bengali novel written by Mahasweta Devi. The novel narrates the history of Indian tribal freedom fighter Birsha Munda.

Know about the intricated nature of human psychology from the short stories of early independence written by some famous writers like Jagadish Gupta, Bibhutibhusan Bandyopadhyay, Premendra Mitra, Subodh Ghosh and Narayan Gangopadhyay.

Understand the crisis of times after so called independence, humiliation, riots after partition of Bengal from the short stories after independence written by some famous writers like Kamalkumar Mazumder, Sabitry Roy, Samaresh Basu, Tapabijay Ghosh, Sadhan Chattapadhyay and Faniswarnath Renu.

Paper 7:

Literary types of Bengali essays and some texts of Bengali essays.

The students will be able to:

Understand the definition, and classify the different types of forms of Bengali essays like belles letters, patra sahitya, diary, travelogue and critical essays.

Learn about the matters and characteristics of some personal essays like' 'Eka ke gay oi', 'Amar man', Patanga' and 'Biral' written by Bankimchandra Chattapadhyay.

Learn how a letter turns to literature from "chinna patra" written by poet Rabindranath Tagore.

Know the variation of some modern essays in different topics like 'patua silpa' written by Jamini Roy, 'Tin dasaker natya samiksa' written by Digindrachandra Bandyapadhyay from the text 'Ekaler prabandha sanchayan' and'E kaler samalochana sanchayan' published by University of Calcutta.

Paper 8:

History of Sanskrit literature, History of English literature, History of neighboring literature: Hindi.

Literary Theory 'kabya jijnaasa' and 'Sahitya'

The students will be able to:

Understand the glorious past of our indigenous Sanskrit literature that was the venter of so many modern Indian literatures.

Learn about the history of English literature and influence of English literature on Bengali literature.

Know about 'Kabya jingasa' written by Atul Chandra Gupta.It is the narration of different types and use of rhetoric, illustrations and explanations of creation of real literature.

Know the key of literature from 'Sahitya' written by Rabindranath Tagore.

Course Outcomes:

After the end of the three year degree course students will have a thorough knowledge of:

History of bengali literature which helps him to distinguish and understand the different stages of Bengali language and literature and its evolutions. As the whole course is designing with poetry, novel, essays, short stories and Bengali linguistics so the students can define and enrich their literary sense that might be a great opportunity for getting job in educational institutes and paper and electronic medias.

The students is also being learnt about Bengali linguistics they can easily understand the difference between the standered and dialetory form of Bengali language and earn the capacity of proper teaching method for the non spoken persons of Bengali.

COURSE OUTCOME: BENGALI GENERAL

PART III

PAPER IV

After the end of the three year degree course students will have a thorough knowledge of:

Creative writing,

Drafting of official letter,

Reporting,

Copy-writing of advertisement,

Standard Knowledge of Bengali spelling,

Transcription International phonetic alphabets from Bengali,

Proof reading.

In the Session 2019-2020

Semester 1 & 2

Programme Outcome:

- 1) Higher Studies (Such as M.A., M.Phil., Ph.D.)
- 2) Teaching Profession (Schools & Colleges)
- 3) Journalism
- 4) Translation work
- 5) Content writing & Script Writing
- 6) Work at Publishing House (such as Editing, Proof Reading)
- 7) Work at Media House (print, audio & video)
- 8) Competitive Exam- such as W.B.C.S, IAS

Programme Specific Outcome (Hons. In Bengali)

*The main objective of this programme is to introduce detailed and higher lessons in Bengali language and literature.

- Learners will become acquainted with the social, economic and political history reflected in ancient to modern Bengali literature and language.

*Students will have exposure to literature from different eras, which will aid them in developing an idea of temporal diversity in literature.

*Knowledge of Bengali metre and rhetoric will help in analyzing poetry. Critical analysis and discussions will help students develop the skills to appreciate the inherent beauty and philosophical thoughts embedded in literary works.

Course Outcome (CO)

Semester 1

CC-1- বাংলা সাহিত্যের ইতিহাস (১৮০০ খ্রি: পর্যন্ত)

বাংলা ভাষা ও সাহিত্যের উদ্ভবেরে সময় থকে মধ্যযুগ অর্থা ১৮০০ খ্রিঃ পর্যন্ত বাংলা ভাষার বিবরণ রূপ যে ভাবে সাহিত্যে বধিত হ'য়েছে তার ধারাবাহাস এই পরহকি ইতিহাস অধ্যায়নের মধ্যদিয়ে ছাত্র-ছাত্রীরা বাংলা সাহিত্যের যুগ বভাজন সম্পর্কে সচতেন হব।

CC-2- বর্ণনামূলক ভাষাবজ্ঞান ও বাংলা ভাষা

বাংলা ভাষাতত্ত্ব ও শব্দতত্ত্ব সম্পর্কে বস্তিরতি পাঠ ও ব্যক্তি-সূত্রে বজ্ঞানিক অনুধাবন করতে সাহায্য করব।

Semester 2

CC-3-বাংলা সাহিত্যের ইতিহাস (উনশি শতক)

ওপনবিশেক আধুনিকতার সংস্পর্শে আমাদের চন্তা-চতেনা, যাপতি-জীবন ও সাহিত্যে যে আধুনিকতার সংক্ষার ঘটেছে তার ইতিহাস পাঠে উক্ত আধুনিকতার স্বরূপ বুঝতে সাহায্য করব।

CC-4- বাংলা সাহিত্যঃ প্রবশেক পাঠ

সাহিত্যের ইতিহাসের প্রাথমিক পরিচয়ের পর কবতা, কথা-সাহিত্য, প্রবন্ধ ও নাটক পাঠের মধ্য দিয়ে সাহিত্যের রসগ্রাগী বশিষ্টেন শুরু হব।

Semester 3

CC-5-বাংলা সাহিত্যের ইতিহাস (বাংশি শতক)

বাংশি শতকের সাহিত্যের ইতিহাস ও সাময়িক পত্র সম্বন্ধে পাঠ এই পত্রের বিষয়। স্বাধীনতা পূর্ব ও পরবর্তী বাংলা সাহিত্যের ইতিহাস শিক্ষার্থীকে বাংলার সমাজ-অর্থনৈতি ও রাজনৈতিক প্রক্রিয়াপট বুঝতে সাহায্য করব।

CC-6- ইতিহাসকি ভাষা বিজ্ঞান

প্রাচীন ভারতীয় আর্যভাষ্য থেকে আধুনিক তথা নব্য ভারতীয় আর্যভাষ্য হস্তান্তরে বাংলা ভাষার উদ্ভব ও বিকাশের প্রতিটি স্তরে সাহিত্যিক নদিরশনে বশিল্লামেনের সাহায্যে ছাত্র-ছাত্রীদের সচতেন করতে তুলব।

CC-7- কথাসাহিত্য

আধুনিক সময়ের জটিলতা, ব্যবস্টি ও সমষ্টির দ্বন্দ্ব, বাঙালির পারবারিক জীবনে নারীর অবস্থান, পরবিশে সম্পর্কতি ভাবনা এবং মানুষের লড়াই-সংগ্রামের নানা প্রবন্ধ সমূহের পরচিয়নের মাধ্যমে সমকালীন বাংলার পরস্থিতি অ লখেকদের চন্তাসূত্রগুলি ছাত্র-ছাত্রীদের বস্তিলামেনক ধারণা গড়তে তুলতে সাহায্য করব।

CC-4- বাংলা সাহিত্যঃ প্রবশেক পাঠ

সাহিত্যের ইতিহাসের প্রাথমিক পরচিয়নে পর কবতি, কথা-সাহিত্য, প্রবন্ধ ও নাটক পাঠের মধ্য দয়িতে সাহিত্যের রসগ্রামী বশিল্লামেন শুরু হব।

Semester 3

CC-5-বাংলা সাহিত্যের ইতিহাস (বংশ শতক)

বশি শতকের সাহিত্যের ইতিহাস ও সাময়িক পত্ৰ সম্বন্ধে পাঠ এই পত্ৰে বষিয়। স্বাধীনতা পূর্ব ও পরবৰ্তী বাংলা সাহিত্যের ইতিহাস শক্তিশালীকৃত বাংলার সমাজ-অর্থনৈতি ও রাজনৈতিক প্রক্রেত্যাপট বুবাতে সাহায্য করব।

CC-6- ইতিহাসকি ভাষা বিজ্ঞান

প্রাচীন ভারতীয় আর্যভাষ্যা থেকে আধুনিক তথা নব্য ভারতীয় আর্যভাষ্যা হস্পিদে বাংলা ভাষার উদ্ভব ও বিকাশের প্রতিটি স্তরে সাহিত্যিক নদিরশনে বশিলমেনের সাহায্যে ছাত্র-ছাত্রীদের সচেতন করতে তুলব।

CC-7- কথাসাহিত্য

আধুনিক সময়ের জটিলতা, ব্যবস্টি ও সমষ্টির দ্বন্দ্ব, বাঙালির পারবিারিক জীবনে নোরীর অবস্থান, পরবিশে সম্পর্কতি ভাবনা এবং মানুষের লড়াই-সংগ্রামের নানা প্রবনতা সমূহের পরচায়ণের মাধ্যমে সমকালীন বাংলার পরস্থিতি অ লখেকদের চন্তাসূত্রগুলি ছাত্র-ছাত্রীদের বস্তিলমেনক ধারণা গড়ে তুলতে সাহায্য করব।

Semester 4

CC-8-প্রাগাধুনিক বাংলা সাহিত্য

CC-4- বাংলা সাহিত্যঃ প্রবশেক পাঠ

সাহিত্যের ইতিহাসের প্রাথমিক পরিচয়ের পর কবিতা, কথা-সাহিত্য, প্রবন্ধ ও নাটক পাঠের মধ্য দিয়ে সাহিত্যের রসগ্রামী বশিলমেন শুরু হব।

Semester 3

CC-5-বাংলা সাহিত্যের ইতিহাস (বৎশ শতক)

বৎশ শতকের সাহিত্যের ইতিহাস ও সাময়িক পত্র সম্বন্ধে পাঠ এই পত্রের বিষয়। স্বাধীনতা পূর্ব ও পরবর্তী বাংলা সাহিত্যের ইতিহাস শিক্ষার্থীকে বাংলার সমাজ-অর্থনৈতি ও রাজনৈতিক প্রক্রিয়াপট বুঝতে সাহায্য করব।

CC-6- ঐতিহাসিক ভাষা বিজ্ঞান

প্রাচীন ভারতীয় আর্যভাষ্যা থেকে আধুনিক তথা নব্য ভারতীয় আর্যভাষ্যা হস্পিদে বাংলা ভাষার উদ্ভব ও বিকাশের প্রতিটি স্তরে সাহিত্যিক নদিরশনে বশিলমেনের সাহায্যে ছাত্র-ছাত্রীদের সচেতন করতে তুলব।

CC-7- কথাসাহিত্য

আধুনিক সময়েরে জটিলতা, ব্যবস্টি ও সমষ্টির দ্বন্দ্ব, বাংলার পারিবারিক জীবনে নারীর অবস্থান, পরিশে সম্পর্কতি ভাবনা এবং মানুষের লড়াই-সংগ্রামের নানা প্রবন্ধ সমূহের পরিচয়ের মাধ্যমে সমকালীন বাংলার পরিস্থিতি অ লখেকদের চিন্তাসূত্রগুলি ছাত্র-ছাত্রীদের বিশ্লেষণমূলক ধারণা গড়ে তুলতে সাহায্য করব।

Semester 4

CC-8-প্রাগাধুনিক বাংলা সাহিত্য

বংশের পদাবলীর কাব্য সৌন্দর্য ও অনুভূতির গাঢ়তা ছাত্র-ছাত্রীদের সৃজ্যমান সাহিত্যবোধকে সমৃদ্ধ করার ফলে তারা বিভিন্ন কাব্যের অন্তরঙ্গ পাঠে সমর্থ হবশোক্তপদাবলীতে তকালীন সমাজ-পারিবারিক জীবনের পরিচয়ের সহায়তায় ইতিহাস নর্মাণসেমকালীন সাহিত্যের ভূমিকা উপলব্ধি করতে পারব। বিভিন্ন বিভিন্ন ধরনীয় ভাবনা ও দার্শনিক চিন্তার সঙ্গে পরিচিতি হবে, উপলব্ধি করতে পারব। মধ্যযুগের সামাজিক ইতিহাসে স্বাক্ষর চণ্ডীমঙ্গল সাহিত্য পাঠ মধ্যযুগের সমাজ অর্থনৈতিক রাজনৈতিক ইতিহাসে বুঝতে সাহায্য করব।

CC-9- ছন্দ অলংকার কাব্যতত্ত্ব

সাহিত্যে শক্তিশীল হিসাবে ছন্দ-অলঙ্গকার বিষয়ে বোধ ও দক্ষতা অর্জন আবশ্যিক। এই দক্ষতা পরবর্তীতে অন্যান্য কাব্যের রস গ্রহণে ও শব্দী বিশ্লেষণে সমর্থ করতে তুলব।
কাব্যতত্ত্ব পাঠে ছাত্র-ছাত্রীরা প্রাচ্য-পাশ্চাত্যের কাব্য বচিরধারার ইতিহাস অবগত হব।

CC-10-প্রবন্ধ

নর্বাচাতি প্রবন্ধ পাঠে উনশি শতকের নব জাগ্রত চতেনা এবং পরবর্তী শতকে তার প্রবাহ ছাত্র-ছাত্রীদের মানবতাবাদ ও মুক্তচন্তায় উসাহতি করবসেমালোচনা সাহিত্য ছাত্র-ছাত্রীদের যুক্তসিরিকদ্ধ সাহিত্যবোধ নর্মাণ ও বিশ্লেষণে সাহায্য করব।

SUBJECT: POLITICAL SCIENCE (HONS) [1+ 1+1]

UNDERGRADUATE 2019-2020

COURSE OUTCOME:

PAPER – V: WESTERN POLITICAL THOUGHT	Western political thought concentrates principally on the history of the West and different issues confronting it. Political thought is of great importance. It consists of political institutions and social practices. It is the reflection of how best to adjust in our collective life. This course covers not only the ancient and medieval political thoughts of the Europe but also explores the liberal political thoughts of the Europe.
PAPER VI: INDIAN POLITICAL THOUGHT AND MOVEMENT	Indian political thought is the branch of philosophical thought in India that addresses questions related to polity, statecraft, justice, law and the legitimacy of forms of governance. This course covers a long timeline of Indian political thought from Kautilya to Gandhi. This course also helps students to better understanding of Indian freedom movements.
PAPER – VII : POLITICAL SOCIOLOGY	Political sociology, broadly conceived, is the study of power and domination in social relationships. It could thereby include analysis of the caste, class, elite and so on. Weber provided the theoretical underpinning for modern sociology, defined as the interpretative understanding of social action linked to a causal explanation of its course and consequences. By concentrating on the reciprocal influence of social structure on social action, sociology is free to analyze all forms of social interaction (from language and sexuality to religion and industry).This course also helps to develop a coherent attitude towards different systems of a society.
PAPER – VIII: PUBLIC	This course helps us to better our

ADMINISTRATION	understanding of theoretical concepts of public administration. There is a detailed study of different theoretical backgrounds of the subject. Through this course, students get complete knowledge about Indian administrative organizations.
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SUBJECT: POLITICAL SCIENCE (GENERAL) UNDERGRADUATE 2019-2020

PROGRAMME OUTCOME:

PAPER IV : CONTEMPORARY POLITICAL AND ADMINISTRATIVE ISSUES IN INDIA	This course helps to develop a comprehensive idea about the contemporary Indian politics and administration. The issues like globalization and human rights will enrich the students. Local government's instructions are discussed in details in this paper.
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SUBJECT: POLITICAL SCIENCE (HONS) (UNDERGRADUATE) (CBCS)

ACADEMIC YEAR: 2019 -2020

COURSE OUTCOME

PAPER NAME	COURSE OUT COME
<u>CC 1 – 1</u> : UNDERSTANDING POLITICAL THEORY : CONCEPTS	To understand basic theoretical concepts about the subject. Special emphasis on concepts of law, liberty, equality, justice and citizenship.
<u>CC 1 - 2</u> UNDERSTANDING POLITICAL THEORY : APPROACHES AND DEBATES	To get basic theoretical knowledge about the subject. Special emphasis on liberal theory, behavioral theory, postcolonial and feminist theory. Through this course students will acquire a basic idea about classical and contemporary Marxism.
	This course helps the student to get a basic idea about the Constitution of India .This Constitution is the supreme law of India. The document lays down the framework that demarcates fundamental political code,

	structure, procedures, powers, and duties of government institutions and lays down fundamental rights, directive principles, and the duties of citizens. The cornerstone of teaching politics to our students is to build dutiful subjects of the state who know well about the rules and regulations of the government. Students are taught how a government is elected; the divisions of the executive, legislature and judiciary and so on.
<u>CC2-4 : POLITICS IN INDIA : STRUCTURES AND PROCESSES</u>	This course helps the student to better understand the contemporary politics in India.
<u>CC 3- 5 : INDIAN POLITICAL THOUGHT</u>	Indian political thought is the branch of philosophical thought in India that addresses questions related to polity, statecraft, justice, law and the legitimacy of forms of governance. It also deals with the scope of religion in state-organization and addresses the legitimacy of sociopolitical institutions in a polity. This course covers a long time line of Indian political thought from Kautilya to Gandhi.
<u>CC3-6 : COMPARATIVE GOVERNMENT AND POLITICS</u>	To understand how certain regimes and their constitutional frameworks evolve and work. This course emphasizes on the constitutional features and ideas of U.K., U.S.A., P.R.C., France, Russia, Bangladesh and Switzerland. Special emphasis is give on the topic of development and democratization.
<u>CC3-7 : PERSPECTIVES ON INTERNATIONAL RELATIONS</u>	Studying international relations is a great way of gaining a deeper understanding of global politics. This course emphasizes on some contemporary critical ideas of international politics such as development, environment, terrorism and migration. Impact of cause and effects of Cold War on international politics. This course also helps to formulate some basic ideas about Indian foreign policy.
<u>CC4-8 : INDIAN POLITICAL THOUGHT</u>	This course helps to develop comprehensive ideas about modern Indian political thinkers. Theorists like M.N.Roy or Neheru are pioneers of modern Indian political thought. There is a special emphasis on feminist thinkers of the time of Indian renaissance.

<u>CC4-9 :</u> GLOBAL POLITICS SINCE 1945	This course gives special emphasis on international politics since 1945. International organizations and their roles are explored in this course. And India and her neighbor's relations get a special importance in this course.
<u>CC4-10 :</u> WESTERN POLITICAL THOUGHT	Western political thought concentrates principally on the history of the West and different issues confronting it. Political thought is of great importance. It consists of political institutions and social practices. It is the reflection of how best to adjust in our collective life. This course mainly covers the ancient and medieval political thoughts of the Europe.

SUBJECT:

POLITICAL SCIENCE (GENERAL) UNDERGRADUATE (CBCS)

ACADEMIC YEAR: 2019 -2020

PROGRAMME OUTCOME:

PO1. CONCEPT BUILDING: This course helps to build basic theoretical concepts about the subject.

PO2. EMPOWERED CITIZENSHIP: This course helps to make every student an empowered citizen.

PO3. SKILL ENHANCEMENT: This course helps to develop required skills for the enhancement of the subject.

PO4. WORLD WIDE OUTLOOK: This course helps to develop knowledge about the world.

PO5. DEVELOP INTERDISCIPLINARY APPROACH: This course helps to develop an interdisciplinary approach for better understanding of the subject.

