2.6.1. COURSE AND PROGRAMME OUTCOMES

DEPARTMENT OF BENGALI

Programme Outcomes

Program outcome

- Knowledge and understanding of basic Bengali literature
- Knowledge and understanding of Bengali grammar and linguistics.
- Knowledge and understanding of essential Bengali vocabulary.
- Knowledge and understanding of history of Bengali literature.
- Knowledge and understanding of basic idea of poetry short story essay drama and Nobel.

Course Outomes

Semester I

(B. A. Honours in Bengali] Bangla Sahityer Itihas (Prachin o Madhyajug)-BNGH-CC-1-1

1. To make students interested in Bengali Society, culture, literature and history of the Bengali people.
2. To create a sense of history and historical analysis about Literature among the students.
3. To make students aware about basic textual nuances of Medieval and Modern Bengali Literature.
4. To make students aware about the evolution of the history of Bengali Literature and Culture.
5. To give the idea of the inextricable interconnection between Literature and Culture.
6. To create a strong foundation of studying future course of literature
7. Studying History of Bengali Literature helps students to know about Religion, Society, Culture and development of the Bengali Literature use in the Prose, poetry, drama, short story and novel. Our vision is to see our won literature, manifestation of our nationality transformation of content, form and style of writing technique through ages and indication of future direction in literature.

Madhyajuger Kabya o Kabita-: BNG-H-CC-1-2

This course comprises of Vaishnava Padavali and Shakta Padavali and traces the transformation of society, culture and religious formations of Bengal in the medieval period of Bengal as depicted through these works of literature. This course will

1. help students acquire a sound foundation in the knowledge interested in Socio-economic and cultural history of medieval period of Bengal.
2. make students aware about Vaishnava and Shakta Religion and Philosophy and religious literature and social values of these times and Middle Bengali literature as such, in a socio-cultural perspective.

3. provides insights on how oral literacy documents though greatly inadequate give a sense of realization of a multi-layered hierarchy within a socio-cultural pyramid.
4. provides an understanding of the historiography and connection of the king's patronising authority and influence on a genre formation.
5. To give basic ideas about the Vaishnava Padavali & Shakta Padavali on Medieval Period to the students.
6. To make students aware about Vaishnava and Shakta Religion and Philosophy.
7. To give basic ideas about Religious Literature and Social values of this form of Literature.

Semester II (B. A. Honours in Bengali]
Bangla Sahityer Itihas(Aadhunik Yug)BNG-H-CC-2-3

Studying History of Bengali Literature helps students to know about Religion, Society, Culture and development of the Bengali Literature use in the Prose , poetry , drama , short story and novel . Our vision is to see our won literature, manifestation of our nationality transformation of content, form and style of writing technique through ages and indication of future direction in literature. Study of origin of Bengali language is the most important. Students will understand Bengali language in an historical context and they will learn how Bengali language origin from Indo-European or Aryan Family of Languages and changed over time and how it varies from situation to situation and place to place. Study of Origin of Bengali Language will also help in making the foundation of language stranger and will improve the practical and intellectual skills.

Bhasatatya o bhashabigyan: BNG-H-CC-2-4

1. Study of origin of Bengali language is the most important. Students will understand Bengali language in an historical context and they will learn how Bengali language origin from Indo-European or Aryan Family of Languages and changed over time and how it varies from situation to situation and place to place. Study of Origin of Bengali Language will also help in making the foundation of language stranger and will improve the practical and intellectual skills.
2. Student will be familiar with the aspect of the Bengali language-including sounds, words, sentences and meaning. Students will understand Bengali language in an historical context and they will learn how Bengali language changed over time and how it varies from situation to situation and place to place. Study of Linguistics will also help in making the foundation of language stranger and will improve the practical and intellectual skills.

(B. A. Honours in Bengali] Mangalkabya o Charit sahitya: BNG-H-CC-3-5

To make students interested in Socio- Economic and cultural history of medieval period of Bengal.