SUBJECT: POLITICAL SCIENCE UNDERGRADUATE

(General) (CBCS) 2019-2020

COURSE OUTCOME:

PAPER NAME	COURSE OUTCOME
CC1-1 INTRODUCTION TO POLITICAL THEORY	To get basic theoretical knowledge about the subject. Special emphasis on liberal theory, Marxist theory and a short introductory note on feminist approach.
CC2-2 COMPARATIVE GOVERNMENT AND POLITICS	To understand how certain regimes and their constitutional frameworks evolve and work. This course emphasizes on the constitutional features and ideas of U.K., U.S.A., P.R.C., France, Bangladesh and Switzerland.
CC3-3 GOVERNMENT AND POLITICS IN INDIA	To understand the exercises of government powers in India, and also study how politics resolves conflicts in our country. This course explores the ideologies of contemporary Indian politics and its movements.
CC4-4 INTERNATIONAL RELATIONS	Studying international relations is a great way of gaining a deeper understanding of global politics. This course emphasizes on some basic conceptual ideas of international politics. Impact of cause and effects of Cold War on international politics. This course helps to formulate some basic ideas about Indian foreign policy.

POLITICAL SCIENCE (HONS) (UNDERGRADUATE) (CBCS)

ACADEMIC YEAR: 2019 -2020

SEC - COURSE OUTCOME:

SEC 3 A(1) DEMOCRATIC AWARENESS THROUGH LEGAL LITERACY	This course aims to develop a basic legal knowledge for the students. If they have ideas about the legal procedures, then they will become aware citizens in future. The course gives special emphasis on laws related to the women.
SEC 4 B (1) LEGISLATIVE PRACTICES AND PROCEDURES	This course helps to give a clear idea about the powers and functions of MLAs and MPs in India. How a bill becomes a law in India is discussed in this course. Special emphasis is given on the types of committees and their functions.

SUBJECT: POLITICAL SCIENCE UNDERGRADUATE (General) (CBCS)
2019-2020

COURSE OUTCOME:

PAPER NAME	COURSE OUTCOME
CC1-1 INTRODUCTION TO POLITICAL THEORY	To get basic theoretical knowledge about the subject. Special emphasis on liberal theory, Marxist theory and a short introductory note on feminist approach.
CC2-2 COMPARATIVE GOVERNMENT AND POLITICS	To understand how certain regimes and their constitutional frameworks evolve and work. This course emphasizes on the constitutional features and ideas of U.K., U.S.A., P.R.C., France, Bangladesh and Switzerland.
CC3-3 GOVERNMENT AND POLITICS IN INDIA	To understand the exercises of government powers in India, and also study how politics resolves conflicts in our country. This course explores the ideologies of contemporary Indian politics and its movements.
CC4-4 INTERNATIONAL RELATIONS	Studying international relations is a great way of gaining a deeper understanding of global politics. This course emphasizes on some basic conceptual ideas of international politics. Impact of cause and effects of Cold War on international politics. This course helps to formulate some basic ideas about Indian foreign policy.

DEAPRTMENT OF HISTORY

Subject: History (CC/GE) for HISA

Paper Name	Course Outcome
1. CC-1: History of India from the Earliest Times to C 300 BCE	Makes the students aware of the genesis development and evolution of human in India through the path of society formation to state and history of ancient Time till Ashokan era in brief.
2. CC-2: Social Formations and Cultural Patterns of the Ancient World Other than India	Significant study of evolutionary mechanisms throughout the world, social formations, a journey through hunter gatherers to cultivator and animal husbandry, birth of religiosity to slavery and cultural patterns of ancient Greece.
3. CC-3: History of India C 300 BCE to C 750 CE	Provides a vivid knowledge of Indian history from the expansion of Indian agrarian economy to social protest movements, cast, jati and transformation of Buddhism Jainism and change of social structure from Maurian to Gupta period in India.
4. CC-4: Social Formations and Cultural Patterns of Medieval World other than India	Interesting study on genesis of Bedouin Society, it's impact on Islam and change of Mongol imperialism by Islam, Turks, Ottoman empire; a study on crisis of Roman empire, religiosity status of women and transition of Europe from Medieval to Modern age; Judaism and Christianity under Islam.
5. CC-5: History of India (CE 750-1206)	Gives a valuable account on the breakdown of ancient Indian monarchy, introduction of Islam in India, beginning of Sultanate, new impact, change in Indian society and culture.
6. CC-6: Rise of Modern West – 1	An important account on transition from medieval to modern economic social religious system in Europe through the way of Renaissance sea

	voyages, reformism of Martin Luther and others, changing pattern of society economy and religious pattern and emergence of new European state system.
7. CC-7: History of India (c.1206-1526)	Provides an important account on new state system in India based on Islamic religion, impact on society religion economy and everything in India by Delhi Sultanate.
8. CC-8: Rise of the Modern West – II	An important study on Changing factors and its impact on European society economy religiosity and war techniques through the way of scientific revolution, press, scientific academies, English revolution and emergence of parliamentary democracy.
9. CC-9: History of India (c1526-1605)	Study on another type of Islamic but new rule, culture and religion, art architecture sculptural pattern and its impact on Indian society and economy especially trade and commerce, Mughal empire.
10. CC-10: History of India (c 1605-1750s)	Gives an important study on a new chapter of Mughal dynasty begins from Jahangir, trade and commerce and beginning of penetration of British East India Company in India, a new era begun.
11. CC-11: History of Modern Europe (c. 1780-1939)	A dynamic culture and understanding, realization of mind begins with European history and the course gives its brief from the downfall of Ancien regime by French revolution and Napoleon Bonaparte, Industrial revolution, emergence of Nationalism and two World Wars.
12. CC-12: History of India (c1750s-1857)	The students should have a brief knowledge on colonial India and the course gives an account of it begins from c 1750s and ends it up with the First War of Indian Independence

	during 1857-58 gave a very good lesson to the colonial power on Indian mentality not to become a part of colonial rule.
13. CC-13: History of India (c.1857 – 1964)	This chapter says in details an important part of Indian history from an unrest resulted in first war of Independence of India, movements of various kinds including nationalist, leftist, Marxist, revolutionist, emergence of Gandhi, birth of communalism, separation of India and independence and birth of a new democratic India ended with first remarkable Prime Minister Pundit Jawaharlal Nehru.
14. CC-14: History of World Politics: 1945-1994	Students as well as the persons having quest for knowledge would know in brief the condition of an important phase of world politics under ‘armed neutrality’, cold war, NATO, emergence of Peoples’ Republic of China, USSR China relation, crisis in Middle east, Africa, Non alignment movement’s results, breaking of USSR and second wave of Feminist Movement.
15. Discipline Specific Elective: DSE TH & TU Paper 1 DSE-A-1 SEM-5: History of Bengal (c.1757-1905)	A very important chapter in Indian history before partition and independence simultaneously the British rose to power and broke Hindu Muslim integrity partitioning Bengal province. This chapter discusses in detail the Bengal politics during the time of Siraj-ud-Daula, administrative and agrarian relations during the British East India Company, impact of Permanent Settlement, Hindu Muslim relation, peasant movements ended up with partition of Bengal.
16. Paper-2: DSE-A-3 SEM-6: History of Bengal (c.1905-1947)	Bengal’s partition and aftermath, communalism, revolutionist movements, Krishak Praja PParty and

	Muslim League, Gandhian movement's Bengal phase, labour movements, Subhas Chandra Bose and a new pattern of independence movement, women's movement, riots and Calcutta killing, upsurge of communal holocaust.
17. Paper 3 DSE-B-2 SEM-5: History of Southeast Asia – the 19 th Century	A brief account on societal cultural economic and political change in southeast Asia, agriculture craft productions and impact of Islamism, colonial impact and urbanization.
18. Paper4 DSE-B-4 SEM-6: History of Southeast Asia – the 20 th Century	Revolutionary movements in Vietnam and a new era began, Indonesian revolution, emergence of modern nation state.
19. Paper 5 DSE-B-1 SWEM-5: History of Modern East Asia – I China (c.1840-1949)	Important study in Chinese history from feudalism to birth of Peoples' Republic of China.
20. Paper 6 DSE-B-3 SEM-6: History of Modern East Asia – II Japan (c.1868 – 1945)	Transition of Japan from feudalism to capitalism, important phase of Meiji restoration, Japanese imperialism, second world war and its impact on Japan.
21. Paper 7 DSE-A-2 SEM-5: History of United States of America – I (c.1776 – 1945)	European colonization in America and war of American independence, evolution of American democracy, early capitalism, agriculture and industry to Lincoln, a new continent started its journey in world politics.
22. Paper 8 DSE-A-4 SEM-6: History of united States of America – II (c.1776 – 1945)	Internal economic development, agriculture, industry labour movements, Spanish-American war, expansion in far east and Latin America, Afro-American movements, women's movements, cultural scenario.
23. Skill Enhancement Courses (SEC – A & B) SEC – A (1): Archives and Museums	Important lesson to the student's beginners for research and scholarships accessing ability of Archives and Museums for greater research in future with practical teachings and visit to Archives and

	Museums.
24. SEC – B (1) Understanding Popular Culture	A very much important chapter to make the students aware and enhance their skill of educational research and historical knowledge through audio visual process i.e. cinemas documentary films and primary and secondary source materials.
25. SEC – A (2) Understanding Heritage	Heritage is most important part for a nation to build. This chapter teaches a good lesson of Indian heritage from ancient to modern art architecture and sculpture and its relation with museums travelling and conservation initiatives.
26. SEC – B (2): Art Appreciation: an Introduction to Indian Art	Art is cultural manifestation of a nation cast creed religious or cultural sect. This chapter teaches students a brief in Indian art from pre historic period to modern age.

Subject: History (CC/GE) for HISG

1. CC-1/GE-1 : History of India from Earliest Times up to 300 CE	This chapter introduces pupils the wave of human evolution scientific as well as social, making of society to state and civilization. It teaches on pre history, Harappan civilization to Aryans, and emergence of Magadhan empire through Ashoka and aftermath, the Kushanas and Sangam age.
2. CC-2/GE-2: History of India from c.300 – 1206	A brief sketch on Maurian rule to beginning of Delhi Sultanate, a new chapter in Indian history and culture.
3. CC-3/GE-3: History of India from 1206 - 1707	Huge discussion as well as important account on Delhi Sultanate through Mughal India and the death of last powerful emperor Aurangzeb, the introduction of British colonial rule in India.

4. CC-4/GE-4 History of India: 1707 – 1950	Another detailed work on Indian history begins from the debut of colonial rule to independence and introduction of constitution, beginning of modern democracy.
5. DSE Discipline Specific Elective DSE – A – 1: National Liberation Movements in 20 th Century World	Teaches an important phase on democratic movements of India, China, countries of Africa and Latin America against colonial misrule.
6. DSE-A-2: Some Aspects of European History: c.1780-1945	Not only France or Europe but the whole world went through a way of social and economic transformation from French and Industrial revolutions and afterwards two world wars through the way of Russian revolution Bolshevik, great depression and the world condition and one world notion emerged not from amity but from enmity. A very much important chapter to be known precisely to feel the world's essence of human civilization.
7. DSE-B-1: Patterns of Capitalism in Europe: c.16 th Century to Early 20 th Century	Capitalism is a mode of living controls the society till now. Industrial revolution was a demarcation line between medieval thoughts and modern ideas all over the world especially of Europe. This chapter defines definition and concept of capitalism to impact of Industrial revolution on society of Europe.
8. DSE-B-2: Some Aspects of Society & Economy of Modern Europe 15 th – 18 th Century	Europe in Transition from Feudalism to Capitalism was a vast era of history. Renaissance reformation sea voyages colonization was the way to capitalism and modern thought. A brief sketch of the whole history.
9. Skill Enhancement Elective 10. 10. Course (SEC) SEC-A-1: Historical Tourism: Theory and Practice	Educational tourism is a part of understanding culture and heritage of one's native land. Art architecture sculpture and archaeological remnants in detailed visit and theoretical

	knowledge both are provided for the students in this course.
10. SEC-A-2: Indian History and Culture	A nation should have a vast knowledge and awareness on one's cultural heritage, history and culture. This chapter describes precisely on it.
11. SEC-B-2: Orality and Oral Culture in India.	Oral culture once upon a time was a very precious practice among ancient Aryans in India, Bedouins of Arab and so many parts of world. This chapter denotes, defy and describe of orality its historiography research methodology and everything as a whole as a student could learn on it to be a researcher.

Department of History

Programme Outcome

- i. History teaches us heritage, culture and positive sides of a nation and whole world human society, its evolution both physical and cultural simultaneously.
- ii. The students of History have a bright future at every sphere of academic and professional world i.e. NET/SET, SSC, PSC, Bank Railways, Clerkships examinations as well as IPS, IAS, WBCS and other higher government jobs.
- iii. History relates the whole world society religion culture and teaches humankind togetherness.
- iv. Without culture, heritage and history a man or a community is a group of living dead. History makes a man perfect.

DEPARTMENT OF EDUCATION

Three Year Degree Course in EDUCATION (Honours)

Part -III

(1+1+1 system)

Session 2019-2020

PROGRAMME OUTCOME

PO1: CRITICAL EVALUATION

- Develop understanding of the concepts of measurement and evaluation in education, the process of Evaluation, different types of measuring instruments and their uses, the concepts of validity and reliability and their importance in educational measurement and the principles of test construction.

PO2: SKILLS OF APPLICATION

- Develop knowledge and skill about the concept of statistics and to develop skill in analysing descriptive measures, Normal Probability Curve and its uses in education, measures of relationship and organize relevant educational data and to represent educational data through graphs and to develop skill in analysing and displaying data

PO3: DISCOVERY AND EXPLORATION:

- Explore new ideas and thoughts through the application of theoretical knowledge of Education subject and statistical techniques and pedagogical analysis.

PO4: CRITICAL THINKING

- Critical thinking through comparing features of the system of education in UK & USA with that of India, techniques of data collection, application of relevant statistical techniques to represent and analyse the data.

Three Year Degree Course in EDUCATION (Hons)

Part –III

(1+1+1 system)

Session 2019-2020

COURSE OUTCOME

Paper Name	Course Outcomes
PAPER- V PSYCHOLOGY OF ADJUSTMENT AND EDUCATIONAL GUIDENCE & COUNSELLING	CO1: Students understand the concept of adjustment and maladjustment. CO2: Students identify some commonly found problem behaviours along with the etiology and remedial measures. CO3: Students understand the role of parents and educational institution in promoting mental health. CO4: Students learn about different coping strategies for successful stress – management. CO5: Students understand the concept of guidance and counselling. CO6: Students know about tools and techniques for conducting guidance and counselling services.
PAPER –VI EVALUATION IN EDUCATION	CO1: Students develop understanding of the concepts of measurement and evaluation in education CO2: Students know different types of measuring instruments and their uses. CO3: Students know the principles of test construction. CO4: Students develop understanding of the concepts of validity and reliability and their importance in educational measurement. CO5: Students develop the ability to organize relevant educational data. CO6: Students develop the ability to use various statistical measure in analysis and interpretation of educational data. CO7: Students develop the ability to interpret test data. CO8: Students develop the ability to represent educational data through graphs. CO9: Students develop skill in analysing descriptive measures.
PAPER –VII EDUCATIONAL TECHNOLOGY AND CURRICULUM	CO1: Students understand the concept of educational technology CO2: Students know the basic developments in educational technology. CO3: Students know different instructional techniques. CO4: Students develop the ability to analyse classroom teaching – learning and the ability to observe classroom behaviour and group dynamics. CO5: Students understand the meaning and scope of curriculum. CO6: Students understand the basis of curriculum construction, evaluation and innovation.
PAPER-VIII COMPARATIVE EDUCATION AND	CO1: Students analyse and compare Indian educational system with abroad. CO2: Students acquainted with the process of collecting data.

PRACTICAL	CO3: Students apply relevant statistical techniques to display and analyse data. CO4: Students acquire the skills of observation and inference in relation to some selected constructs in educational psychology.
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Three Year Degree Course in EDUCATION (General)

Part –III

(1+1+1 system)

Session 2019-2020

PROGRAMME OUTCOME

PO1: CRITICAL EVALUATION

- Develop understanding of the concepts of measurement and evaluation in education, the process of Evaluation, different types of measuring instruments and their uses, the concepts of validity and reliability and their importance in educational measurement and the principles of test construction.

PO2: SKILLS OF APPLICATION

- Develop knowledge and skill about the concept of statistics and to develop skill in analysing descriptive measures, Normal Probability Curve and its uses in education, measures of relationship and organize relevant educational data and to represent educational data through graphs and to develop skill in analysing and displaying data

PO3-DISCOVERY AND EXPLORATION:

- Explore new ideas and thoughts through the application of theoretical knowledge of Education subject and statistical techniques and pedagogical analysis.

Three Year Degree Course in EDUCATION (General)

Part -III

(1+1+1 system)

Session 2019-2020

Paper Name	Course Outcomes
PAPER IV Evaluation and Guidance in education	CO1: Students develop understanding of the concepts of measurement and evaluation in education. CO2: Students understand the process of Evaluation CO3: Students know different types of measuring instruments and their uses. CO4: Students develop understanding of the concepts of validity and reliability and their importance in educational measurement. CO5: Students understand the principles of test construction.

Choice Based Credit System
B.A. Honours in Education (EDCA)

Session 2019-2020
Core Courses (CC) & Skill Enhancement Courses (SEC)

PROGRAMME OUTCOME

PO1-Critical Evaluation:

- Understand nature of education and pedagogic processes through enriched experiences
- Contribute to fill up the gap between theory and practice by dovetailing both appropriately.

PO2-Discovery and Exploration:

- Explore new ideas and thoughts through the application of theoretical knowledge of Education subject and teaching techniques and pedagogical analysis.

PO3-Effectual Communication:

- Students demonstrate their communicational skills through paper presentations on subject as well as various interdisciplinary themes.
- Students engage in research projects to demonstrate effective communication skills.

PO4-Sense of time and space:

- Relate their understanding of the theories of educational psychology, philosophical and sociological foundations, ICT, Guidance and counselling
- Peace and Value education in various classroom situations and societal experiences.

PO5-Thinking Skills:

- Demonstrate thinking skills by analysing, synthesizing, evaluating factual and conceptual educational information from multiple sources and verifying the relevance of various topics by applying them.

PO6-Self-Sufficiency and Life-long Learning:

- Developing self-sufficiency, sincerity, independent thinking as education is a lifelong process for empowering the students to face all challenges in their future endeavours.

PO7-Socio-Cultural-political Awareness:

- The students became aware of socio-cultural-political diversity through analysis of diverse social groups, schools of philosophy, religion, class, caste, culture, role of family and other institutions and agencies.

PO-8-National Integration, International Understanding and Peace:

- Develop concern for the society, nation, as well as philosophy of various educators, social and educational reformers. Various educational policies for the eradication of illiteracy, equalization of educational opportunity, UEE, inclusion, National Disintegration, population explosion and so on are taught in order to sensitize the students. Core Philosophy of Indian Constitution is also developed among the students.

PO-9-Social Interaction:

- Encouraging students from diverse backgrounds are provided equal opportunity for fulfillment of their needs and interests.
- Differently Able students are encouraged to interact with other students in an Inclusive environment.
- To understand the society the students, interact with the members of the society.

PO-10-Solving current problems:

- Acquainting students with the diverse current educational problems and other issues, Inclusive education, Unemployment, Poverty, National Disintegration and Population explosion.

PO-11-Inculcating Values and Ethics:

- Applying the knowledge of education in order to inculcate awareness among students concerning racial and gender equity; human rights issues, social justice and other values as enshrined in the Preamble of the Constitution.

PO-12-Heritage Awareness, Environment Consciousness and Sustainability:

- Encouraging students to understand various issues related to environment and sustainable development by acquainting them with the diverse causes that lead to social change and progress.
- Sensitizing the students with the cultural heritage of India in education is another key issue.