Chanda o Alamkar- BNG-H-CC-3-6

1. To make students aware about the importance of Rhetoric and Prosody while studying poetry.
2. To give practical lesions of Rhetoric and Prosody to students.
3. To prepare students about the ornamental use of language in constructing sentences while speaking and writing.
4. Introducing the foundation of Prosody along with the basic knowledge of Linguistics.

Unish shataker Kabi o kabya : BNG-H-CC-3-7

Bengali Poetry has been deeply influenced by the colonial modernism. Poets of this genre are Madhusudan Dutta, Rabindranath Tagore and Kazi Nazrul Islam to name a few. Post-colonial period has seen the emergence of poets in the modern, socialist and post-modern genre. In this course students get a comprehensive understanding about the poetry composed by the poets of such genres with a detailed knowledge of the twentieth century poetry, trends and intentions from Rabindranath to the later modern poets.

1. Reading of transformation of imagery and development of other aesthetic trends and novel notations from a colonial perspective of renaissance.
2. Understanding of semiotics in poetry through a post- colonial thread starting from the Modern poetry till late sixties.
3. Analytical observations of Drama, symbolist tendencies, the changing means of communication in satire, wit and contemporary individual voices of protest, theme and history of new experiments.

Bangla Byakaran: BNG-H-SEC-3-1

Student will be familiar with the aspect of the Bengali language-including sounds, words,sentences and meaning. Students will understand Bengali language in an historical context and they will learn how Bengali language changed over time and how it varies from situation to situation and place to place. Study of Linguistics will also help in making the foundation of language stranger and will improve the practical and intellectual skills.

Semester IV (B. A. Honours in Bengali]
Unish shataker Natak & Bish Shataker Natak: BNG-H-CC-4-8

Knowledge of different forms of drama, satire or theatre with its social background with special emphasis on contemporary political culture. Concept and impact of Proscenium theatre, folk opera, street theatre, farce and satirical dramas on women's education, practice of Sati, widow remarriage, the prevalent social traditions and customs and their imposition on the liberal individual.

Unish-Bish shataker Uponyas: BNG-H-CC-4-9

This Course deals with the Forms and features of contemporary novels,aiming at introducing the student to the analysis of a novel as a relatively long work of narrative fiction in prose and imparting a more mature understanding to the students about the challenging issues of the contemporary such as conflicts of interests between the society and the individual, the socio-cultural canopy of casteism, religious taboos, women's position in the Bengali household,environmental issues and people's struggle for socio-economic and political existence Uponyas. Introducing and analysis a novel is a relatively long work of narrative fiction in prose.

Honours Unish Bish shatakert Kabita: BNG-H-CC-4-10

1. Reading of transformation of imagery and development of other aesthetic trends and novel notations from a colonial perspective of renaissance.
1. Understanding of semiotics in poetry through a post- colonial thread starting from the Modern poetry till late sixties.

Semester V(B.A in Bengali)
Adhunik Bangla Uponyas: BNG-H-CC-5-11

This Course deals with the Forms and features of contemporary novels, aiming at introducing the student to the analysis of a novel as a relatively long work of narrative fiction in prose and imparting a more mature understanding to the students about the challenging issues of the contemporary such as conflicts of interests between the society and the individual, the socio-cultural canopy of casteism, religious taboos, women's position in the Bengali household, environmental issues and people's struggle for socio-economic and political existence.

Bangla choto golpo: BNG-H-CC-5-12

The Course introduces the student to

1. Story writing based on some plot; cinema and television script writing, dialogue writing, editing, screen play.
2. Correct pronunciation of Bengali words, rhyming and recitation 3. The inter-relation between cinema and literature.

Unish Shataker Prabandha: BNG-H-CC-5-1

This course will impart knowledge of the emergence and growth of the essay, arguments, discourses, subjective perspectives from mid-19th century and will provide a comprehensive knowledge of

1. linguistic and psychological tendencies of the 19th century, essays, categories of journalist views, reporting, personal essays, diary entries
2. the transitional phases during the World wars and other adversities which involves new experimentations in form and narratives on fascist tendencies and xenophobic attitude towards the colonised, cultural hegemony and diversity.