Choice Based Credit System
B.A. Honours in Education (EDCA)

Session 2019-2020
Core Courses (CC)

COURSE OUTCOME

Paper Name	Course Outcomes
CC1 Introduction to Education	CO1: Students understand the meaning, nature, scope and aims of education with special reference to Delor's Commission CO2: Learners explain the factors of education and their interrelationship. CO3: Students aware of different agencies of education that influence education. CO4: Students acquainted with the concept of child-centricism and play-way in education.
CC2 History of Indian Education	CO1: Students acquainted with the salient features of education in India during ancient and medieval times CO2: Students acquainted with the development of education in British India CO3: Students acquainted with the significant points of selected education commissions & national policy of education in independent India
CC3 Psychological Foundation of Education	CO1: Students understand the meaning of Psychology and be acquainted with its different aspects. CO2: Students know the patterns of different aspects of human development and relate this knowledge with education. CO3: Students acquainted with the cognitive approach of development and thus to understand the process and factors of cognition.
CC4 Philosophical Foundation of Education	CO1: Students understand the meaning and relation of philosophy and education CO2: Learners understand the importance of philosophy in education CO3: Students acquainted with the Indian schools of philosophy and their impact on education CO4: Learners acquainted with the western schools of philosophy and their impact on education CO5: Students develop an understanding of philosophy for development of humanity
CC5 Sociological Foundation of Education	CO1: Students understand the relation between Sociology and Education, nature, and scope of Sociology of education. CO2: Learners understand the concept of Social Groups and Socialization process. CO3: Students understand the concept of Social change and Social interaction in education CO4: Students become aware of social Communication in Education
CC6 Educational Organization, Management and Planning	CO1: Students develop the concept of an ideal organization in educational institutions. CO2: Students know the essential functions of educational management CO3: Students understand the different aspects of planning

CC7 Guidance and Counselling	CO1: Students know the concept of guidance CO2: Students know various types of Guidance CO3: Students know the basic concept of Counselling CO4: Learners find out the basic data necessary for Guidance
CC8 Technology in Education	CO1: Students develop an understanding of educational technology CO2: Students acquainted with the system approach CO3: Students develop an understanding of the use of computer in education and communication CO4: Students get acquainted with the instructional techniques and different models of teaching CO5: Students develop an understanding of ICT & e-learning
CC9 Curriculum Studies	CO1: Students understand the meaning and different perspectives of curriculum. CO2: Students understand the epistemological, sociological and the psychological bases of curriculum development. CO3: Students understand the different types of curriculums with respect to their main orientation and approaches. CO4: Students compare and analyse the NCF over the years with respect to their foundation, Considerations, concerns, priorities and goals. CO5: Students understand linkage among curriculum framework and critical issues, which directly and indirectly are related with learning CO6: Students analyse curriculum framework, in the light of learner's need and understand.
CC10 Inclusive Education	CO1: Students understand concept, meaning and significance of inclusive education. CO2: Students bring about an understanding of the culture, policies and practices that need to be addressed to create an inclusive school. CO3: Students appreciate the need for promoting inclusive practice and the roles and responsibilities of the teachers. CO4: Students develop critical understanding of the recommendations of various commissions and committees towards teacher preparation for inclusive education; understand the nature of difficulties faced by children. CO5: Students identify and utilize existing resources for promoting inclusive practice CO6: Students develop a positive attitude and sense of commitment towards actualizing the right to education of all learners.

B.A. Honours in Education (EDCA)

Skill Enhancement Courses (SEC)

Paper Name	Course Outcomes
SEC – A 1 Communication Skill	CO1: Students understand the basic elements of Communication CO2: Students acquire Listening Skills CO3: Students acquire Speaking Skills CO4: Students acquire Reading and Writing Skill
SEC A2 Skill for Democratic Citizenship	CO1: Students get an idea about their duties as citizens CO2: Students learn about their rights as citizens CO3: Students get an idea about child violence and child rights

	CO4: Students learn about domestic violence and domestic rights
SEC – B1 Teaching Skill	CO1: Students know the basic concept of Teaching CO2: Students know the types of Teaching CO3: Students understand the skills of Teaching CO4: Students learn the concept of Learning Design (LD)

Choice Based Credit System
B.A. Education, General (EDCG)

Session 2019-2020

Core Courses (CC) & Skill Enhancement Courses (SEC)

PROGRAMME OUTCOME

PO1-Critical Evaluation:

- Understand nature of education and pedagogic processes through enriched experiences
- Contribute to fill up the gap between theory and practice by dovetailing both appropriately.

PO2-Discovery and Exploration:

- Explore new ideas and thoughts through the application of theoretical knowledge of Education subject and teaching techniques and pedagogical analysis.

PO3-Effectual Communication:

- Students demonstrate their communicational skills through paper presentations on subject as well as various interdisciplinary themes.
- Students engage in research projects to demonstrate effective communication skills.

PO4-Sense of time and space:

- Relate their understanding of the theories of educational psychology, philosophical and sociological foundations
- Peace and Value education in various classroom situations and societal experiences.

PO5-Thinking Skills:

- Demonstrate thinking skills by analysing, synthesizing, evaluating factual and conceptual educational information from multiple sources and verifying the relevance of various topics by applying them.

PO6-Self-Sufficiency and Life-long Learning:

- Developing self-sufficiency, sincerity, independent thinking as education is a lifelong process for empowering the students to face all challenges in their future endeavours.

PO7-Socio-Cultural-political Awareness:

- The students became aware of socio-cultural-political diversity through analysis of diverse social groups, schools of philosophy, religion, class, caste, culture, role of family and other institutions and agencies.

PO-8-National Integration, International Understanding and Peace:

- Inclusion, National Disintegration, population explosion and so on are taught in order to sensitize the students.
- Philosophy of Indian Constitution is also developed among the students.

PO-9-Social Interaction:

- Encouraging students from diverse backgrounds are provided equal opportunity for fulfillment of their needs and interests.
- Differently Able students are encouraged to interact with other students in an Inclusive environment.
- To understand the society the students interact with the members of the society.

PO-10-Solving current problems:

- Acquainting students with the diverse current educational problems and other issues, Inclusive education, Unemployment, Poverty, National Disintegration and Population explosion.

PO-11-Inculcating Values and Ethics:

- Applying the knowledge of education in order to inculcate awareness among students concerning racial and gender equity; human rights issues, social justice and other values as enshrined in the Preamble of the Constitution.

Choice Based Credit System

B.A. Education, General (EDCG)
Session 2019-2020

Core Courses (CC)

Paper Name	Course Outcomes
CC- 1/GE – 1 Introduction to Education	CO1: Students understand the meaning, nature, scope and aims of education with special reference to Delor's Commission CO2: Learners explain the factors of education and their interrelationship. CO3: Students aware of different agencies of education that influence education. CO4: Students acquainted with the concept of child-centricism and play-way in education.
CC- 2/GE – 2 Psychological Foundation	CO1: Students understand the meaning of Psychology and be acquainted with its different aspects.

of Education	CO2: Students know the patterns of different aspects of human development and relate this knowledge with education. CO3: Students acquainted with the cognitive approach of development and thus to understand the process and factors of cognition.
CC– 3/GE – 3 Sociological Foundation of Education	CO1: Students understand the relation between Sociology and Education, nature, and scope of Sociology of education. CO2: Learners understand the concept of Social Groups and Socialization process. CO3: Students understand the concept of Social change and Social interaction in education CO4: Students become aware of social Communication in Education
CC– 4/GE – 4 Inclusive Education	CO1: Students understand the meaning of Inclusion and exclusion CO2: Students know the types of exclusion and their causes CO3: Students know how to bring about inclusion in different spheres

B.A. Education, General (EDCG)

Skill Enhancement Courses (SEC)

Paper Name	Course Outcomes
SEC – A 1 Communication Skill	CO1: Students understand the basic elements of Communication CO2: Students acquire Listening Skills CO3: Students acquire Speaking Skills CO4: Students acquire Reading and Writing Skill
SEC – A2 Skill for Democratic Citizenship	CO1: Students get an idea about their duties as citizens CO2: Students learn about their rights as citizens CO3: Students get an idea about child violence and child rights CO4: Students learn about domestic violence and domestic rights
SEC – B1 Teaching Skill	CO1: Students know the basic concept of Teaching CO2: Students know the types of Teaching CO3: Students understand the skills of Teaching CO4: Students learn the concept of Learning Design (LD)

DEPARTMENT OF COMMERCE

PO CO, 2019-20

PAPER CODE	PAPER NAME	Gen/ Hons	COURSE OUTCOMES
AECC 1.1Chg	Language: Communicative English - 50 IndianLanguage- 50	Gen & Hons	<ul style="list-style-type: none"> Detail understanding of history of Bengali and English novels and develop various concepts of different periodicals, their background and Bengali and English grammar.
GE 1.1 Chg	Microeconomics I & Statistics (50+50)	Gen & Hons	<ul style="list-style-type: none"> To get knowledge about the demand, consumer behavior, production, cost, firms and market for making decision about the allocation of resources. To apply the basic statistical techniques like measures of central tendency, measures of dispersion for analysis purpose.
CC 1.1 Chg	Business Laws	Gen & Hons	<ul style="list-style-type: none"> To understand the various corporate and business laws applicable in the field of business and corporate world.
CC 1.2 Chg	Principles of Management	Gen & Hons	<ul style="list-style-type: none"> To recognize the key principles of management applicable in business and in its management.
CC 1.1 Ch	Financial Accounting - I	Gen & Hons	<ul style="list-style-type: none"> To identify how monetary profit or loss of the organization is ascertained and calculation is made.

SEMESTER II

PAPER CODE	PAPER NAME	Gen/ Hons	COURSE OUTCOMES
GE 2.1 Chg	E-Commerce & Business Communication (50+50)	Gen & Hons	<ul style="list-style-type: none"> To understand the basic features of E-commerce, supply chain management and observe various online business. To understand the scope of communication and learn its importance, the different types of communication and tools of communication in business.
CC2.1 Chg	Company Law	Gen & Hons	<ul style="list-style-type: none"> To get knowledge the companies act 2013 and various types of law in corporate sector.
CC 2.2 Chg	Marketing Management and Human Resource Management	Gen & Hons	<ul style="list-style-type: none"> To understand the concepts to marketing, market segmentation, marketing mix, marketing process for different types of product and services, modern developments in marketing. To develop an understanding about the functions of HRM, activities of HRP, recruitment and selection, job analysis, performance appraisal provide for employees training and development in the organization.
CC 2.1Ch	Cost and Management Accounting - I	Gen & Hons	<ul style="list-style-type: none"> To get knowledge and understanding of the concepts, procedure and practices of cost and management accounting.

SEMESTER III

PAPER CODE	PAPER NAME	Gen/ Hons	COURSE OUTCOMES
SEC 3.1 Chg	Information Technology & Its Application in Business (Theory -50 + Practical- 50)	Gen & Hons	<ul style="list-style-type: none"> To learn the applicability of information technology in business and allied activities.
GE 3.1 Chg	Business Mathematics & Statistics	Gen & Hons	<ul style="list-style-type: none"> To cram how to use various mathematical and statistical formulas to arrive at any business related decision.
CC3.1 Ch	Financial Accounting II	Gen & Hons	<ul style="list-style-type: none"> To fathom core concept of various divisions of advanced accounting.
CC3.2 Ch	Indian Financial System	Hons	<ul style="list-style-type: none"> To get idea about how Indian financial market, system and various institutions works in the economy.

SEMESTER IV

PAPER CODE	PAPER NAME	Gen/ Hons	COURSE OUTCOMES
GE 4.1 Chg	Microeconomics II & Indian Economy (50+50)	Gen & Hons	<ul style="list-style-type: none"> To accurately identify the type of market structure and factor price determination. To understand the basic concepts of growth, development and national income, basic features of Indian economy, concept of agricultural, industry and service sector, social issues in Indian Economy.
CC 4.1 Chg	Entrepreneurship Development and Business Ethics	Gen & Hons	<ul style="list-style-type: none"> To develop small and medium scale enterprises and invigorate entrepreneur quality. To creative human thinking and behavior for usefulness at work.
CC 4.1 Ch	Taxation I	Gen & Hons	<ul style="list-style-type: none"> To identify the concepts, definition and term related to Income tax, determine the residential status of an individual, compute income under various heads.
CC 4.2 Ch	Cost and Management Accounting -II	Gen & Hons	<ul style="list-style-type: none"> To get knowledge relevant and valuable cost and management accounting that is significant in the performance of planning, controlling and decision making.

SEMESTER V

PAPER CODE	PAPER NAME	Gen/ Hons	COURSE OUTCOMES
CC 5.1Ch	Auditing & Assurance	Gen & Hons	<ul style="list-style-type: none"> To summarize various concept of audit, audit techniques, audit risks and internal control system in auditing.
CC 5.2 Ch	Taxation II	Gen & Hons	<ul style="list-style-type: none"> To learn the computation of tax payable and what is tax management and indirect form of tax exists in India.
DSE 5.1 A*	Economics II and Advanced Business Mathematics	Hons	<ul style="list-style-type: none"> To understand the macro economic variables like national income, GDP, Inflation and unemployment. To provide good understanding of proper problem solving techniques; limit, functions, derivative, indefinite integral, determinates and matrix.
DSE 5.2 A*	Corporate Accounting	Gen & Hons	<ul style="list-style-type: none"> To identify what is company form of business and how books of accounts are maintained in corporate frame of business activities.
DSE 5.1 M	Consumer Behavior and Sales Management -(50+50)	Hons	<ul style="list-style-type: none"> To define the notion of consumer, consumer behavior, consumer's society and market research.
DSE 5.2 M	Product & Pricing Management and Marketing Communication (50+50)	Hons	<ul style="list-style-type: none"> To simplify the concept of product, product management, pricing, packaging and branding along with market communication.
DSE 5.1T	Public Finance and Taxation	Hons	<ul style="list-style-type: none"> To identify the source of public finance, Govt. revenue and Govt. expenditure.
DSE 5.2 T	Direct Tax: Laws and Practice	Hons	<ul style="list-style-type: none"> To understand the direct form of tax, different heads of income and how taxable income is computed under IT Act, 1961.
DSE 5.1 e-B	Fundamentals of Computer	Hons	<ul style="list-style-type: none"> To recognize the basic components of computer and its usage.
DSE 5.2 e-B	DBMS and	Hons	<ul style="list-style-type: none"> To apply the use of data base management system

	SystemAnalysis &Design(50+50)		in increasing efficiency with the help of system analysis and design.
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SEMESTER VI

PAPER CODE	PAPER NAME	Gen/ Hons	COURSE OUTCOMES
AECC 6.1Chg	Environmental Studies	Gen & Hons	<ul style="list-style-type: none"> To clarify critical thinking skills, know-how about nature and environment.
SEC 6.1Chg	Computerized Accounting and e-Filing of Tax Returns	Gen & Hons	<ul style="list-style-type: none"> To put in provision of Income Tax law and file returns of income electronically.
CC 6.1 Ch	Project Work	Hons	<ul style="list-style-type: none"> To analyze the learning and understand techniques for project procurement, scheduling, planning and performance control.
DSE 6.1 A**	Financial Reporting and Financial Statement Analysis	Gen & Hons	<ul style="list-style-type: none"> To set up accounting lore in managerial decision making. To understand financial variables under analysis judgment and how to work out.
DSE 6.2 A**	Financial Management	Gen & Hons	<ul style="list-style-type: none"> To clarify an understanding of the overall role, significance and decision of the financial function.
DSE 6.1 M	Retail Management and Marketing of Services (50+50)	Hons	<ul style="list-style-type: none"> To understand the functions of retail business and retail channels. To understand the concept of services, analyze the role and relevance of legerity in services.
DSE 6.2 M	Rural Marketing and International Marketing (50+50)	Hons	<ul style="list-style-type: none"> To provide an overview of rural markets and emerging aspects of rural marketing. To acquire all the objectives and set up a connection among the nations that participate in international trade.
DSE 6.1 T	Indirect Tax: Laws and Practices)	Hons	<ul style="list-style-type: none"> To documentation under new indirect tax regime.
DSE 6.2 T	Tax Procedures and Planning	Hons	<ul style="list-style-type: none"> To learn tax planning concepts and apply the practical field.
DSE 6.1 e-B	Internet & WWW and Functional e-Business System (50+50)	Hons	<ul style="list-style-type: none"> To associate basic concepts and exploited technology, compare process developing and implementing e-business system.

DSE 6.2 e-B	Computer Applications and e-Business Applications – Practical (50+50)	Hons	<ul style="list-style-type: none"> To understand practical concepts of MS Access, MSWord, MS Excel, MS Power Point.
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SUBJECT- PHILOSOPHY GENERAL UNDERGRADUATE (CBCS)

2019-2020

COURSE OUTCOME PHIG-CC-1(1ST SEMESTER)

PAPER NAME- INDIAN EPISTEMOLOGY & METAPHYSICS

TOPIC NAME	COURSE OUTCOME
A. CARVAKA EPISTEMOLOGY- PERCEPTION AS THE ONLY SOURCE OF KNOWLEDGE, REFUTATION OF KNOWLEDGE AND TESTIMONY AS SOURCE OF KNOWLEDGE	CO 1: Details understanding of Carvaka Epistemology
B. NAYA EPISTEMOLOGY-THE NATURE OF PERCEPTION, LAUKIKSANNIKARSA,DETERMINATE(SAVIK ALPAKA)AND INDETERMINATE(NIRVIKALPAKA),ANUMANA,SADHYA,PAKSA,HETU,VYAPTI ,PARAMARSA AND VYAPTIGRAHA,SVARTHANUMITI &PARARTHANUMITI PANCAVAYAVINAYA	CO 2: It helps the students to get a conception about NAYA EPISTEMOLOGY
C. VAISESIKA METAPHYSICS:CATEGORIES- DRAVYA,GUNA,KARMA,SAMANYA,VISESA, SAMAVAYA AND ABHAVA	CO 3: The students will get an details idea on VAISESIKA METAPHYSICS

D. ADVAITA METAPHYSICS: BRAHMAN,MAYA,THE RELATION BETWEEN JIVA& BRAHMAN	CO 4: To get elaborate and sound knowledge about ADVAITA METAPHYSICS
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SUBJECT: PHILOSOPHY GENERAL UNDERGRADUATE (CBCS) 2ND

SEMESTER 2019-2020

SUBJECT OUTCOME

PAPER: PHIG-CC-2 WESTERN EPISTEMOLOGY & METAPHYSICS

TOPIC	COURSE OUTCOME
A. Different senses of KNOW, CONDITIONS OF PROPOSITIONAL KNOWLEDGE,Origin of concepts.Concept Rationalism-Views of Decartes & Leibniz, Concept Empiricism-Views of Lock, Berkley,Hume	CO1: Students will get an idea of actual nature of knowledge and learn the thoughts of Empiricist and Rationalist Philosophy.
B. Theories of the origin of Knowledge Rationalism, Empiricism,Kant's Critical Theory	CO 2: They will learn critical analysis about origin of knowledge
C. Realism:Naïve Realism, locke's Representative Realism, Idealism(Berkley)	CO 3: Students will learn a new outlook of reality and idealist philosophy
D.Causality: Entailment Theory, Regularity Theory	CO 4: It helps the student's to explain that every effect has an cause
E.Mind-Body Problem: Interactionism ,Parallelism and the Identity Theory	CO 5: Student's will understand the relation between mind and body.

SUBJECT: PHILOSOPHY GENERAL UNDERGRADUATE (CBCS) 3rd SEMESTER**2019-2020****SUBJECT OUTCOME****PAPER: PHIG-G-CC3 WESTERN LOGIC**

TOPIC NAME	COURSE OUTCOMES
A. Introductory topics: Sentence, proposition, argument, truth and validity	CO 1: Students will learn the introductory part of logic
B. Aristotelian classification of categorical propositions, distribution of terms. Existential Import, Boolean interpretation of categorical Propositions. Immediate inference. Immediate inference based on the square of opposition, conversion, obversion and contraposition.	CO 2: Students will get a brief idea of basic concepts about Aristotelian and Boolean interpretation of logic
C. Categorical syllogism: Figure, mood, rules for validity, Venn Diagram method of testing validity, fallacies.	CO 3: They will understand a easy process to taste validity
D. Symbolic Logic: Use of symbols, Truth-functions: Negation, Conjunction, disjunction, implication, equivalence.	CO 4: Students will learn how to use symbol and proper application in different cases of logic
E. Tautology, Contradiction, Contingent statement forms. Construction of truth-table, using truth-tables for testing the Validity of arguments and statement forms.	CO 5: They will learn how to construct truth table and taste validity through it.
F. Mill's methods of experimental inquiry.	CO 6: It helps to discover that every physical effect has an appropriate cause

SUBJECT: PHILOSOPHY GENERAL UNDERGRADUATE (CBCS)**4TH SEMESTER 2019-2020****SUBJECT OUTCOME****PAPER NAME: PHI-G-CC-4 PHILOSOPHY OF MIND.**

TOPIC NAME	COURSE OUTCOME
A. Sensation: What is sensation? Attributes of sensation. Perception: What is perception? Relation between sensation and perception, Gestalt theory of perception, illusion and hallucination	CO 1: Students will acquire the knowledge of the relation between sensation and perception and get a new outlook of illusion and hallucination
B. Consciousness: Conscious, Subconscious, Unconscious, Evidence for the existence of the Unconscious, Freud's theory of dream.	CO 2: Students will learn the different levels of consciousness and new interpretation of Dream.
C. Memory: Factors of memory, Laws of association, Forgetfulness. Learning: The trialand Error theory, Pavlov's Conditioned Responsetheory, Gestalt theory	CO 3: They will get a details idea of Memory and learn different theories of Learning
D. Intelligence: Measurement of Intelligence, I.Q.,Testof Intelligence, Binnet-Simon test.	CO 4 : Students will learn how to measure I.Q and different theories of Intelligence

B.A. (GEN.) PART-III

**PAPER-IV (SOCIAL-POLITICAL PHILOSOPHY AND
CONTEMPORARY INDIAN THOUGHT)**

PAPER NAME	COURSE OUTCOME
Unit-I A. Primary Concepts: Society, Community, Association, Institution. B. Social Groups: Its Different Forms. Family: Its Different Forms. C. Social class and Caste: Principles of Class and Caste; Marxist conception of class; Class Attitudes and Class consciousness	CO 1 : It helps the students to get a conception about society, community , Association and institution Students will get a details idea on various forms of family. Students will get details understanding of the conception of class and caste.
Unit-II A. Social Codes: Religious and Moral Codes; Custom and Law; Culture and Civilization. B. Political Ideals: Democracy: It's Different Forms. Socialism: Utopian and Scientific Socialism.	CO 2 : Students will learn about religious and moral codes, culture and civilization Students will get idea about democracy and socialism
Unit-III A. Swami Vivekananda: Nature of man, nature of religion. B. The ideal of a universal religion, Practical Vedānta.	CO 3 : To get depth knowledge about nature of man, nature of religion and practical Vedanta
Unit-IV A. Gandhi: Nature of man, non-violence, satyāgraha, theory of trusteeship. B. Ambedkar: Critique of social evils, Dalit movement.	CO 4 : It helps the students to get a conception about Gandhi's thought and Ambedkar's view about society

PART-3

**PAPER-4 SOCIAL POLITICAL PHILOSOPHY & CONTEMPORARY INDIAN
THOUGHT**

SUBJECT: PHILOSOPHY GENERAL UNDERGRADUATE 2019-2020

PROGRAMM OUTCOME

1. Student's will get the knowledge of society
2. They will learn different forms of family.
3. Students will get the knowledge of social structure.
4. They will learn about various political ideals and social codes.
5. They will acquire knowledge about Indian Contemporary thought of Vivekananda, Gandhi & Ambedkar.

**SUBJECT: PHILOSOPHY GENERAL UNDERGRADUATE (CBCS) 3RD SEMESTER
SEC PAPER**
Logical Reasoning and Application
SUBJECT OUTCOME

TOPIC NAME	COURSE OUTCOME
1.The main objective of logical reasoning	It helps to understand the logical view of Indian Philosophy
2. Definitions: Pakṣa, sādhya, hetu, sapakṣa and Vipakṣa.	It helps students to construct an inference appropriately
3.Construction of kevalānvayī, kevalavyātirekī anvayvyātirekī anumiti	Students will acquire knowledge of the classification of inference properly
4.Hetvābhāsa and its different kinds, detection of hetvābhāsa	Students will learn the concept of Hetu and its different application
5.Reasoning in practice	Students will learn the concept of paksata and fallacy of relevance and ambiguity
6.Inductive reasoning in Law	It help to understand the method of enquiry in Law
7.Deductive Reasoning in Law	It helps to identify,formulate and apply the rules of Law

SUBJECT: PHILOSOPHY (GENERAL) UNDERGRADUATE (CBCS)

4TH SEMESTER SEC PAPER
Value Education
SUBJECT OUTCOME

TOPIC NAME	COURSE OUTCOME
a) Meaning, Characteristics, significance and objectives of Value education	Students will learn the main characteristic of Value Education
b) Values in different contexts: Individual, Social, Cultural, Moral and Global and Spiritual	It helps student to understand values in different context
c) Meaning and Characteristics of Peace education	Students will learn the actual meaning of peace
d) Aims and Objectives of Peace Education	Students will acquire knowledge of the aims of peace education
e) Types of peace education	They will learn different kinds of peace education
f) Peace and Value Education in Global Perspective	Students will learn to apply value and peace in different aspects of life

Department of mathematics
Programme Outcomes, Programme
Specific Outcomes and Course Outcomes
of
B.Sc- General- Mathematics

2019-2020

Programme Name: B.Sc- General- Mathematics

Programme Outcomes:

- Giving motivation to move forward creating courage and enthusiasm among the students by overcoming the fear about the mathematics.
- Enable students to develop mathematical skills, understanding ability, problem solving skills and understanding ability of the basic concepts of pure and applied mathematics.
- To arouse interest and curiosity among the students about mathematics. So that they can participate more in higher education and research field in mathematics in the future.
- To encourage the students to participate in the technical field, digital field, information technology field, practical field by learning mathematics and programming using the mathematics.
- To encourage the students to think in a critical manner.
- The student will be able to develop logical reasoning techniques skill and Techniques for analyzing the situation.
- Students will learn mathematical modeling, mathematical logic and its application in real life.
- Acquire good knowledge and understanding to solve specific theoretical and applied problems in advanced areas of mathematics.
- To identify the weakness among the students about the subject mathematics and to solve these issues in a easy way.
- Taking initiative to create awareness among the students to repay their debt to the county and society by preparing themselves as responsible citizens.

Programme Specific Outcomes:

- Good understanding of programming which is based on the mathematical concept and formulas.
- Nurture problem solving skills, creativity through assignments, thinking, project work etc.
- Provide knowledge of a wide range of mathematical techniques and application of mathematical methods/tools in other scientific and engineering domains.
- Develop abstract and applied mathematical thinking.
- Good understanding of number theory which can be used in modern digital technical field.
- Assist students in preparing (personal guidance, books) for competitive exams for higher studies e.g. NET, GATE, SET, CUET, etc.
- Assist students in preparing (personal guidance, books) for competitive exams for employment like SSC, RAIL, BANK, PSC, CSC etc.

Semester : I

Sl No	Course Code	Course Name	Course Outcomes
	MG(GE1)101	Algebra-I	<p>Knowledge gained:</p> <p>Complex Numbers:</p> <ul style="list-style-type: none"> • De Moivre's Theorem and its applications. • Exponential, Sine, Cosine and Logarithm of a complex number. • Definition of a^n ($a \neq 0$). • Inverse circular and Hyperbolic functions. <p>Polynomials :</p> <ul style="list-style-type: none"> • Fundamental Theorem of Algebra. • Polynomials with real coefficients, the n-th degree polynomial equation has exactly n roots. • Nature of roots of an equation (surd or complex roots occur in pairs). • Statement of Descarte's rule of signs and its applications. • Statements of 'If a polynomial $f(x)$ has opposite signs for two real values a and b of x, the equation $f(x) = 0$

			<p>has odd number of real roots between a and b. If $f(a)$ and $f(b)$ are of same sign, either no real root or an even number of roots lies between a and b.</p> <ul style="list-style-type: none"> • Rolle's Theorem and its direct applications. Relation between roots and coefficients, symmetric functions of roots, transformations of equations. Cardan's method of solution of a cubic equation. <p>Matrix:</p> <ul style="list-style-type: none"> • Determination of rank either by considering minors or by sweep-out process. • Consistency and solution of a system of linear equations with not more than 3 variables by matrix method. <p>Learning outcomes:</p> <p>Upon completion of this unit, the student will be able to understand about the concept of above topics, some theorems related to these topics, different concept related to these topics and techniques to solve various types of problems etc.</p>
		Differential Calculus-I	<p>Knowledge gained:</p> <ul style="list-style-type: none"> • Rational numbers, Geometrical representations, Irrational number, Real number represented as point on a line — Linear Continuum. Acquaintance with basic properties of real number (No deduction or proof is included). • Real-valued functions defined on an interval, limit of a function (Cauchy's definition). Algebra of limits. Continuity of a function at a point and in an interval. Acquaintance (on proof) with the important properties of continuous functions no closed intervals. Statement of existence of inverse function of a strictly monotone function and its continuity. • Derivative - its geometrical and physical interpretation. Sign of derivative-Monotonic increasing and decreasing functions. Relation between continuity and derivability. Differential - application in finding approximation. • Successive derivative - Leibnitz's theorem and its application. • Functions of two and three variables : their geometrical representations. Limit and Continuity (definitions only) for function of two variables. Partial derivatives. Knowledge and use of chain Rule. Exact differentials (emphasis on solving problems only). Functions of two variables - Successive partial Derivatives : Statement of

			<p>Schwarz's Theorem on Commutative property of mixed derivatives. Euler's Theorem on homogeneous function of two and three variables.</p> <ul style="list-style-type: none"> Applications of Differential Calculus : Curvature of plane curves. Rectilinear Asymptotes (Cartesian only). Envelope of family of straight lines and of curves (problems only). Definitions and examples of singular points (Viz. Node, Cusp, Isolated point). <p>Learning outcomes: After completion of this unit, the student will gain the knowledge about Differential Calculus-I which covers several topics. Some theorems related to these topics would be taught. Students will learn different Problems solving techniques etc.</p>
		Differential Equation-I	<p>Knowledge gained:</p> <ul style="list-style-type: none"> Order, degree and solution of an ordinary differential equation (ODE) in presence of arbitrary constants, Formation of ODE. First order equations : (i) Exact equations and those reducible to such equation. (ii) Euler's and Bernoulli's equations (Linear). (iii) Clairaut's Equations : General and Singular solutions. Second order linear equations : Second order linear differential equation with constant coefficients. Euler's Homogeneous equations. Second order differential equation : (i) Method of variation of parameters, (ii) Method of undetermined coefficients. <p>Learning outcomes: After completion of this unit, the student will learn basic concept and idea about differential equations of first and second order. Problems solving techniques and some theorems related to this topic would be covered.</p>
		Coordinate Geometry	<p>Knowledge gained:</p> <ul style="list-style-type: none"> Transformations of Rectangular axes : Translation, Rotation and their combinations. Invariants. General equation of second degree in x and y : Reduction to canonical forms. Classification of conic. Pair of straight lines : Condition that the general equation of 2nd degree in x and y may represent two straight lines. Point of intersection of two intersecting straight lines. Angle between two lines given by $ax^2 + 2hxy + by^2 = 0$. Equation of bisectors. Equation of two lines joining the origin to

			<p>the points in which a line meets a conic.</p> <ul style="list-style-type: none"> • Equations of pair of tangents from an external point, chord of contact, poles and polars in case of General conic : Particular cases for Parabola, Ellipse, Circle, Hyperbola. • Polar equation of straight lines and circles. Polar equation of a conic referred to a focus as pole. Equation of chord joining two points. Equations of tangent and normal. • Sphere and its tangent plane. Right circular cone. <p>Learning outcomes: Idea of co-ordinate systems, Some topics related to 2-D geometry would be covered in this unit. The student will be able to understand problems solving techniques , formation of different formulas, theorems etc.</p>
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Semester: II

Sl No	Course Code	Course Name	Course Outcomes
	MG(GE2)201	Differential Calculus-II	<p>Knowledge gained:</p> <p>Sequence of real numbers :</p> <ul style="list-style-type: none"> • Definition of bounds of a sequence and monotone sequence. • Limit of a sequence. • Statements of limit theorems. • Concept of convergence and divergence of monotone sequences-applications of the theorems, in particular, definition of e. • Statement of Cauchy's general principle of convergence and its application. <p>Infinite series of constant terms:</p> <ul style="list-style-type: none"> • Convergence and Divergence (definitions). • Cauchy's principle as applied to infinite series (application only). • Series of positive terms : Statements of comparison test. D'Alembert's Ratio test. Cauchy's nth root test and Raabe's test Applications. Alternating series. • Statement of Leibnitz test and its applications. • Real-Valued functions defined on an interval: Statement of Rolle's Theorem and its geometrical interpretation. • Mean value theorems of Lagrange and Cauchy. Statements of Taylor's and Maclaurin's Theorems with Lagrange's and Cauchy's form of remainders. • Taylor's and Maclaurin's Infinite series of functions

			<p>like e^x, $\sin x$, $\cos x$, $(1+x)^n$, $\log(1+x)$ with restrictions wherever necessary.</p> <ul style="list-style-type: none"> • L'Hospital's Rule : Statement and Problems only. • Application of the principle of Maxima and Minima for a function of single variable in geometrical, physical and to other problems. • Maxima and minima of functions of not more than three variables Lagrange's Method of undetermined multiplier - Problems only. <p>Learning outcomes:</p> <p>The student will be able to write clear explanations of the techniques of calculus including the proper use of standard mathematical notation.</p> <p>The student will be able to model applications by using calculus.</p> <p>The student will be able to apply the content from Calculus I to solve problems in Calculus II.</p> <p>The student will begin to be able to apply theorems and major concepts of calculus to solve real-world problems.</p> <p>The student will understand and appreciate the applicability of calculus to nature, business, science, etc.</p>
		Differential Equation-II	<p>Knowledge gained:</p> <ul style="list-style-type: none"> • Linear homogeneous equations with constant coefficients, Linear non - homogeneous equations, The method of variation of parameters, The Cauchy-Euler equation, Simultaneous differential equations, Simple eigen value problem. • Order and degree of partial differential equations, Concept of linear and non-linear partial differential equations, Formation of first order partial differential equations, Linear partial differential equation of first order, Lagrange's method, Charpit's method. <p>Learning outcomes:</p> <p>The student will be able to the techniques and to solve the problems including the proper use of standard mathematical notation.</p> <p>The student will be able to model applications by using differential equations.</p> <p>The student will begin to be able to apply theorems and major concepts of differential equations to solve real-world problems.</p>

		Vector Algebra	<p>Knowledge gained: Addition of Vectors, Multiplication of a Vector by a Scalar. Collinear and Coplanar Vectors. Scalar and Vector products of two and three vectors. Simple applications to problems of Geometry. Vector equation of plane and straight line. Volume of Tetrahedron. Applications to problems of Mechanics (Work done and Moment).</p> <p>Learning outcomes: Differentiate between scalars and vectors. Recognise quantities as either scalars or vectors. Add vectors. Use coordinates to represent and work with vectors. Decompose vectors into components. Calculate the direction of vectors. Solve problems about vectors.</p>
		Discrete Mathematics	<p>Knowledge gained:</p> <ul style="list-style-type: none"> • Integers: Principle of Mathematical Induction. Division algorithm. Representation of integer in an arbitrary base. Prime Integers. Some properties of prime integers. Fundamental theorem of Arithmetic. Euclid's Theorem. Etc. • Congruences: Congruence relation on integers, Basic properties of this relation. Linear congruences, Chinese Remainder Theorem. System of Linear congruences. • Application of Congruences : Divisibility tests. Etc. • Congruence Classes : Congruence classes, addition and multiplication of congruence classes. Fermat's little theorem. Euler's theorem. Wilson's theorem. Some simple applications. • Boolean algebra : Boolean Algebra, Boolean functions, Logic gates, Minimization of circuits. <p>Learning outcomes: Students will achieve mastery of the topics listed above. This means that they should know all relevant definitions, correct statements of the major theorems (including their hypotheses and limitations), and examples and non-examples of the various concepts. In modern science and computer science field basic number theory, discrete mathematics have great application. After completion these topic the students would be able to enter in these field.</p>

Semester : III

Sl No	Course Code	Course Name	Course Outcomes
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	MG(GE3)301	Integral Calculus	<p>Knowledge gained:</p> <ul style="list-style-type: none"> • Evaluation of definite integrals • Integration as the limit of a sum • Reduction formulae • Improper Integrals • Double integral • Rectification, Quadrature, volume and surface areas of solids formed by revolution of plane curve and areas problems only. <p>Learning outcomes:</p> <p>In this course students will learn the basic ideas, tools and techniques of integral calculus and will use them to solve problems from real-life applications.</p>
		Numerical Methods	<p>Knowledge gained:</p> <ul style="list-style-type: none"> • Approximate numbers, Significant figures, Rounding off numbers. • Operators - Δ, ∇ and E • Interpolation • Numerical Integration • Solution of Numerical Equation <p>Learning outcomes:</p> <p>Numerical methods can solve much more complex, common and complicated problems and tasks in a very short time and A numerical solution can optimize basic parameters depending on the requirements.</p> <p>It is the fundamental of all computer science.</p>
		Linear Programming	<p>Knowledge gained:</p> <ul style="list-style-type: none"> • Statement of L.P.P. Formulation of L.P.P. • Slack and Surplus variables. • L.P.P. is matrix form. • Convex set, Hyperplane, Extreme points, convex Polyhedron. • Basic solutions and Basic Feasible Solutions (B.F.S.). • Degenerate and Non-degenerate B.F.S. • Theorems • Solution by graphical method (for two variables), by simplex method and method of penalty. • Duality Theory. • Transportation and Assignment problem and their optimal solutions. <p>Learning outcomes:</p> <p>LP makes logical thinking and provides better insight into business problems. LP provides an information base for optimum allocation of scarce resources. LP helps in solving multi-dimensional problems.</p>

Semester: IV

Sl No	Course Code	Course Name	Course Outcomes
	MG(GE4)401	Algebra-II	<p>Knowledge gained:</p> <ul style="list-style-type: none"> • Group Theory • (i) Ring, (ii) Field, (iii) Sub-ring, (iv) Sub- field. • Concept of Vector space over a Field. • Real Quadratic Form involving not more than three variables (problems only). • Characteristic equation of square matrix of order not more than three determination of Eigen Values and Eigen Vectors (problems only). • Statement and illustration of Cayley-Hamilton Theorem. <p>Learning outcomes:</p> <p>Upon completion of this unit, the student will be able to: Understand the concept of Groups, Normal groups etc. Basic idea of ring, field, vector space etc. These topics are helpful to understand the abstract algebra. These topics also the root of computer science, modern higher studies.</p>
		Computer Science & Programming	<p>Knowledge gained:</p> <ul style="list-style-type: none"> • Computer Science and Programming : Historical Development, Computer Generation, Computer Anatomy Different Components of a computer system. Operating System, hardware and Software. • Positional Number System. Binary to Decimal and Decimal to Binary. Other systems. Binary Arithmetic. Octal, Hexadecimal, etc. Storing of data in a Computer - BIT, BYTE, WORD etc. Coding of a data- ASCII, etc. • Programming Language : Machine language, Assembly language and High level language, Compiler and interpreter. Object Programme and source Programme. Ideas about some HLL- e.g. BASIC, FORTRAN, C, C++, COBOL, PASCAL, etc. • Algorithms and Flow Charts- their utilities and important features, Ideas about the complexities of an algorithm. Application in simple problems. <p>FORTRAN 77/90: Introduction, Data Type- Keywords, Constants and Variables - Integer, Real, Complex, Logical, character, subscripted variables, Fortran Expressions.</p> <p>Learning outcomes:</p>