Tarashankar o Manik Bandyopadhyer chotogalpo: BNG-H-CC-5-2

The Course introduces the student to

1. Story writing based on some plot; cinema and television script writing, dialogue writing, editing, screen play
2. Correct pronunciation of Bengali words, rhyming and recitation
3. The inter-relation between cinema and literature

Semester VI (B. A. Honours in Bengali]
Sangskrita Hindi o Engreji Sahityer Itihas: BNG-H--CC-6-13

This course helps in learning about the evolution of literature in other Indian languages that have had a profound influence on the socio-cultural formations in India since early times and have also enriched Bengali language and literature. In this course students gain knowledge about a comprehensive knowledge of comparative analysis of the Sanskrit Literature, along with English literature and main cultural trends.

Sahityatattwa: BNG-H-CC-6-14

The course is an organised methodology for achieving a knowledge of how to interpret poems, concepts of Rhetoric and Prosody. It discusses verses and early songs, the history of the evolution of lyric poetry, ballads and experiments with different genres. The course

1. makes students aware about Indian idea of Rhetoric and Prosody, practical learning and importance of Rhetoric and Prosody while studying poetry.
2. gives them a thorough insight into the middle Bengali Language and literary culture, theories of rhetoric and prosody and analytical concept.
3. prepares students about the ornamental use of language in constructing sentences while speaking and writing, different intonations of speech.
4. introduces the foundation of Prosody along with the basic knowledge of Linguistics and the aesthetics of language while studying Prosody.
5. Enables the understanding of different opinions related to diction, syntax and language of a literary genre, history of construction of the literary theories in Poetics.

Patrasahitya o Atmajibani: BNG-H-CC-6-3

1. This is an enriching course which enhances students' knowledge of biographies, autobiographies and travelogues as separate creative formats which may help in many career opportunities.

Lokosangskriti O Lokosahitya: BNG-H-CC-6-4

This course imparts a good knowledge of folklore, folk culture and a general overview of contemporary folk culture and history that would help students secure a broader horizon of depth and understanding to qualify for various competitive exams in Law, multimedia, Civil Service and other disciplines.

Program in Bengali

Semester I
Bangla sahityer Itihas o Bangla Bhasar Itihas- BAPBNGC101

1. To make students interested in Bengali Society, culture, literature and history of the Bengali people.
2. To create a sense of history and historical analysis about Literature among the students.
3. To make students aware about basic textual nuances of Medieval and Modern Bengali Literature.
4. To make students aware about the evolution of the history of Bengali Literature and Culture.
5. To give the idea of the inextricable interconnection between Literature and Culture.
6. To create a strong foundation of studying future course of literature
7. 7. Studying History of Bengali Literature helps students to know about Religion, Society, Culture and development of the Bengali Literature use in the Prose , poetry , drama , short story and novel . Our vision is to see our won literature, manifestation of our nationality transformation of content, form and style of writing technique through ages and indication of future direction in literature. Study of origin of Bengali language is the most important. Students will understand Bengali language in an

historical context and they will learn how Bengali language origin from Indo-European or Aryan Family of Languages and changed over time and how it varies from situation to situation and place to place. Study of Origin of Bengali Language will also help in making the foundation of language stranger and will improve the practical and intellectual skills.

8. Student will be familiar with the aspect of the Bengali languageincluding sounds, words,sentences and meaning. Students will understand Bengali language in an historical context and they will learn how Bengali language changed over time and how it varies from situation to situation and place to place. Study of Linguistics will also help in making the foundation of language stranger and will improve the practical and intellectual skills.