			<p>Computer Science & Programming Learning Outcomes: students will have a practical outlook and understanding of the computers, use computers in their daily life for better efficiency, represent their knowledge with the help of the computers and various programming languages.</p> <p>Historical Development, Computer Generation, Computer Anatomy Different Components of a computer system. Operating System, hardware and Software. Positional Number System. Programming Language. Algorithms and Flow Charts— their utilities and important features, Ideas about the complexities of an algorithm. Application in simple problems.</p>
		Probability & Statistics	<p>Knowledge gained:</p> <ul style="list-style-type: none"> • Idea of Probability Theory, development and problems. • Theoretical Probability Distribution Discrete and Continuous (p.m.f., p.d.f.) Binomial, Poisson and Normal distributions and their properties. • Elements of Statistical Methods. • Sampling Theory. • Bivariate Frequency Distribution. Scatter Diagram, Co-relation co-efficient Definition and properties. Regression lines. <p>Learning outcomes:</p> <p>On completion of this unit of the course, the student will be able to understand basic probability axioms and rules as well as different statistical methods for solving and analyzing different types of real-life problems.</p> <p>Mostly used in varied applications in engineering and science like disease modeling, climate prediction and computer networks etc.</p> <p>Its application in the modern industrial age is immense.</p>

Skill Enhancement Course-1

Sl No	Course Code	Course Name	Course Outcomes
	MG(SEC1 CPL)304	C Programming Language	<p>Knowledge gained:</p> <ul style="list-style-type: none"> • An overview of theoretical computers. • Constants, Variables and Data type of C-Program : Character set. Constants and variables data types, expression, assignment statements, declaration. • Operation and Expressions : Arithmetic operators, relational operators, logical operators. • Decision Making and Branching : decision making with if statement, if-else statement, Nesting if statement, switch statement, break and continue

			<p>statement.</p> <ul style="list-style-type: none"> • Control Statements : While statement, do-while statement, for statement. • Arrays : One-dimension, two-dimension and multidimensional arrays, declaration of arrays, initialization of one and multi-dimensional arrays. • User-defined Functions : Definition of functions, Scope of variables, return values and their types, function declaration, function call by value, Nesting of functions, passing of arrays to functions, Recurrence of function. • Introduction to Library functions: stdio.h, math.h, string.h stdlib.h, time.h etc. <p>Learning outcomes:</p> <p>After course completion the students will have the following learning outcomes: Understanding a functional hierarchical code organization. Ability to define and manage data structures based on problem subject domain. Ability to work with textual information, characters and strings. Ability to work with arrays of complex objects. Understanding a concept of object thinking within the framework of functional model. Understanding a concept of functional hierarchical code organization. Understanding a defensive programming concept. Ability to handle possible errors during program execution.</p>
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Skill Enhancement Course-2

Sl No	Course Code	Course Name	Course Outcomes

	MG(SEC2 ML)404	Mathematical Logic	<p>Knowledge gained:</p> <ul style="list-style-type: none"> • Introduction, propositions, truth table, negation, conjunction and disjunction. Implications, biconditional propositions, converse, contra positive and inverse propositions and precedence of logical operators. • General Notions : Formal language, object and meta language, general definition of a Formal Theory/Formal Logic. • Propositional Logic : Formal theory for propositional calculus, derivation, proof, theorem, deduction theorem, conjunctive and disjunctive normal forms, semantics, truth tables, tautology, adequate set of connectives, applications to switching circuits, logical consequence, consistency, maximal consistency, Leindenbaum lemma, soundness and completeness theorems, algebraic semantics. • Predicate Logic : First order language, symbolizing ordinary sentences into first order formulae, free and bound variables, interpretation and satisfiability, models, logical validity, formal theory for predicate calculus, theorems and derivations, deduction theorem, equivalence theorem, replacement theorem, choice rule, Prenex normal form, soundness theorem, completeness theorem, compactness theorem, First Order Theory with equality, examples of First Order Theories (groups, rings, fields etc.). <p>Learning outcomes:</p> <p>On completion of the course the student will learn the basic concepts from mathematical logic, such as: formal reasoning, formal semantics, decidability. The relations between these: soundness, completeness, compactness. The student can give correct logical arguments find errors in incorrect arguments. The student can discuss logical arguments and their correctness with others. Communicate the basic concepts of logic and their relevance for computer science.</p>
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DEPARTMENT OF GEOGRAPHY

COURSE OUTCOME

❖ CC 1- PHYSICAL GEOGRAPHY:-

UNIT-I : GEOTECTONICS

(i) To get elaborate knowledge about the formation of earth . (ii) Students can identified folds and faults . (iii) To develop concept of different major relief features of the ocean floor and continents according plate tectonics .

UNIT-II : GEOMORPHOLOGY

(i)Students can know the formation of different landforms by the works of river , air , ocean and glaciars.(ii) To get the knowledge about different weathering process .(iii) Applied their knowledge for stop mass wasting.

UNIT-III : HYDROLOGY

(i)Students can know the roll of hydrological cycle . (ii)Important of drainage basin as a hydrological unit applied their cycle .(iii) Important of drainage basin as a hydrological unit .(iv) Applied their knowledge of water conservation.

UNIT-IV : OCEANOGRAPHY

(i)To get elaborate knowledge of different marine resources and their economical value .
(ii)Students can know the physical and chemical properties of ocean water . (iii) It helps to development knowledge about different distribution of ocean temperature and salinity .

GEOGRAPHY PRACTICAL

(i)Students can identify different rocks and minerals of earth .(ii) It helps to development their idea about the construction of different drainage basin and pattern of earth . (iii)Students can draw different topographical features landforms settlement pattern , river system etc .

❖ CC 2 - ENVIRONMENTAL GEOGRAPHY

UNIT-I : CLIMATOLOGY

(i) Understand the concept of climate , weather and climatological different factors . (ii) It gives to developed their idea about green house , global warming and knowing conservation of ozone layer of earth. (iii) They know about Indian monsoon system and mechanisms of Indian monsoon .

UNIT-II : SOIL GEOGRAPHY

(i)To get knowledge about soil formation .(ii) Identify different major soil types of India and know who formed this type of soil .(iii) Students apply their knowledge on the field of soil erosion and management .

UNIT-III : BIOGEOGRAPHY

(i)It helps to develop students' knowledge about the biological role of ecosystem and biomes .
(ii)Students apply their knowledge to protect environment and ecosystem .(iii) They can understand the formation and biodiversity of different biomes of world.

GEOGRAPHY PRACTICAL

(i)Students may identify different weather maps like pre monsoon , monsoon or , post monsoon and write their characteristics . (ii)Students can draw climograph , windrose and they can interpret .(iii) Students apply their knowledge to survey biodiversity register .

❖ CC 3 - THE HUMAN

UNIT-I : ECONOMIC GEOGRAPHY

(i) Development students' idea about different sectors of economy like primary , secondary , tertiary , quaternary and quinary . (ii) Students can understand the location and formation of different industries like cotton , iron and steel.

UNIT-II : SOCIAL GEOGRAPHY

(i) Gaining knowledge about different race , language and religion , their again , characteristics. (ii) Students can understand of different social organizations like primitive , hunting - gathering .(iii) Students will be able to know the concept of migration and cause and effect of human life , specific the Indian concept .

GEOGRAPHY PRACTICAL

(i) Students can draw divided circles , time series analysis , nearest neighbor analysis . (ii) They can apply their knowledge to draw arithmetic growth rate

❖ **CC 4- CARTOGRAPHY:-**

UNIT-I : SCALE AND PROJECTION

(i) Development of knowledge about scale classification of maps projections

UNIT-II : TOPOGRAPHIC MAPS

(i)Students can know representation of data by isopleths and choropleth. (ii) Representation of data by dot and proportional circles .

UNIT-III : REMOTE SENSING AND GIS

(i)Students will be able basic concepts of remote sensing and GIS .

UNIT-IV : SURVEYING

(i)Development students idea about surveying by dumpy level .

GEOGRAPHY PRACTICAL

(i)Students can draw graphical construction of plain and comparative scale.(ii) They can applying their knowledge to draw different projections . (iii)Students able to draw different thematic maps like choropleth , isopleths and proportional squares.

❖ **GEO-G-SKC-A- COASTAL MANEGMENT :-**

(i) In this syllabus helps students gain of knowledge of coastal zone , environment impacts and management of mining , oil exploration . (ii) Students apply their knowledge to conservation of coastal area and be consciousness of coastal,hazards and pollutions. (iii) Students can protect coastal zone their biodiversity and environment.

❖ **DSE - A2 TOURISM GEOGRAPHY**

(i) It gives to developed their ideas of tourism. (ii) Students can classified of different types of tourism . (iii) Students may be know impact of tourism , tourism of India like DAL LAKE , GOA , DESERT & coastal areas .

PROGRAMME OUTCOME

PO-1= Environment and sustainability: Understand different issues of environment context and sustainable development .

PO-2= Biodiversity and conservation:-Students may be awareness about worlds different biomass and

Biodiversity,And they will be apply their knowledge to conservation biodiversity.

PO-3= Life long learning:- Student will be able different life long abilities.

PO-4= Gaining practical knowledge:- Student can draw different method of practical methods like,scale,projection,cartograms etc.

PO-5= Awareness about recent made problem:-They understood and aware recent man maded problem as like as looging sanitization deforestation,globalwarming etc.

Programme outcome -Undergraduate Physics (General)

SESSION 2019-20

- **PO1. Acquire sufficient knowledge:** After completing the course the students can get proper knowledge of the course from vast areas of physics from mechanics, electricity, magnetism, thermal physics, optics, electronics and modern physics from basic level to a higher range from these various diverse fields. They can acquire the knowledge to understand and explain of various intricate physical phenomena happened in our daily life and design of different instruments or machines based on the principle of basic physics and empirical laws. Students get a holistic knowledge of how to apply physics related understanding to our daily livelihood to make our lives easier to some extent. For example from mechanics students can understand the motion of different mechanical systems, electrical circuits from electricity, heating or cooling systems from thermodynamics and some electronics devices from electronics chapter. Thus the main outcome of this course is to enrich the knowledge of the students so that they can understand the economic, social and intellectual aspects of society in the aspect of physics.

- **PO2. Acquired skill in laboratory technique and programming:** One of main outcome of this course to be to give proper training to the students about handling the lab instruments so that they can enhance the technical skills for experimental purposes in mechanics, electricity, optics, electronics and thermal physics. Enriched with experimental technique and skill in laboratory work make a student more potent to working area and apply them in properly in higher academic or working areas. Another aspect of this course is to expertise the students in computer based knowledge mainly in computer programming like C or Python so that they can prosper in future with the help of programming knowledge very important in present era.

- **PO3. Attain skills for communication and career:** Students will be able to apply the scientific method to questions in biology by formulating testable hypotheses, collection of data that address these hypotheses, and analyzing those data to assess the degree to which their future scientific work supports their hypotheses.

- **PO4. Initiated to basics of research:** Students get the basic knowledge and experimental expertise are encouraged to deep understanding on particular field leads to interest of research in this particular topic. Thus one of the outcomes of this particular programme is to encourage the motivated students to preliminary research in physics to empower their new ideas.

- **PO5. Building environmental awareness:** Students have learned about the importance of the environment and different types of pollution. They are also aware about the protection of inorganic and organic habitats of air, water and land. Some kind of ethical values have enriched the students so that they can become an environment conscious and socially responsible citizen in near future.
- **PO6. Collaborative and multidisciplinary learning:** Participating in the field study, excursion, submission of field report or project work helps the students to be future ready for effective communication, and multidisciplinary approach to work with group activity.
- **P07. Career opportunities:** Students can acquire different career opportunities after completion of the course in Physics in public and private sector.
- **PO8. Learn to tolerate:** Students can learn to accept different point of views and tolerate the diverse ideas from different individuals to cop up with the challenges of changing world.

Course outcome -Undergraduate Physics (General) (CBCS)

COURSE	COURSE NAME	COURSE OUTCOME
PHS-G-CC-1-1-TH	Mechanics	<p>CO1: Students can learn mainly the vector algebra and vector analysis for better understanding of mathematical methods for further use in different physical systems along with kinetic motion.</p> <p>CO2: Students can get a better knowledge on laws of motion for system of particles for different inertial</p>

		<p>frames along with the conservation of momentum. They can get the idea of centre of mass also.</p> <p>CO3: This course gives the students idea of conservation of energy with different form and also the concept of work energy theorem.</p> <p>CO4: Students can learn about motion of a body in central force field, conservation of angular momentum and different kind of circular and orbital motion with relevant laws. Above all they can get the idea of gravitational effect in different planets, satellites and earth with the application of newton's law.</p> <p>CO5: This course gives the students to know about various type harmonic motions with conservation of energy. Students can also learn about forced and damped oscillations in details.</p> <p>CO6: Students can understand rotational motion of a rigid body along with the concept of moment of inertia and torque.</p> <p>CO7: Understanding of stress, strain and various kinds of elastic constants can be achieved by learning this course. Students can see the application of elastic formulas for various physical systems.</p> <p>CO8: Students get the concept of surface tension and its application in spherical drops and bubbles. They can also know about temperature variation of surface tension.</p> <p>CO10: Students can learn about the principle flow of liquid in a capillary tube.</p>
PHS-G-CC-1-1-P	Mechanics	<p>CO1: Students can learn to determine the moment of inertia of particular cylinder or bar by a specific method.</p> <p>CO2: Students can perform the method of flexure to calculate of Y modulus of a metal bar.</p> <p>CO3: Students can examine the rigidity modulus of wire by measuring the time period of torsional oscillation of a metal cylinder attached to it.</p> <p>CO4: Students can determine the moment of inertia of a flywheel.</p> <p>CO5: Students can learn to determine the gravitational acceleration, (g) using bar pendulum.</p>

PHS-G-CC-2-2-TH	Electricity and Magnetism	<p>CO1: Students can get the understanding of electrostatics along with different laws of electrostatics and definition of electric field and to determine of electric field of various systems. They can learn also about physics of conductors and also about dielectric materials and their properties.</p> <p>CO2: Students can learn about the origin of magnetism and its application in matter. They can also learn of different types of magnetism. Idea of magnetic force can also be understood.</p> <p>CO3: Students can get the idea of electromagnetic induction along with the concept of self and mutual inductance. They can also get the idea of emf and related laws along with the concept of magnetic energy.</p> <p>CO4: Students can learn about linear network and different combination of circuits. They can also learn about Thevenin, Norton's Theorem and Maximum power transfer theorem.</p> <p>CO6: Students can know about Maxwell's Equations and Electromagnetic Wave Propagation. They can learn about the Equation of continuity of current, Displacement current, and Poynting vector also.</p>
PHS-G-CC-2-2-P	Electricity and Magnetism	<p>CO1: Students can determine the value of unknown resistance by Carey Foster method.</p> <p>CO2: Students can measure of a current owing through a register using potentiometer.</p> <p>CO3: Students can determine of horizontal components of earth's magnetic field.</p> <p>CO4: Student can understand the conversion of an ammeter to a voltmeter.</p> <p>CO5: Student can get the knowledge to convert a voltmeter to an ammeter.</p> <p>CO6: Verification of Thevenin& Norton theorem and superposition theorem can be learned.</p>
PHS-G-CC-3-3-TH	Thermal Physics Statistical Mechanics	<p>CO1: Students can learn the laws of thermodynamics along with the concept of internal energy and work done in various thermodynamic processes. They can also get the idea of entropy and also learn about carnot engine along with different thermodynamic constants.</p> <p>CO2: Ideas of various thermodynamical potentials can</p>

		<p>be achieved with this course. Students can also learn about Maxwell's realtions and related thermodynamic equations along with Joule-Thomson effect.</p> <p>CO3: Students learn about Maxwell's law of distribution of velocities and its experimental verification and idea of mean free path. They can also learn about Transport Phenomena along with concept of equipartition of energy.</p> <p>CO4: Understanding of the theory of radiation with different laws of radiation can be achieved with this course. Students also learn of energy density and energy distribution curves.</p> <p>CO5: Students can learn about basics of Statistical Mechanics along with the idea of ensembles and microstates and macrostates. Students also get the idea of Maxwell-Boltzmann, Fermi-Dirac distribution and Bose-Einstein distribution law with applications.</p>
PHS-G-CC-3-3-P	Thermal Physics and Statistical Mechanics	<p>CO1: Students can perform the experiments to determine the coefficient of thermal expansion of a metallic rod using an optical lever.</p> <p>CO2: Students can verify Stefan's law of radiation by the measurement of voltage and current of a torch bulb glowing it beyond draper point.</p> <p>CO3: Students learn about the calibration of a thermocouple by direct measurement of the thermo emf using operational amplifier.</p> <p>CO4: Students can examine the coefficient of Thermal Conductivity of a bad conductor.</p> <p>CO5: Students determine the pressure coefficient of air using Jolly's apparatus.</p>
PHS-G-CC-4-4-TH	Waves and Optics	<p>CO1: Students can understand the superposition of two collinear harmonic oscillations with the idea of superposition principle and origin of beats.</p> <p>CO2: Students learn about superposition of two perpendicular harmonic oscillations with graphical and analytical method with basic idea of Lissajous figures.</p> <p>CO3: Students can learn about the wave motion in a string with concept of standing and travelling</p>

		<p>waves. They can get the idea of phase velocity, group velocity and also about plane and spherical waves.</p> <p>CO4: Students can learn about fourier theorem for different wave form and its application in acoustics. They can also get the idea of the acoustics of buildings along with reverberation and absorption coefficient.</p> <p>CO5: Students can learn about wave nature of light along Huygens's principle and different types of wave front.</p> <p>CO6: Students learn about interference with Division of amplitude and division of wavefront. They can also learn about Young's Double Slit experiment, Lloyd's Mirror and Fresnel's Biprism and also learn about the concept of fringes. The theory of Newton's Rings can also be learned from this course.</p> <p>CO7: Students can get the idea of forming of fringes and their optical parameters along with visibility.</p> <p>CO8: Students can get the concept of Fresnel and fraunhoferdiffraction. They can learn about half-period zones and zone plate along its application in a straight edge, a slit and a wire from Fresnel diffraction part. In fraunhofer diffraction they learn about single slit, double slit, multiple's slit and diffraction grating.</p> <p>CO9: Students learn about transverse nature of light waves. They can also understand the polarization along its origin and various types of polarization (plane, circular and elliptical).</p>
PHS-G-CC-4-4-P	Waves Optics	<p>and</p> <p>CO1: Students can measure the value of the refractive index of material of a lens and that of a liquid using a convex lens and a plane mirror.</p> <p>CO2: Students can determine the focal length of a concave lens by auxiliary lensMethod.</p> <p>CO3: Determination of the frequency of a tuning fork can be examined with the help of sonometerusing n - 1 curve.</p> <p>CO4: Students can determine wavelength of a</p>

		<p>monochromatic light using Newtons ring.</p> <p>CO5: Students can learn the measurement of the spacing between the adjacent slits in a grating by this experiment.</p> <p>CO6: Students can examine the specific rotation of active solution using polarimeter.</p>
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Course outcome -Undergraduate Physics (General) (1+1+1)

COURSE	COURSE NAME	COURSE OUTCOME
Part III Paper IV-A	Application of Thermodynamics, Energy Sources, Electronics, Communications	<p>CO1: Student can get the understanding of production and measurement of high vacuum rotary and diffusion pump, Mcleod, Pirani, and penning gauges.</p> <p>CO2: Students can learn about various types of heat engines specially petrol and diesel engines along with their thermal efficiency and comparative study.</p> <p>CO3: Students can understand the principle of conventional energy sources like thermal power plant, hydro-electric and steam turbine.</p> <p>CO4: Students can understand about the production and uses of non-conventional energy sources like solar, wind,</p>

	<p>tidal, geothermal, and biogas sources.</p> <p>CO5: Students can learn about the principles, characteristics and uses of various electronic devices like OPAMP as amplifier, oscillator, and filter; light-emitting diodes, 7-segment display, SCR, diac and triac.</p> <p>CO6: Students can get the knowledge of different combinational circuits adder and subtractor, multiplexer, demultiplexer, encoder, decoder, sequential circuits flip-flop, D and J-K, registers and counters.</p> <p>CO7: Students can learn about the instruments like cathode-ray oscilloscope, digital multimeter, L and C measurements.</p> <p>CO8: Basic understanding of propagation of electromagnetic waves in different layers of atmosphere.</p> <p>CO9: Students learn transmission of electromagnetic waves along frequency modulation.</p> <p>CO10: Students can get the idea about transmission of wave through mediums and design of optical fibre</p>
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		and coaxial cable along with knowledge of internet.
Part III Paper IV-B	Laboratory, Computer Laboratory	<p>CO1: Students can learn hardware, operating system and solve some simple problems using C programming.</p> <p>CO2: Students can understand the use of database package and word processor.</p> <p>CO3: Students can learn the process to convert a given ammeter into a voltmeter and a given voltmeter into an ammeter.</p> <p>CO4: Students can get the idea to construct an adjustable voltage power supply using appropriate IC and its regulation.</p> <p>CO5: Students can measure the internal resistance of an analog voltmeter and to increase its internal resistance by using an OP AMP.</p> <p>CO6: Students can get the knowledge of experiment to use OP AMP as inverting, non-inverting, differential amplifier and as an adder.</p>

COURSE OUTCOME
SUBJECT : BOTANY (GENERAL) CC1

PAPER NAME	COURSE OUTCOME
Plant diversity I (Phycology, mycology, phytopathology, bryophytes and Anatomy) (Bot-G- CC-1-1-TH)	<ul style="list-style-type: none"> • Students will know about the different cryptogamic and non-vascular members of the plant kingdom viz. algae, bryophytes and fungi. • Students will get a basic idea about various cryptogamic plant groups viz. algae and bryophytes, their structural variations, their uses, etc. • Students will learn about various members of the group fungi, their structural organization and their economic uses. • Students will learn about various disease-causing pathogenic fungi. This knowledge, in turn, can be used practically for protection of different agricultural crops. • Students will know about the internal anatomical structures of various plant organs.
Plant diversity I (Phycology, mycology, phytopathology, bryophytes and Anatomy) (BOT-G- CC-1-1-P)	<ul style="list-style-type: none"> • Students will be able to identify various members of algae, bryophytes and fungi. • Students will learn about the external morphology and internal anatomy of the members of the said plant groups. • Through local field excursions, students will get hands on training to identify different plant specimens in their natural habitat.

SUBJECT : BOTANY (GENERAL) CC2

PAPER NAME	COURSE OUTCOME
Plant diversity II (Pteridophytes, gymnosperms, palaeobotany, morphology and Taxonomy) (Bot-G- CC-2-2-TH)	<ul style="list-style-type: none"> • Students will know about the different cryptogamic as well as phanerogamic vascular members of the plant kingdom viz. pteridophytes, gymnosperms and angiosperms. • Students will get a basic idea about various cryptogamic and phanerogamic vascular plant groups viz. pteridophytes, gymnosperms and angiosperms, their structural variations, their economic uses, etc. • Students will learn about different types of fossils and fossilization process. • Students will have a brief idea about types of pollens and their applications. • Students will learn about types of inflorescence, fruits, flowers, and seeds with examples which, in future, will help them to identify different types of plant organs in the field as well as to identify a family, genus or species. • Students will know about different types of classification of plant groups. They will also learn about some monocot and dicot families which they commonly see around them every time. This study will help them to identify the different members from different families in the field. For, taxonomic studies, they will be future-ready.
Plant diversity II (Pteridophytes,	<ul style="list-style-type: none"> • Students will be able to identify various members of pteridophytes, gymnosperms and angiosperms.

gymnosperms, palaeobotany, morphology and Taxonomy) (Bot-G- CC-2-2-P)	<ul style="list-style-type: none"> • Students will learn about the external morphology and internal anatomy of the members of the said plant groups. • Students will identify various dicot and monocot members through dissection, drawing and also through spot identification in the field. • Through field excursion to AJC Bose Botanic Garden, Howrah, students will get the chance to visit many curious plants of the world kept there. They will also get the opportunity to visit the medicinal plant garden and Central National Herbarium.
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Semester-III

SUBJECT : BOTANY (GENERAL) CC3

THEORITICAL (TH) & PRACTICAL (PR)

PAPER NAME CELL BIOLOGY, GENETICS AND MICROBIOLOGY(TH)	COURSE OUTCOME
1. Cell Biology and Genetics	<ul style="list-style-type: none"> • It helps the students to get familiar with different cellular organelles, their role • It makes the students know about protein synthesis • Students get an idea about gene, chromosome, chromosomal aberration, mutation and their effect
2. Microbiology	It helps the students to know about the characteristics of virus and bacteria, their internal and external morphology, reproduction and economic importance

PAPER NAME CELL BIOLOGY, GENETICS AND MICROBIOLOGY(PR)	COURSE OUTCOME
• 1. Cell Biology and Genetics	<ul style="list-style-type: none"> It helps the students to be familiar with different stages of Mitosis as well as Meiosis cell division
2. Microbiology	<ul style="list-style-type: none"> It helps the students to identify gm(+) ve and gm(-) bacteria

SETESTER-IV
SUBJECT : BOTANY (GENERAL) CC4
THEORITICAL(TH) & PRACTICAL(PR)

PAPER NAME PLANT PHYSIOLOGY AND METABOLISM(TH)	COURSE OUTCOME
1. Proteins	<ul style="list-style-type: none"> It helps the students to get familiar with different cellular organelles and their role It makes the students know about protein synthesis Students get an idea about gene, chromosome, chromosomal aberration, mutation and their effect
2. Transport in plants	<ul style="list-style-type: none"> It helps the students to know about the characteristics of virus and bacteria, their internal and external morphology, reproduction and economic importance
3. Transpiration, Photosynthesis, Respiration, Nitrogen metabolism, Plant Growth regulators, Photoperiodism, Senescence	<ul style="list-style-type: none"> Students get an idea about the physiological process and their importance It helps the students to know about different plant growth regulator and their role
PAPER NAME PLANT PHYSIOLOGY AND METABOLISM(PR)	COURSE OUTCOME
1. Plant Physiology	<ul style="list-style-type: none"> It helps the students to get practical knowledge about different physiological process of plant by experimental setup

PART III

**THREE-YEAR B.Sc. GENERAL COURSE
UNDER 1+1+1 SYSTEM
OF EXAMINATION
COURSE OUTCOME**

PAPER NAME	COURSE OUTCOME
Paper-IVA	
Module VII	
1. Biofertilizer	<ul style="list-style-type: none"> • Students can get an idea that the fertilizer can be generated from different biological resources
2. Mushroom	<ul style="list-style-type: none"> • It gives an idea about the mushroom as well as its uses and food values
3. Plant disease control	<ul style="list-style-type: none"> • It may help the students to know about different plant diseases particularly crop plants, their cause and preventive measures
4. Plant Breeding:	<ul style="list-style-type: none"> • It gives an idea about different breeding procedure and their utility
5. Biometry	<ul style="list-style-type: none"> • It gives an outline about different statistical analysis
6. Plant tissue culture:	<ul style="list-style-type: none"> • It will help the students about the need and different procedure as well as motivated them to make their careers in this flourishing field
7. Recombinant DNA Technology	<ul style="list-style-type: none"> • Students get an idea about recent trend in technology
8. Pharmacognosy:	<ul style="list-style-type: none"> • It helps the students to know about the uses, parts used, mode of administration of different medicinal plants

PAPER NAME	COURSE OUTCOME
Paper-IVB	
Module VIII	
1. Acquaintance with laboratory instruments	<ul style="list-style-type: none"> • Students may learn about the uses and operation techniques of different instruments
2. Sterilization technique by autoclaving	<ul style="list-style-type: none"> • It will help the students to learn about sterilization procedure and its need
3. Preparation of PDA medium	<ul style="list-style-type: none"> • It guides the student about the procedure as well as uses of different nutrient medium
4. Bacteria staining by simple staining method	<ul style="list-style-type: none"> • It helps the students to identify gm(+) and gm(-) bacteria

5. Acquaintance with common medicinal plants and their useful parts	<ul style="list-style-type: none"> Students will be able to identify the important medicinal plants and their utility
6. Determination of Goodness of fit	<ul style="list-style-type: none"> It helps the students to get an idea about the deviation occurrence in Expected and Observed result
7. Visit to a Medicinal Plant Garden	<ul style="list-style-type: none"> Students will have correlate their theoretical knowledge in the practical field

PROGRAMME OUTCOME DEPARTMENT OF BOTANY

PO1. KNOWLEDGE AND UNDERSTANDING ON PLANT DIVERSITY:The programme will give the students the knowledge and understanding of the plant diversity starting from lower to higher groups in terms of structure, function and environmental relationship.

PO2. PRACTICAL SKILLS: Improves the practical skills of the students. They will learn to carry out practical works both in the field and in the laboratory which enhance the ability of critical thinking

PO3. TRANSFERABLE SKILLS:The students will be proficient in IT skills (Use of internet, statistical software, etc.), photography skills, learn time management and can do career planning, etc. Learn skills of handling of different laboratory instrument, specimen collection, preservation, data collection and data analysis.

PO4. SCIENTIFIC KNOWLEDGE: The students will acquire basic scientific knowledge on plants which they can apply in other interdisciplinary fields, as and when required.

PO5. ANALYSIS OF TAXONOMIC PROBLEMS:The students will learn to solve taxonomic problems related to classification and nomenclature of plants; they will also be able to identify taxonomic position of plants.

PO6. USE OF MODERN TOOLS AND EQUIPMENT: Through this programme, the students will be proficient in using modern tools and equipment used in the laboratory which in turn makes them more confident and enhances the risk taking capability.

PO7. INTERACTION TO SOCIETY & EFFECTIVE CONSERVATION OF BIODIVERSITY:Makes the student aware about biodiversity conservation and sustainable utilization and creates societal responsibility

PO8. ETHICS:The students can apply ethical principles and commit to environmental ethics for biodiversity conservation.

Programme outcome - Zoology (B Sc-General)

- **PO1. Acquire knowledge:** After completion of the course the students to get a holistic knowledge on the key concepts of biological sciences from molecular, cellular to organismic level. Along with students will acquire knowledge on the physiological, biochemical, behavioral and ecological perspectives. Students will identify, classify and distinguish between diverse chordates and nonchordates based on their morphological, anatomical and systemic organization, their economic, ecological and medical importance in human life.
- **PO2.Acquired skill in laboratory technique and instrumentation:** To understand good laboratory techniques and to train them about proper handling of lab instruments along with to enhance the technical skills for experimental purposes on Physiology, Cell biology, Genetics, Applied Zoology, ecology and toxicology, Entomology, Biochemistry.
- **PO3. Analysis of data with Statistical method:** Students will be able to apply the scientific method to questions in biology by formulating testable hypotheses, collection of data that address these hypotheses, and analyzing those data to assess the degree to which their future scientific work supports their hypotheses.
- **PO4. Skill enhancement:** Understand the applications of biological sciences in welfare of human like Apiculture, Sericulture, Poultry, Fisheries, Aquaculture will provide different job-oriented courses which will be beneficial to the students.
- **PSO5. Building environmental awareness:** Students are inducted about the importance of the environment and their conservation. Students get the idea about the status of different animals on the ecosystem and also the need of conservation of the threatened or endangered species and their habitat.
- **PO6. Collaborative and multidisciplinary learning:** Participating in the field study, excursion, submission of field report or project work helps the students to be future ready for effective communication, and multidisciplinary approach to work with group activity.
- **PO7. Career opportunities:** Students can pursue different career opportunities after completion of the course in Zoology in public and private sector.

Course outcome -Undergraduate Zoology (General) (CBCS)

COURSE	COURSE NAME	COURSE OUTCOME
ZOOG-CC1-1-TH	Animal Diversity	<p>CO1. Students can learn about the Kingdom Protista and their locomotion.</p> <p>CO2: Students can learn about sponges in fresh water as well as sea water by studying the featuresof phylum porifera.</p> <p>CO3: Students learn about the most diverse and complex ecosystems exploring the relationships between cnidarians andtheir natural habitat gives critical knowledge for ensuring their survival in an ever-changingenvironment.</p> <p>CO4:By studying Phylum Platyhelminthes, students can learn the biology of flat worms of which some are pathogenic.</p> <p>CO5: Students learn about the different nematodes and their importance</p> <p>CO6: Students learn about the classification and metamerism of annelids</p> <p>CO7: Students get the idea of different arthropods and the metamorphosis</p> <p>CO8: Students can learn the biology of different echinodermaby studying this unit and their typical feature watervasculary system</p> <p>CO10: Students get the idea on the protostome and get the knowledge on early</p>

		<p>chordate evolution and the nature of ancestral vertebrates along with their feeding mechanism and structure associated with it.</p> <p>CO11: Students can learn the biology of jawless aquatic animals by studying this topic.</p> <p>CO12: Students can learn about the diversity and biology of freshwater and marine fishes. This also provides students with information about how they control their osmotic concentration of body fluids in water.</p> <p>CO13: Students can learn about the diversity and biology of frogs, toads, salamanders, etc. This topic also provides great knowledge to students about the parental care of frogs. by reading this unit, students can learn about many different aspects of parental care of frogs.</p> <p>CO14: Students can learn about the diversity and biology of reptiles. Students can gain a basic understanding of the biology and behaviour of both poisonous and non-poisonous snakes. In this topic, students can also learn the mechanism biting of poisonous snakes.</p> <p>CO15: Students can learn about the diversity and biology of birds through this topic. This topic also provides a brief overview of bird flight adaptations.</p> <p>CO16: Students can learn about the diversity and biology of mammals in the world. This topic also gives a brief knowledge of exoskeletal structures like hair, horn, and antler, as well as nails and claws in mammals.</p>
ZOOG-CC1-1-P	Animal Diversity	<p>CO17. Students can identify micro and macro specimens from various non chordate and non chordate specimens with proper reasoning</p> <p>CO18. They can prepare key to identify non poisonous and poisonous snake</p> <p>CO19. Students learn about the digestive system, salivary system, mouth parts, reproductive systems of cockroach from charts or photographs</p>
ZOOG-CC2-2-TH	Comparative Anatomy & Developmental Biology	<p>CO1: Students learn about the derivatives of integument with respect to glands in Birds & Mammals</p> <p>CO2: Students get the idea on comparative account of Stomach and Dentition among the different vertebrates</p> <p>CO3: Students get brief idea on Gills, lungs, air sacs and swim bladder</p> <p>CO4: Students learn about evolution of heart and aortic arches</p> <p>CO5: Students get acquainted with the succession of kidney, Evolution of urino-genital ducts</p> <p>CO6: Students learn about the gametogenesis with respect to mammals and fertilization in Sea-Urchin; They get idea about</p>

		<p>the early development of frog; structure of mature egg and its membranes, patterns of cleavage, fate map, up to formation of gastrula; types of morphogenetic movements; Fate of germ layers</p> <p>CO7: Students understand the process of late Embryonic Development, Placental types and function and Metamorphic events in frog life cycle and its hormonal regulation</p>
		<p>CO8. Students can identify the Limb bones, girdle and vertebra of Pigeon & Guineapig, different types of Mammalian skulls</p> <p>CO9. Students can differentiate between various larval stages</p> <p>CO10. Students can identify different types of placenta- histological sections through photomicrographs.</p> <p>CO11. Students can differentiate between different developmental stages of chick embryo</p>
ZOOG-CC3-3-TH	Physiology and Biochemistry Theory	<p>CO1: Students learn about structure and function of nerve and muscle</p> <p>CO2: Students understand physiology of digestion and absorption in alimentary system</p> <p>CO3: Students get acquainted with physiology of respiration and transportation of O₂ and CO₂</p> <p>CO4: Students understand composition of blood, structure of heart through this module.</p> <p>CO5: Students learn about excretion system and mechanism of urine formation</p> <p>CO6: Students can understand reproduction and effect of endocrine glands in reproduction, histological structures of various endocrine glands and their function</p> <p>CO7: Students can understand the metabolism of carbohydrate, lipid, protein</p> <p>CO8: Students learn the types and action of enzymes and the type of inhibition.</p>
ZOOG-CC3-3-P	Physiology and Biochemistry Lab	<p>CO9: Students develop the idea of histological sections of mammalian pituitary, thyroid, pancreas, adrenal gland, duodenum, liver, lung, kidney through microscopic and photomicrographic observation and get the idea about properties of carbohydrate through qualitative test.</p>
Skill Enhancement Elective Courses (SEC) SEC-A	APICULTURE; ZOOG-SEC-A-3-1-TH	<p>CO1: Students are able to classify and understand the biology of Honey Bees and their social Organization</p> <p>CO2. Students get the idea about Artificial Bee rearing; Apiary, Beehives - Newton and Langstroth, Bee Pasturage; Selection of Bee Species for Apiculture; Bee Keeping Equipment; Methods of Extraction of Honey; Indigenous and Modern</p> <p>CO3: Students become familiarized with the diseases and enemies of honey bee and their control with Preventive measures</p> <p>CO4: Students learn about the products of Apiculture</p>

		<p>Industry and its Uses</p> <p>CO5: Students understand the entrepreneurship in Apiculture, Bee Keeping Industry and their recent Efforts, Modern Methods in employing artificial Beehives for cross</p>
ZOOG-CC4-4-TH	Genetics and Evolutionary Biology Theory	<p>CO1: This unit gives the concept of procedure of genetic inheritance with special reference of White eye locus & Thalassemia.</p> <p>CO2: Students get idea on crossing over techniques and linkage of gene.</p> <p>CO3: Students learn about types of gene mutation and procedure of gene mutation students.</p> <p>CO4: Students learn about sex determination process in Drosophila</p> <p>CO5: Students get idea about origin of life (chemical).</p> <p>CO6: Students will be taught the evolutionary theories like Lamarckism, Darwinism, Neo-Darwinism.</p> <p>CO7: Students learn about isolation mechanism and natural selection</p> <p>CO8: Students learn about speciation procedure like Sympatric, Allopatric and Parapatric.</p>
ZOOG-CC4-4-P	Genetics and Evolutionary Biology	<p>CO9: Students are taught verification of Mendelian ratio through Chi- square test.</p> <p>CO10: Through photomicrograph and charts karyotypes students learn to identify aneuploidy.</p> <p>CO11: Students learn phylogeny of horse by diagram of skull and limb.</p> <p>CO12: Students learn the adaptive radiation through studying the photographs of Darwin's finches.</p> <p>CO13: Visiting to natural history museum and submission of report teaches tracking the fossil record, and evolutionary mechanism of life.</p>
Skill Enhancement Elective Courses (SEC)	AQUARIUM FISH KEEPING; ZOOG-SEC-B-4-2-TH Lab	<p>CO1: Students get introduced to Aquarium Fish Keeping and learn about the potential scope of Aquarium Fish Industry as a Cottage Industry. Different types of Exotic and Endemic species of Aquarium Fishes</p> <p>CO2: Students learn about the biology of Aquarium Fishes, their common characters and sexual dimorphism</p> <p>CO3: Students get acquainted with food and feeding of Aquarium fishes and the preparation and composition of formulated fish feeds</p> <p>CO4: Students get the idea about fish Transportation and fish handling, packing and forwarding techniques</p> <p>CO5: Students learn about the maintenance of Aquarium and budget preparation for setting up an aquarium Fish Farm as a Cottage</p>