Semester II
Chanda o Alamkar- BAPBNGC201

1. To make students aware about the importance of Rhetoric and Prosody while studying poetry.
2. To give practical lesions of Rhetoric and Prosody to students.
3. To prepare students about the ornamental use of language in constructing sentences while speaking and writing.
4. Introducing the foundation of Prosody along with the basic knowledge of Linguistics.
5. Introduce to the students about the aesthetics of language while studying Prosody.
6. To make students aware about Indian idea of Rhetoric and Prosody

Semester III
(B. A. Program in Bengali] Madhyajuger Padabali-: BAPBNGC301

This course comprises of Vaishnava Padavali and Shakta Padavali and traces the transformation of society, culture and religious formations of Bengal in the medieval period of Bengal as depicted through these works of literature. This course will

1. help students acquire a sound foundation in the knowledge interested in Socio-economic and cultural history of medieval period of Bengal.
2. make students aware about Vaishnava and Shakta Religion and Philosophy and religious literature and social values of these times and Middle Bengali literature as such, in a socio-cultural perspective.
3. provides insights on how oral literacy documents though greatly inadequate give a sense of realization of a multi-layered hierarchy within a socio-cultural pyramid.
4. provides an understanding of the historiography and connection of the king's patronising authority and influence on a genre formation.
5. To give basic ideas about the Vaishnava Padavali & Shakta Padavali on Medieval Period to the students.
6. To make students aware about Vaishnava and Shakta Religion and Philosophy.
7. To give basic ideas about Religious Literature and Social values of this form of Literature.

Semester IV
Rabindranather Kabita O Adhunik Bangla Kabita- BAPBNGC401

1. Reading of transformation of imagery and development of other aesthetic trends and novel notations from a colonial perspective of renaissance.

2. Understanding of semiotics in poetry through a post- colonial thread starting from the Modern poetry till late sixties.

Semester V
Chotogalpo Udbhav o kramabikash -BAPBNGDSE501

The Course introduces the student to

1. story writing based on some plot; cinema and television script writing, dialogue writing, editing, screen play
2. correct pronunciation of Bengali words, rhyming and recitation the interrelation between cinema and literature
3. linguistic and psychological tendencies of the 19th century, essays,categories of journalist views, reporting, personal essays, diary entries the transitional phases during the World wars and other adversities which
4. involves new experimentations in form and narratives on fascist tendencies and xenophobic attitude towards the colonised, cultural hegemony and diversity.

Semester VI
(B. A. Program in Bengali] Unish Bish shataker Natak Uponyas o chotogalpo-BAPBNGC601

Knowledge of different forms of drama, satire or theatre with its social background with special emphasis on contemporary political culture. Concept and impact of Proscenium theatre, folk opera, street theatre, farce and satirical dramas on women's education, practice of Sati, widow remarriage, the prevalent social traditions and customs and their imposition on the liberal individual.

DEPARTMENT OF ENGLISH

Programme specific outcomes

B.A English (Hons)	PSO 1: students learn both the artistry and utility of English language through an artistic /aesthetic study of language through texts and various historical and contemporary forms of culture. PSO 2: The programme provides students with space for enhancing critical thoughts around literary texts. Subsequently it will help the students to build their thoughts in an increasingly complex and interdependent world. PSO 3: This programme builds capabilities among the students to perform research, scrutiny and undertake analysis of texts/art work. It enables students to pursue criticism of literary and cultural texts from various genres in different historical and stylistic perspective. PSO 4: students develop intellectual flexibility which, in turn, improves creativity and helps in respective career professions inculcate a lifelong learning. PSO 5: the programme also makes the students aware about geographies and continent; their cultural and historical pasts. Students get familiar with literary portrayal of socio-cultural values, mythologies and their religious and mystical significance. PSO 6: This programme coordinates between knowledge and character building. Students encounter a plethora of characters be it type or radical. In depth analysis of the characters drawn from various socio-cultural locations enable students to facilitate themselves with strong character building and becoming a responsible citizen/human in the world. PSO 7: students are enabled to think in various ways and process. While dealing with a given problem or situation where different perspective such as social political economic cultural merge/juxtaposed together, students become strong enough to think confidently on real life issues/situations. PSO 8: The programme connects learner to popular narratives, popular media forms and content and develop interest in these areas. PSO 9: Students can connect themselves with trajectories of time: students read literatures from a vast range of time-space ranging from the ancient Greek to ancient Sanskrit texts to readings of modern contemporary authors from Africa, India, and the western world. Students understand the historiography of literary content. PSO 10: students pursuing this course are trained in developing their oratorial skills, organizational skills, interactive skills and argumentative skills through group discussion, debates, extempore. PSO 11: This programme also exposes students to innovative teaching practices (i.e., use of PPT, audio-visual tools) which a significant percentage of graduate students subsequently use in their own teaching pedagogy.

Course outcomes

Semester I

Course name	Learning outcomes	PSOs are attained by
CC 1: English Language: overview and usage; literary types:	**CO 1:** Students are introduced to the different phases of English language in its process of evolving into a literary language. Students are introduced to different literary forms like tragedy and comedy; its origin and functions and its aesthetic values. Students also learns the basic literary terminology and styles of composition in prose and verse. **CO 2:** students get to learn and understand the development of English language and literature. **CO 3:** students also learn how a language attains abilities in course of time due to several socio political relevance. **CO 4:** students encounter archaic words and its modern equivalents and understand the fluidity of language. Students learn different genres and understand the differences among them.	Students are trained in getting acquainted with the different periods of English language, different literary genres and literary devices through classroom lectures and discussions. Students are encouraged to read texts and passages and critical essays and develop their own ideas and arguments around English language and different literary genres and rhetoric and prosody. Students also learn and develop an understanding on the topics through continuous writing assignments and presentations.
CC 2: European Classical Literature	**CO 1:** students are introduced to ancient Greek literary traditions such as Epics and other texts. **CO 2:** Students get to learn and understand the fundamental acts of 'reading' poetic and dramatic texts from the Greek literary tradition. **CO 3:** students learn how to analyze a text or textual passages (poetry & drama) keeping in mind the historiography, mythology and cultural ethics associated	Students are getting familiarized with Indian classical literary forms and genres through classroom lectures and discussions. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around classical texts. Students also learns and develops deeper understanding through

	therein in the ancient Greek context. **CO 4:** students learn basic terms on literary aesthetics like imageries, similes, metaphors.	continuous writing assignments, presentations and question- answer sessions.

Course Outcomes

Semester II:

Course Name	Learning Outcomes	PSOs are attained by
CC 3: Indian Classical Literature and Indian writing in English	**CO 1:** students are introduced to ancient Indian literary traditions such as Epics and other texts. Indian writing in English introduces students to the role of English literary writings in resisting Colonialism and champion the cause of the colonized. **CO 2**: Students get to learn and understand the fundamental acts of 'reading' poetic and dramatic texts from the Indian domain. **CO 3**: students understand how to analyze a text or textual passages (poetry & prose) keeping in mind the historiography, mythology and cultural ethics associated therein in an Indian context. **CO 4**: students learn about various themes, socio political, cultural discourse and how Indian writings became a tool to dismantle colonial hegemony. They also learn some basic terms on literary aesthetics like imageries, similes, metaphors.	Students are familiarized with Indian classical literary forms and genres through classroom lectures and discussions. Students learn through adequate emphasis on history of Indian English literature. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around classical texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions.
CC 4: British Literature: Old English period to 14th century	**CO 1**: Students learn about the literary writings in the old English period and the development in the old and	Students are familiarized with the literary output through classroom lectures and discussions.

	middle English prose and poetry writing. **CO 2**: students understand the development in the prose and poetry writing in the old English and middle English period. **CO 3:** students learn about the social cultural discourse in the 14th and 15th century England.	Students learn through adequate emphasis on history of British English literature. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions.

Semester III:

Course outcomes:

Course name	Learning outcomes	PSOs are attained by
CC 5: American Literature	**CO 1:** Students are able to locate American Literature as a distinct literary site, different from the conventional British Literature and students read American poetry, novel and drama. **CO 2:** Students learn about the post- world war-I period where American prosperity and great depression occurred. Students learn about the struggle between blacks and white settlers.	Undertaking reading- based assignments on thematic topics. Interactive discussions in small groups are arranged to have a good understanding on the topic. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Film screening is done and test exam and presentations are done.
CC 6: British Poetry and Drama: 14th to 17th century	**CO 1:** Students get to know the historical art/ drama movements in Europe especially the Renaissance. Students learn how it	Undertaking reading-based assignments on thematic topics.