Course outcome -Undergraduate Zoology (General) (1+1+1)

COURSE	COURSE NAME	COURSE OUTCOME
Part III Paper IV	Group A. Course No ZG-8 : Applied Zoology Gr. B. Course No ZG-09 Parasitology & Immunology	<p>CO1: Students learn about the characteristics of sericulture industry and its scope; types of silk moths/ worms, (scientific names), host plants and improvement and their variety. Life history and rearing of <i>Bombyx mori</i>, harvesting & processing of cocoon, reeling and extraction of silk, pest on mulberry plants and diseases of worms of <i>Bombyx mori</i> and control measures. Research & development of sericulture in India.</p> <p>CO2. Students get acquainted with the principles, definition and scope of aquaculture. Fisheries resources of India (inland & off-shore) and their important ichthyofauna. Exotic fishes- their merits and demerits. Fish breeding and their application. Basic principles of different aquaculture system (Polyculture and integrated farming); marine pearl culture, culture of prawn and shrimps.</p> <p>CO3: Students learn about the definition and types of pests with examples. Life history, behaviour, ecology, damage and control of the different pests and their management and also about the Integrated Pest Management</p> <p>CO4. Students learn about the development of Apiary in India. Types of honey bees, modern methods of apiary management, products and its uses. Problems and prospects in apiculture.</p> <p>CO5. Students get the concept of Lac insect. Composition of Lac. Strains of lac insects, cultivation of lac, lac host plants, Processing of lac and uses.</p> <p>CO6. Students get familiarized with poultry, Duck and fowl and their types of breeds, their rearing and disease management.</p> <p>CO7. Students get the concept about parasitism and other interspecific interactions.</p> <p>CO8. Students learn about the Life history, Pathogenicity and clinical features of (a) <i>Entamoeba histolytica</i>, (ii) <i>Plasmodium vivax</i>, iii) <i>P. falciparum</i>, iv) <i>Ascaris</i>, v) <i>Fasciola hepatica</i>.</p> <p>CO9. Student get the concept of structure and classification of immunoglobulin, antigen-antibody</p>

	<p>Group -C. Course No ZG-10 Evolutionary Biology</p> <p>Group -D. Laboratory course. Course No.ZG-11</p>	<p>reaction, basic principle of vaccination CO10. Students can define systematics & taxonomy CO11. Students can understand the species as a unit of evolution CO12. Students learn about the chemical basis of origin of life CO13. Students get the idea of Hardy-Weinberg equilibrium in relation to natural selection CO14. Students get acquainted with the anatomical and Physiological adaptations of Aquatic, Desert and Volant animals. CO15. Students get the idea about the Zoogeographical realms & their subdivisions with characteristic fauna.</p> <p>CO16. Students perform experimental works on estimation of dissolved O₂ content of water and dissolved free CO₂ content of water CO17. Student can analyze Pedigree on different genetical traits (sex linked recessive, autosomal recessive and dominant) CO18. Students can determine ABO blood group & Rh factor in man CO19. Students can measure water pH and can handle pH meter CO20. Students gather knowledge from field visits CO21. Students can identify various economically important specimen and understand their applied importance</p>
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DEPARTMENT OF ECONOMICS

SUNDARBAN HAZI DESARAT COLLEGE

Programme Outcome (2019-20)

PO 1. Analytical decision making: Execute the decision after effective analysis of the context. Apply logic in practical situation to make optimal choice. Practice analytical thinking in intellectual, organizational, and personal domain.

PO 2. Elocution: Use language effectively in different spheres of life to bridge the mind with the world by means of knowledge and technology.

PO 3. Collective decision making: Exchange opinion in a societal structure to reach a platform of universal bliss.

PO 4. Responsible citizenship: Illuminate society with the power of knowledge to enable the people to fulfill common goal of national development through participatory actions.

PO 5. Moral dimensions: Respect value systems in every action taken both as an individual and as a responsible citizen of the country.

PO 6. Sustainable development: Act as per the environmental ethics to promote a sustainable developmental trajectory.

PO 7. Adaptable learning: Follow a smart learning practice to become adaptable in the changing socio-technical environment.

PO 8. Cultural heritage: Understand own cultural value and practice same in every spheres of personal and societal life.

Course Outcome for CBCS B.A/B.Sc course

CC1

Introductory Microeconomics

Sl. No.	Module	Outcome
1	Exploring the subject matter of Economics	<ul style="list-style-type: none">• Understandingscope and method of economics, able to explain the economic problems• Able to address the question of what to produce, how to produce and how to distribute output
2	Supply and Demand: How Markets Work, Markets and Welfare	<ul style="list-style-type: none">• Learning the determinants of individual demand/supply• Building the concepts of elasticity of demand - own price, cross price and income elasticity of demand, total revenue, average revenue, marginal

		<ul style="list-style-type: none"> revenue Able to understand the application of price control and rationing
3	The Households	<ul style="list-style-type: none"> Understanding the concept of Utility maximization with respect to cardinal as well as ordinal framework Taking consumption decision in practical life and applying the concept of budget constraint
4	The Firm and Perfect Market Structure	<ul style="list-style-type: none"> Understanding the process through which the firm can decide the amount of production it should make Building the concept of market and how the perfectly competitive market operates
5	Imperfect Market Structure	<ul style="list-style-type: none"> Understanding monopoly equilibrium and difference with perfect competition
6	Input Markets	<ul style="list-style-type: none"> Understanding the concept of derived demand

CC2

Introductory Macroeconomics

Sl. No.	Module	Outcome
1	Introduction to Macroeconomics and National Income Accounting	<ul style="list-style-type: none"> Understanding basic issues of macroeconomics; measurement of national income Able to explain circular flow of income
2	The Simple Keynesian Model in a Closed Economy	<ul style="list-style-type: none"> Understanding the structure of an economy Recognising demand as a primary force of an economy Building the concept of multiplier and the role of the government in the Model
3	The Classical System	<ul style="list-style-type: none"> Understanding Basic ideas of classical system Building concepts on Say's Law and Quantity Theory of Money
4	Money Supply and Money Demand	<ul style="list-style-type: none"> Understanding the definitions of money, and measures of money supply Understanding the process of credit creation by commercial banks, tools of monetary policy Building the concept of demand for money in Keynes and classics
5.	Inflation	<ul style="list-style-type: none"> Able to explain what is inflation and how it happens Understanding how inflation is combat and employment inflation trade off
6.	The External Sector	<ul style="list-style-type: none"> Understanding the basis of trade Able to explain advantages and disadvantages of free trade and protection Building the concept of balance of payment, devaluation and its effect on economy

CC3

Issues in Economic Development and India

Sl. No.	Module	Outcome
1.	Meaning of Economic Development	<ul style="list-style-type: none"> • Able to explain the difference between growth and development • Understanding development of Indian economy under different policy regimes
2.	Poverty , Inequality and Development	<ul style="list-style-type: none"> • Developing the concept of Basic issues of poverty and inequality and measurement
3.	Development of the Dual Economy and Development Strategies	<ul style="list-style-type: none"> • Understanding the concept of Surplus labour and disguised unemployment and economic development with unlimited supply of labour
4.	International Organizations and Economic Development	<ul style="list-style-type: none"> • Understanding Functions of WTO, IMF and World Bank and their roles in economic development

CC4

Indian Economic Policies

Sl. No.	Module	Outcome
1.	Macroeconomic Policies and their Impact	<ul style="list-style-type: none"> • Understanding Fiscal Policy; trade and investment policy; financial and monetary policies; labour regulation
2.	Policies and in Agriculture	<ul style="list-style-type: none"> • Developing concepts on Growth; productivity; agrarian structure and technology; capital formation; trade; pricing and procurement
3.	Policies and in Industry	<ul style="list-style-type: none"> • Developing concepts on Growth; productivity; diversification; small scale industries; public sector; competition policy; foreign investment
4.	Policies and Performance of Indian Foreign Trade	<ul style="list-style-type: none"> • Understanding India's foreign trade: change in volume and direction of India's foreign trade in the post-liberalization period • Learning Balance of Payments position of India in recent years and India's export and import policies

Programme Outcome for Part-III B.A/B.Sc Course

PAPER IV A : DEVELOPMENT ECONOMICS I

Sl. No.	Module	Outcome
1	Distinction between Economic Growth and Economic Development: Net National Income and Per Capita Income as	<ul style="list-style-type: none"> • Understanding the difference between the concepts of Economic growth and Development • Knowing the concept of National Income and how to measure it • Knowing different concepts of National Income

	Growth Indicators-Concept Of HDI.	
2	Development Planning & its necessity - balanced vs. unbalanced growth. Complementary Roles of Agriculture and Industry -Role of Technology in Agriculture and Industry.	<ul style="list-style-type: none"> • Learning the concept of development planning • Understanding the difference between balanced and unbalanced growth • Knowing about the complementary relation between agriculture and industry • Learning the role of technology in agriculture and industry.
3	Population and Economic Development: The Two Way Relation. Domestic Capital Formation in an Underdeveloped Country: The Problems -Incentives for Savings and Investment.	<ul style="list-style-type: none"> • Understanding the relation between population and economic growth • Learning the importance of capital formation for an underdeveloped economy • Knowing the problems related to incentives for savings and investment
4	Foreign Investment: Different forms -Their roles in Economic Development. Role of IMF & World Bank in economic development of the LDCS.	<ul style="list-style-type: none"> • Understanding the role of foreign investment in economic development • Learning the role of IMF, World Bank in economic development of LDCs
	Gender Related Issues.	<ul style="list-style-type: none"> • Building the concept related to Gender Issues and discrimination

Paper IVB: International Economics & Statistics

Sl. No.	Module	Outcome
1	Comparative Advantage and Protectionism: Principle of Comparative advantage, Ricardo's analysis, Economic Gains from trade, Graphical Analysis of comparative advantage, Equilibrium Price ratio, Extensions to many commodities and countries,	<ul style="list-style-type: none"> • Understanding basic issues of International Trade • Knowing the Principle of Comparative Advantage as a basis of trade • Developing the concepts of Opportunity cost, Equilibrium • Building concepts on Trade Policy •

	Protectionism: Supply and demand analysis of trade and tariffs, Free Trade, Trade barriers, Prohibitive Tariff, Non-prohibitive Tariff, Quotas, Economic costs of tariff. Arguments for protection	
2	Balance of Payments: Debits and Credits, Balance on Current Account and Capital Account, Exchange rates and Balance of Payments	<ul style="list-style-type: none"> • Understanding the concept of BOP • Knowing the concepts of autonomous a/c, accommodating a/c, current a/c and capital a/c • Learning the concept of exchange rate and its role in maintaining equilibrium •

STATISTICS

1	Data – Classification and presentation, Population and Sample, Collection of Data - Variable and Attribute, Frequency Distribution – Diagrammatic representation of frequency distribution – Cumulative frequency - Ogive	<ul style="list-style-type: none"> • Understanding the concept of data and its types • Knowing the methods of representing data • Learning the concepts of population and sample • Building the concepts of frequency distribution and its diagrammatic representation
	Central Tendency- Arithmetic Mean, Median and Mode (for both grouped and ungrouped data) 9	<ul style="list-style-type: none"> • Building the concept of Central Tendency and its different measures
	Dispersion: Range and Standard Deviation, Measures of Relative Dispersion – Curve of Concentration, Concepts of Measurement of Economic Inequality: Lorenz Curve.	<ul style="list-style-type: none"> • Developing the concept of Dispersion and its different measures • Learning about Lorenz Curve as a measure of inequality.

ANTHROPOLOGY – B Ss (Gen.)

Semester – I

ANT-G-1-CC/GE -1 -TH Credit 4

A. INTRODUCTION TO BIOLOGICAL ANTHROPOLOGY

The course aims to-

1. Students will be introducing the basic knowledge about anthropology, holism and sub disciplines.
2. Students would be familiarized about the knowledge of morphology of man.
3. They will learn about human dentition.
4. Students will learn about structure and function of animal cells.
5. They also learn about cell cycle.

B. INTRODUCTION TO ARCHAEOLOGICAL ANTHROPOLOGY

The course aims to-

1. Acquaint the students with archaeological anthropology, palaeoanthropology and historic archaeology.
2. They learn about three age system, processual and post-processual archaeology etc.
3. They also learn about palaeo-environment.
4. Students will learn about field technique and dating methods.
5. They also learn about tool making technologies.

C. INTRODUCTION TO SOCIAL CULTURAL ANTHROPOLOGY

The course aims to-

1. Students will be introducing the basic knowledge about social cultural anthropology, sub disciplines, aim and objectives.
2. They will learn about different theories according to different anthropologists.
3. Students will learn about concept of culture.
4. They also learn the concept of society and social stratification.
5. Students will be introducing the basic knowledge about political system and social control.

SEMESTER-II

ANT-G-2-CC/GE -2 -TH Credit 4

A. HUMAN GENETICS AND POPULATION VARIATION

The course aims to-

1. An overview about genetics would be provided.
2. Provide students with information about gametogenesis.
3. They will learn about chromosomal aberration in man.
4. They also learn about mendelian principals.
5. Students will learn about ethnic varieties of population through multiple alleles, ABO blood group system and other classificatory models.

B. ECOLOGY AND CULTURE IN THE PAST

The course aims to-

1. Acquaint the students with an overall idea on development of prehistoric cultures of Europe and Africa.
2. They will learn about earliest Pleistocene cultures of Africa with special emphasis on Olduvai George, Omo, Hadar etc.
3. An overview about Pleistocene cultures of Europe would be provided.
4. Students will learn about Neolithic classification.

5. They will learn various aspects about Mesolithic, Palaeolithic classification and nomenclatures.

C. SOCIAL CULTURAL ANTHROPOLOGY

The course aims to-

1. Students will be introducing the basic knowledge about marriage and family.
2. They will learn various aspects about kinship system.
3. An overview about medical anthropology, applied anthropology, visual anthropology etc would be provided.
4. Students will learn about different subsistence strategies.
5. Students would be familiarized about the knowledge of sustainable development.

SEMESTER-III

ANT-G-3-CC/GE -3-THCredit 4

A. PRIMATE EVOLUTION

The course aims to-

1. Students will be introducing the basic knowledge about theories of evolution.
2. They will learn various aspects about living primates.
3. Students will learn about skeletal comparison between ape and man.
4. They also learn about fossil primates.
5. Acquaint the students with an overall idea on chronology, phylogeny of fossil primates.

B.ARCHAEOLOGICAL ANTHROPOLOGY

The course aims to-

1. An overview of brief history of Indian prehistory would be provided.
2. Students will learn about classifications and nomenclatures of prehistoric period.
3. They also learn about palaeolithic India.
4. Students will learn about regional cultures of palaeolithic period.
5. They will learn various aspects about microlithic cultures of India.

C. SOCIAL CULTURAL ANTHROPOLOGY

The course aims to-

1. Provide students with information about political anthropology.
2. Students will learn about contemporary social issues.
3. They will learn about social movements, gender, sexuality epidemic disease etc.
4. They also learn religion in anthropology.
5. Students will be provided with further knowledge about caste system in India and peasant village.

SEMESTER-IV

ANT-G-4-CC/GE -4-THCredit 4

A. BIOLOGICAL ANTHROPOLOGY

The course aims to-

1. Students will be introducing the basic knowledge about forensic anthropology.
2. The students will realize the importance of ABO blood group.
3. Provide students with information about the chromosomal inheritance.
4. Students will learn about paternity diagnosis.
5. Students will be introducing the basic knowledge about birth defects.

B. ARCHAEOLOGICAL ANTHROPOLOGY

The course aims to-

1. They will learn various aspects about Neolithic culture of India.
2. Students will be provided with further knowledge about Chalcolithic culture of India.
3. Students will learn about Harappan civilization in details.
4. Students will be introducing the basic knowledge about Egypt and Sumer civilization.
5. Students would be familiarized with the concept and features of civilization according to different scholars.

C. SOCIAL CULTURAL ANTHROPOLOGY

The course aims to-

1. Acquaint the students with an overall idea on religion.
2. They will learn various aspects about Indian tribes.
3. Provide students with information about constitutional provision and safeguards about SC, ST, and OBC.
4. They also learn about development and welfare of tribes.
5. Students will learn about Panchayet system of West Bengal.

Based on a thorough analysis of the both CBCS and 1+1+1 courses, the **Department of Chemistry** has outlined the key course outcomes along with the program outcomes.

CBCS

Semester	Course Code	Course Outcome
SEM-1 (Credits: Theory-04, Practicals-02)	CC-1/GE-1	<p>CO-1: To have a thorough understanding about kinetic theory of gases, liquids and chemical kinetics</p> <p>CO-2: To know the basic concept, and associated equations of atomic structure; chemical periodicity, and acids and bases</p> <p>CO-3: To study the fundamentals of organic chemistry; stereochemistry; elementary mechanistic aspects of nucleophilic substitution reaction and elimination reaction</p> <p>CO-4: To understand how to titrate using KMnO₄ to determine the amount of sodium carbonate and sodium hydrogen carbonate present in a mixture, as well as the amount of water of crystallization in Mohr's salt.</p> <p>CO-5: To learn practically how to do the quantitative estimation of ions, Fe(II/III) and Cu (II) in a solution by using iodometric, permanganate and dichromate titration.</p>

<p>SEM-2</p> <p>(Credits: Theory-04, Practicals-02)</p>	<p>CC-2/GE-2</p>	<p>CO-1: To comprehend chemical thermodynamics, chemical equilibrium, solutions, phase equilibrium, and solids in more depth.</p> <p>CO-2: To study basic aliphatic hydrocarbon production, characteristics, and reactions.</p> <p>CO-3: To gain a better understanding of error analysis and computer applications.</p> <p>CO-4: To understand the fundamentals, kinds, and applications Redox Reactions.</p> <p>CO-5: To explore the kinetics of acid-catalyzed methyl acetate hydrolysis and H₂O₂ degradation.</p> <p>CO-6: Determine the viscosity of an unknown liquid (glycerol, sugar) in relation to water, as well as the surface tension of a liquid using a stalagmometer and the solubility of a sparingly soluble salt in water.</p> <p>CO-7: Using the color matching approach, prepare buffer solutions and determine the pH of an unknown buffer solution.</p>
<p>SEM-3</p> <p>(Credits: Theory-04, Practicals-02)</p>	<p>CC-3/GE-3</p>	<p>CO-1: To study about in details chemical bonding and molecular structure, comparative study of p-block elements, transition elements and co-ordination chemistry.</p> <p>CO-2: To understand fundamental concepts of electrochemistry, and its applications.</p> <p>CO-3: To learn about aromatic hydrocarbons, organometallic compounds, and aryl halides, as well as their production, characteristics, chemical reactions, and processes.</p> <p>CO-4: To study the qualitative detection of known and unknown radicals in a mixture in an inorganic salt.</p>

<p>SEM-4</p> <p>(Credits: Theory-04, Practicals-02)</p>	<p>CC-4/GE-4</p>	<p>CO-1: To have a thorough understanding of alcohol, phenol, ethers, aldehydes, ketones, carboxylic acids, esters, amides, diazonium salts, as well as their synthesis, characteristics, and chemical reactions.</p> <p>CO-2: To study the basic concept of amino-acids, and carbohydrates and their synthesis procedure.</p> <p>CO-3: To gain knowledge of crystal field theory.</p> <p>CO-4: Quantum chemistry and spectroscopy key principles will be studied.</p> <p>CO-5: To learn how to qualitatively analyze single known and unknown solid organic compounds, as well as how to identify pure solid and liquid organic compounds, through experimentation.</p>
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System: 1+1+1

Paper	Course Module	Course Outcome
Paper III (75 Marks)	CGT 31a: Chemical Analysis, Error analysis and computer applications	<p>CO-1: To learn sample preparation and analysis through gravimetric and volumetric techniques</p> <p>CO-2: To know about analysis of different types of error and their determination</p> <p>CO-3: Helps to understand about the basics of computer and its application in various fields</p>
	CGT 31b: Industrial chemistry	<p>CO-1: Helps to understand about the manufacture, properties, compositions, classes and applications of industrially important materials such as ceramics, glasses, cements, fertilizers, surface coating materials and batteries.</p> <p>CO-2: To know about food flavor, food color, preservative and artificial sweeteners.</p> <p>CO-3: To learn about the general properties, classification, industrial use, and preparation of polymers.</p> <p>CO-4: Helps to understand about the preparation, structures, properties, reactions, benefits and adverse effects of pesticide compounds</p>
	CGT 31c: Environmental Chemistry	<p>CO-1: To know composition, structure and role of atmosphere, stratosphere and ozone layer.</p> <p>CO-2: To learn the environmental role water and natural water sources.</p> <p>CO-3: Helps to understand chemical and microbial treatment of water.</p>
	CGP 32: Practical	<p>CO-1: To know standardization of secondary solution by a primary solution with and without using indicators</p> <p>CO-2: To learn quantitative analysis of hardness of water</p> <p>CO-3: Helps to learn quantitative estimation of available chlorine in bleaching powder</p>

Program Outcomes

PO-1: *Disciplinary knowledge and skill:* A graduate student is expected to be able to demonstrate thorough knowledge of basic chemistry, including both theoretical and practical knowledge. Students are able to address their subjective difficulties in a methodical, self-contained manner and come to a logical conclusion. Additionally, the student will be competent of chemical analysis, material characterization.

PO-2: *Problem solver and critical thinker:* The curriculum design also contains components that might assist graduate students in developing critical thinking and designing, carrying out, recording, and analyzing chemical processes. Students will be able to describe chemical synthesis and analysis using an evidence-based comparative chemistry method.

PO-3: *Sense of inquiry:* It is envisaged that the course curriculum will foster inquisitiveness in students by asking relevant questions, planning, and reporting on experimental investigations.

PO-4: *Team player:* The course curriculum has been intended to provide students the opportunity to work as a team in the laboratory, field based education and industry.

PO-5: *Ethical awareness:* A graduate student needs to grasp and develop ethical awareness or reasoning, which the course curriculum sufficiently provides. Students can also raise understanding of chemistry's influence on the environment and society, as well as acquire skills outside of the scientific community.

PO-6: *Environmental Awareness:* A Chemistry graduate student should be aware of his or her social duties as a citizen of our green world. The course is aimed to teach a Chemistry graduate student how to follow green pathways for chemical compound synthesis and to discover new greener methods for sustainable development. The training also assists them in comprehending the reasons of environmental degradation and, as a result, implementing environmentally pleasant policies rather than ecologically hazardous policies in all areas.

PO-7: *Lifelong learner:* For personal academic improvement, the course curriculum is meant to instill a habit of continual learning via the use of sophisticated ICT techniques and other accessible e-techniques, e-books, and e-journals.

PO-8: *Job opportunity and analytical skill development:* The course content is developed so that Chemistry graduate students may successfully synthesis, characterize, and analyze chemical compounds using a variety of chemistry-based software, good equipment, and sophisticated technologies. Such exemplary practice at the graduate level will provide students with an excellent possibility to work in industries other than academia and administration.

SUNDARBAN HAZI DESARAT COLLEGE

SUBJECT – SANSKRIT (GENERAL), UNDERGRADUATE 2019-2020 SESSION

SEMESTER -I

PAPER NAME/COURSE TITLE/TOPIC	COURSE OUTCOME
CC/GE- A1 ● SANSKRIT POETRY	
<i>Section- A</i> रघुवंशम्	<ul style="list-style-type: none"> ● अस्य महाकाव्यस्य कियदंशस्य पाठेन छात्रछात्र्यः वाल्मीकिना रचितस्य रामायणस्य स्वल्पज्ञानं लप्सन्ते। ● रामायणस्य सूर्यवंशीयानां रघुवंशीयानां वा नृपाणां चारित्रिकवैशिष्टान् तेषां च धर्मकर्मादिविषयान् अवलोक्य छात्रछात्र्यः आत्मनाम् उत्कृष्टं चरित्रगठनं, धर्म, कर्ममादि विषयान् प्रति सचेष्टं भविष्यन्ति।
<i>Section- B</i> शिशुपालवधम्	<ul style="list-style-type: none"> ● अस्य महाकाव्यस्य स्वल्पांशं पठनं कृत्वा छात्रछात्र्यः महर्षिव्यासदेवेन रचितस्य महाभारतस्य स्वल्पज्ञानं लप्सन्ते। ● श्रीकृष्णनारदयोः परस्परयोः सम्भाषनं, परस्परस्य कथोपकथनं, नारदेन श्रीकृष्णं प्रति शिशुपालं वधाय वार्ताज्ञापनम्, अविशेषेण चेदिराजशिशुपालस्य वधमादि विषयान् अवलोकनं कर्तुं शक्यन्ते।
<i>Section- C</i> नीतिशतकम्	<ul style="list-style-type: none"> ● इदम् गीतिकाव्यं पठनेन छात्रछात्र्यः नैतिककर्तव्यवोधम् अर्जनाय ग्रहनाय वा आत्मनां सचेष्टं कर्तूं शक्यन्ते।
<i>Section- D</i> संस्कृतपद्यकाव्यस्य इतिहासः	<ul style="list-style-type: none"> ● अनेन पाठ्यांशेन छात्रछात्र्यः नानाभिः कविभिः रचितानां पद्यकाव्यानां ज्ञानार्जनं कर्तूं शक्यन्ते। अपि च अनेन प्रकारेण पद्यकाव्यस्य रचनार्थानाम् उद्बूद्धं कर्तूं सचेष्टं भविष्यन्ति।

SEMESTER-II

PAPER NAME/COURSE TITLE/TOPIC	COURSE OUTCOME
<p>CC/GE- A2</p> <ul style="list-style-type: none"> ● SANSKRIT PROSE <p>Section- A</p> <p>शुकनासोपदेशः</p> <p>Section- B</p> <p>शिवराजविजयम्</p> <p>Section- C</p> <p>संस्कृतगद्यसाहितस्य निरीक्षणम्</p>	<p>● वानभट्टेन रचितम् कदम्बरी इति गद्यकाव्यस्य अन्तर्गतं शुकनासोपदेशः इति अयं काल्पनिकः पाठ्यांशम् पठनेन छात्रछात्रीनां कृत्पनाशक्तः विकाशं भविष्यन्ति।</p> <p>● अम्बिकादत्तव्यासेन रचितम् आधुनिक-ऐतिहासिकम् उपन्यासं ‘शिवराजविजयम्’ इति पाठ्यांशम् पठनेन छात्रछात्र्यः किञ्चित् ऐतिहासिकनृपानां चारित्रिकगुणाः तेषां च आधिपत्यम् तत्कालीनभारतवर्षस्य दुरावस्था-परिवेशादि विषयान् प्रति अवलोकनं कर्तुं शक्यन्ते। अपि च अनेन प्रकारेण ऐतिहासिकम् काहिनीं अवलम्बने आधुनिक-ऐतिहासिकोपन्यासं रचनार्थं स्वचेष्टं भविष्यन्ति।</p> <p>● विविधैः गद्यसाहित्यिकैः रचितानां विविधानां गद्यकाव्यनां काहिनी तथा कथा, रचनारीतिः पद्मसज्जादि विषयेषु ज्ञानर्जनं भूत्वा छात्रछात्र्यः आत्मानः गद्यकाव्यं रचनार्थं उद्भुद्धं भविष्यन्ति।</p> <p>● विविधाः काल्पनिकाग्रन्थाः पठनेन छात्रछात्र्यः आत्मनां हस्वाकारां गल्पं काहिनीं वा लेखनाय उद्भुद्धं कर्तुं शक्यन्ते।</p>

SEMESTER -III

PAPER NAME/COURSE TITLE/TOPIC	COURSE OUTCOME
CC/GE- A3 <ul style="list-style-type: none"> ● SANSKRIT DRAMA <p><i>Section- A</i> अभिज्ञानशकुन्तलम् <i>ACT I-IV</i></p> <p><i>Section- B</i> अभिज्ञानशकुन्तलम् <i>ACT V-VII</i></p> <p><i>Section- C</i> संस्कृतनाट्यतत्त्वस्य प्रायगिकरूपानि</p> <p><i>Section- D</i> संस्कृतनाट्यसाहित्यस्य इतिहासः</p>	<ul style="list-style-type: none"> ● कालिदासेन रचितम् ‘अभिज्ञानशकुन्तलम्’ इति नाटकं पठित्वा छात्रछात्र्यः नाट्यरचनारीतिः तथा नान्दी, प्रस्तावना, विष्कम्भकादि विषयेषु ज्ञानं लभन्ते। महाभारतस्य ‘दुष्यन्त-शकुन्तला’ इति उपाख्यानम् अवलम्बनेन रचितम् अनेन प्रकारेण अन्यत् वा उपाख्यानं श्रेण्याः कथाश्रित्य नाटकं रचयितुं सचेष्टं भविष्यन्ति। ● उक्तं नाटकं पठित्वा छात्रछात्र्यः तत्कालीनस्य सामाजिकाचाराचारणम्, प्रेम-प्रणयात् पश्चात् पतिना भार्या प्रत्याख्यानम् नानाविधसमाजस्य मानवानां वृत्तिः नाट्यधारया पतिपत्नयोः पारस्परिकयोः पुनर्मिलनमादि विषयेषु अवगतं भूत्वा अनेन प्रकारेण नाट्यधारया नवनाटकं रचयितुं सचेष्टं भविष्यन्ति। ● इदं संस्कृतनाट्यतत्त्वम् इति ठपाठ्यांशम् पठनेन छात्रछात्र्यः नाटकस्य प्रायोगिकरूपान् ज्ञात्वा नाटकम् रचनार्थम् उद्बुद्धं भविष्यन्ति। अपि च विविधानि तत्त्वानि अनुसरणं कृत्वा नाटकं रचनार्थं आत्मनः समृद्धं कर्तुं शक्ष्यन्ते। ● कालिदासादिभिः नाट्यकारैः रचितानि विविधानि नाटकानि पठनं कृत्वा छात्रछात्र्यः नाट्यसाहित्यस्य उद्भवम् उन्नयनं नाट्यरचनारीतिं विषयवस्तुमादि विषयान् प्रति समृद्धिं लप्सन्ते आत्मानः च नवनाटकं रचनार्थं सचेष्टं भविष्यन्ति।
SEC- A1 प्राथमिकं साधारणं वा संस्कृतम्	<ul style="list-style-type: none"> ● अनुवादः वोधपरिक्षणम्, जीवनीलेखनम्, पत्रलेखनम्, गल्पलेखनमादि विषयैः छात्रछात्र्यः संस्कृतभाषायां आत्मनानां दक्षं अभिज्ञं कर्तुं शक्ष्यन्ते छात्रछात्रीनां च स्वानां लेखनशक्तिं वर्धिष्यन्ते।

SEMESTER -IV

PAPER NAME/COURSE TITLE/TOPIC	COURSE OUTCOME
CC/GE- A4 <ul style="list-style-type: none"> ● SANSKRIT GRAMMAR (संस्कृतव्याकरणम्) <p><i>Section- A</i> संज्ञाप्रकरणम्</p> <p><i>Section- B</i> सन्धिप्रकरणम्</p> <p><i>Section- C</i> विभक्त्यर्थप्रकरणम्</p>	<ul style="list-style-type: none"> ● छात्रछात्र्यः संस्कृतव्याकरणस्य ज्ञानाजनेन संस्कृतभाषायां पठनम्, श्रवनम्, कथनम्, लेखनमादि विषयेषु आत्मनः अभिज्ञं कर्तुं शक्यन्ते। ● छात्रछात्र्यः ‘संज्ञाप्रकरणम्’ इति व्याकरणस्य इमम् पाठ्यांशम् पठनेन संस्कृतव्याकरणसाहित्यस्य सूत्राणि विचारविश्लेषणं कर्तुं शक्यन्ते। ● इदं पाठ्यांशम् पठनेन छात्रछात्र्यः संस्कृतव्याकरणस्य सन्धिप्रकरणे समृद्धं भूत्वा संस्कृतसूत्रमध्यस्थितानां संस्कृतभाषायां च रचितानां विविधग्रन्थस्थितानां संयुक्तपदानि विच्छेदकरणं, विच्छेदानि पदानि च संयुक्तिकरणं कर्तुं शक्यन्ते। ● छात्रछात्र्यः संस्कृतव्याकरणस्य इदं पाठ्यांशम् पठनेन संस्कृतभाषायां वाक्यमध्यस्थितानां कस्मिन् पदे का विभक्तिः प्रयुज्यते तत् निर्धारणेन स्वानां समृद्धं कर्तुं शक्यन्ते।
SEC- B1 संस्कृतस्य उच्चारणम् कथनम् वा संस्कृताय संगनकयन्त्रस्य सचेतनम्	<ul style="list-style-type: none"> ● अनेन पाठ्यांशेन छात्रछात्र्यः परस्पराणां आत्मनां संस्कृतभाषायां कथोपकथनं कर्तुं शक्यन्ते। अनेन प्रकारेण आत्मानः समाजस्य समन्तात् मानवैः सह संस्कृतभाषायां वाक्यालापेन अस्मिन् समाजे सामग्रिकरूपेण संस्कृतभाषायाः प्रयोगं व्यापकभावेन प्रसारितं कर्तुं शक्यन्ते। ● इदं पाठ्यांशम् अनुशीलनेन छात्रछात्र्यः आत्मनः आधुनिकसंगनकयन्त्रविषये अभिज्ञं दक्षं वा कर्तुं शक्यन्ते।

SUNDARBAN HAZI DESARAT COLLEGE

SUBJECT – SANSKRIT (GENERAL), UNDERGRADUATE 2019-2020 SESSION

PART- III

PAPER NAME/COURSE TITLE/TOPIC	PROGRAMME OUTCOME
<ul style="list-style-type: none"> ● 4TH PAPER <p>UNIT- I</p> <p>साहित्यदर्पणम् दशमः अध्यायः</p> <p>UNIT- II</p> <p>महाभारतस्य उद्योगपर्वं त्रयोत्रिंशत् अध्यायः प्रजागरपर्वन्</p> <p>UNIT- III</p> <p>सामाजिक-वैज्ञानिक- प्रयुक्तिमूलकं च संस्कृतसाहित्यस्य इतिहासः</p>	<ul style="list-style-type: none"> ● अनेन पाठ्यांशेन छात्रछात्र्यः एकाधारेण यदेव संस्कृतालंकारशास्त्रे तथा विविधेषु अलंकारेषु समृद्धिं लप्सन्ते अपरं च तदेव विविधग्रन्थेषु प्रयुक्त-अलंकारस्य निर्धारणं कर्तुं शक्यन्ते। ● अनेन पाठ्यांशेन छात्रछात्र्यः महर्षिव्यासदेवेन रचितम् महाभारतम् इति महाकाव्यस्य स्वल्पज्ञानार्जनं कर्तुं शक्यन्ते। ● संस्कृतसाहित्ये साहित्यकारैः यानि सर्वाणि सामाजिकम्, वैज्ञानिकम्, प्रयुक्तिमूलकम् च ग्रन्थानि रचितानि अभवन् तानि सर्वाणि ग्रन्थान् पठनेन छात्रछात्र्यः आधुनिक-वैज्ञानिक-प्रयुक्तिमूलेन विद्यया समाजस्य कल्याणसाधनं कर्तुं शक्यन्ते।

ARTS**SUBJECT: PHYSICAL EDUCATION UNDERGRADUATE 2018-2019****COURSE OUTCOME: (CC -1)**

Paper Names	Course Outcomes
CC- GE -1.1 Introduction	<ul style="list-style-type: none">• Understand concept of aims, objectives and misconception in physical education
CC-GE -1.2 Foundation Of Physical Education	<ul style="list-style-type: none">• Know the origin of physical education
CC -GE -1.3 History Of Physical Education	<ul style="list-style-type: none">• Know the Olympic organising various sports activities•
CC -GE -1.4 Yoga Education	<ul style="list-style-type: none">• Understand the basic concept of yoga• Promote the awareness of health through yoga• Analyse the technique of body posture to bring out healthy change

COURSE OUTCOME: (CC -2)

Paper Names	Course Outcomes
CC- GE -2.1 Introduction	<ul style="list-style-type: none">• Understand the basic principles of health education
CC-GE -2.2 Health Problem in India - Prevention and Control	<ul style="list-style-type: none">• Student will be able to explain the process to become physically fit• Student will also understand how food affects your personal well being
CC -GE -2.3 Physical Fitness and Wellness	<ul style="list-style-type: none">• Study how to frame diet charts• Gain knowledge about the nutrition
CC -GE -2.4 Health and First-aid Management	<ul style="list-style-type: none">• To know and understand the science, methods, techniques on which physiotherapy based

COURSE OUTCOME: (CC -3)

Paper Names	Course Outcomes
CC- GE -3.1 Introduction	<ul style="list-style-type: none"> Understanding the basic principles of anatomy, and physiology
CC-GE -3.2 Musculo -Skeletal System	<ul style="list-style-type: none"> Student will be aware of the anatomical structure and physiological function of the human body
CC -GE -3.3 Circulatory System	<ul style="list-style-type: none"> Known to Blood Circulation Mechanism, Heart Rate, Pulse Rate, Stroke Volume, Blood Pressure
CC -GE -3.4 Respiratory System	<ul style="list-style-type: none"> Understand the structure and function of human respiratory organs.

COURSE OUTCOMES: (SEC -3.1)

Paper Names	Course Outcomes
CC- GE -3.1 Track Event	<ul style="list-style-type: none"> Student to learn the basic skill and techniques of sports and games
CC-GE -3.2 Field Event	<ul style="list-style-type: none"> Student will apply the mechanical principle on the technique of sports skill Understand the rules of the games and sports

COURSE OUTCOMES: (CC -4)

Paper Names	Course Outcomes
CC- GE -4.1 Introduction	<ul style="list-style-type: none"> Explain group mechanism and group psychology in a sports context
CC-GE -4.2 Learning	<ul style="list-style-type: none"> Students will develop practical, theoretical skill in physical education.
CC -GE -4.3 Psychological Factor	<ul style="list-style-type: none"> Reflect upon motivation psychology as applied to sports activities
CC -GE -4.4 Sociological Aspect	<ul style="list-style-type: none"> Demonstrate the ability to discuss sociological theories, concepts, and ideas in large and small group

COURSE OUTCOMES:(SEC -4.1)

Paper Names	Course Outcomes
CC- GE -4.1 Gymnastics	<ul style="list-style-type: none"> Explore to techniques of lossening the joint and summersault.
CC-GE -4.2 Yoga	<ul style="list-style-type: none"> Understand the various path of yoga and astanga yoga

ARTS

SUBJECT: PHYSICAL EDUCATION UNDERGRADUATE 2018-2019

PROGRAMME OUTCOME

PO1. Therapeutic aspects of physical activities:

- Understand the primary responsibility the sports trainer has in preventing sports injuries and providing initial care.
- Demonstrate the basics of sports first aid during and after game situation.
- Recognise and appropriately treat common sports injuries conditions from onset through rehabilitation.

PO2. Physical activities and lifestyle:

- Student will be aware modern concept of health and wellness.
- Understand about classification of disabilities.
- Point out diet for various competition and nutrition supplements for performance.

PO3. Officiating (Practical)

- Understand the rules of all the games and sports.
- Preparing the students for the competition.
- Students practice the new method of technique and training.

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