	dealt with superstitions of the Middle Ages and looked forward to an era of liberty in art, literature. **CO 2**: Students learn about progress in intellectual domain reading through plays and poetic compositions. **CO 3:** Students are encouraged to understand the themes imbedded the literary texts through multiple interpretations of texts. Texts like Macbeth and Edward the second connect students' learning with renaissance thoughts and liberal humanism.Authors like Spenser and Donne illuminates the students' understanding about love and life. **CO 4:** Students get to know the major literary forms like tragedy, comedy, sonnet and other poetic devices involved therein.	Interactive discussions in small groups are arranged to have a good understanding on the topic. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions.
CC 7: British Poetry and Drama:17th and 18th century	**CO 1**: This Core Course makes the students learn British Literature of the 17th century, the historical ruptures and intellectual debates of the time such as puritanism. **CO 2:** The course makes the students explore the issues on succession and individualism pertinent to Jacobean age. **CO 3:** Students develop their takes on the idea of the good/evil, virtue /vice and the Christian idea about 'Fall of Man' as found in "Paradise lost". **CO 4:** Students identify and recognize literary forms and areas like 'mock epic' and 'epic' poems.	Undertaking reading-based assignments on thematic topics. Interactive discussions in small groups are arranged to have a good understanding on the topic. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions.

Semester IV

Course outcomes:

Course name	Learning outcomes	PSOs are attained by
CC 8: British Literatures: 18th century	**CO 1:** Students get to know the popularity of drama as a mode of entertainment. The students get to understand the fashions and mindset of the contemporary British people through dramatic representation.	Undertaking reading-based assignments on thematic topics. Interactive discussions in small groups are arranged to have a good understanding on the

	CO 2: Students understand and develop their knowledge around the rise of the novel in English literature. **CO 3:** Students get to know the rise of political literature with 'Robinson Crusoe' and 'Gulliver's Travel'. **CO 4:** Students identify and recognize the literary form like satire and some of the constituent elements of romantic movements in the poems of Gray and Thomson.	topic. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions
CC 9: British Romantic Literature:	**CO 1:** Students get to know of the influences of the French Revolution in England. This course offers some lyrical poetry and nature poetry written by the Romantics who had strong belief in the idea of 'Liberty, Equality and Fraternity' **CO 2:** Students get to learn about romantic writers and their ideals through the poems and novels. Students can easily connect a poet with his literary texts through close reading. **CO 3:** The poems enable the students to understand musicality in poetry/art and the use of poetry for the common people. **CO 4:** This course makes the student think about the impact of nature on human mind.	Undertaking reading-based assignments on thematic topics. Interactive discussions in small groups are arranged to have a good understanding on the topic. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions
CC 10: British Literatures: 19th century	**CO 1:** A picture of 19th century England is shown to the students through reading of the domestic novel and Victorian poems. A reading and analysis of 'A Tale of Two Cities' allows students to have an understanding of the causes of French Revolution. **CO 2:** Students understands the optimism and the conflict between science and religion that get reflected in the poems of Browning and Tennyson. **CO 3:** Students learn about the issues of sexuality through the reading of Christina Rossetti's poem. Students learn and understand the social code of conduct, religion and Victorian attitude towards women through a reading and analysis of Charlotte Bronte's "Jane Eyre"	Undertaking reading-based assignments on thematic topics. Interactive discussions in small groups are arranged to have a good understanding on the topic. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions

Semester V

Course outcomes:

Course name	Learning Outcomes	PSOs are attained by
CC 11: Women's writing	**CO 1:** This course focuses on writings by women. Students learn women's writings as different texts highlights different issues like women's subjectivity, socio- psychological roles and duties and female agencies. **CO 2:** The short stories, poems, autobiographies and theoretical writings articulate women's struggle to define experiences and challenge patriarchal constructs.	Undertaking reading-based assignments on thematic topics. Interactive discussions in small groups are arranged to have a good understanding on the topic. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions
CC 12: British Literature : early 20th century	**CO 1:** Students learn about intellectual movements, art movements of the 20th century and the idea of modernism with its salient features. **CO 2:** Student learn Modernism as an intellectual movement with the literary productions. Students also learns about colonial experiences in texts. **CO 3:** students also get to know the developments in fiction writing and narrative techniques of the same. Students also understands the aspects of psychological novel. Students understands the Modernist poets and their writing style.	Undertaking reading-based assignments on thematic topics. Interactive discussions in small groups are arranged to have a good understanding on the topic. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions
DSE 1:Literary theory and criticism	**CO 1:** The students learn about the development of ideas in the 20th century and the material and discursive condition of intellectual production. Students can critically assess the merits of major upheavals in political, social and intellectual fields in the 20th century. **CO 2:** It enables students to understand the theoretical progress in gender articulations. Readings	Interactive group discussions, students critical thinking and writing on different aspects of theories and engaging students in exam questions. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions

	from feminist critics help students in forming critical perspectives on gender hierarchy and women's position and role in society. **CO 3:** Students also understands the postcolonial conditions. Students get to know the different techniques of colonialism and postcolonial assessment of colonial conditions and the theoretical development in postcolonial field of study.	
DSE 2: Literature of the Indian Diaspora	**CO 1:** This course introduces students to the study of diaspora literature and transnationalism. **CO 2:** Students learn and understand the consciousness of the authors' the cultural heritage and the deep attachment to their Indian origin and their thoughts about India.	Interactive group discussions, students critical thinking and writing on different aspects of diaspora literature and engaging students in exam questions. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions

Semester VI

Course outcomes:

CC 13: Modern European Drama	**CO 1:** This provides students with an overview if theatrical movements in Europe. The plays included focus on innovative performance trends that began at the end of 19th century and evolved into diverse forms in the 20th century. **CO 2:** Students learn and understand about the deep engagement of theatre with important socio political issues of Europe. **CO 3:** Students also observe shifts in the language and stylistic developments of drama as art and as performative literature.	Undertaking reading-based assignments on thematic topics. Interactive discussions in small groups are arranged to have a good understanding on the topic. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions
CC 14: Postcolonial literature	**CO 1:** Students read texts to understand the postcolonial	Interactive discussions in small groups are arranged to have a good

	paradigm with 'third world' subject positions. **CO 2:** Students practice critiques of 'third world'/ 'postcolonial' delineations of themes and characters together with the distinct use of language.	understanding on the topic. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions
DSE 3: Modern Indian writing in English Translation	**CO 1:** Students learn the vast diversity of modern Indian writings encompassing multiple regions **CO 2:** This also gives students an idea about translation studies. It helps to bridge the gap between vernacular language and English providing cross cultural references and link it with political and social movements.	Interactive discussions in small groups are arranged to have a good understanding on the topic. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions
DSE 4: Partition Literature	**CO 1:** Students learn the significance of partition and trace the trajectory of Partition in literary representations. **CO 2:** Students are enabled to appreciate the differences between cinematic and fictional representations. students understand the ideological contours of the representation of partition. **CO 3:** Students understand the trauma associated with partition and how creative writers find ways to bring out this dimension of the tragedy.	Interactive discussions in small groups are arranged to have a good understanding on the topic. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions

1ST SEM FYUGP ENGLISH MAJOR

MAJOR 1(ENGLMAJ101)Rhetoric, Prosody, Basic Linguistic Terms, and Literary Types	Learning outcome	Pos are attained by

	CO 1: Students are introduced to the different phases of English language in its process of evolving into a literary language. Students are introduced to different literary forms like tragedy and comedy; its origin and functions and its aesthetic values. Students also learns the basic literary terminology and styles of composition in prose and verse. **CO 2:** students get to learn and understand the development of English language and literature. **CO 3:** students also learn how a language attains abilities in course of time due to several socio political relevance. **CO 4:** students encounter archaic words and its modern equivalents and understand the fluidity of language. Students learn different genres and understand the differences among them.	Students are trained in getting acquainted with the different periods of English language, different literary genres and literary devices through classroom lectures and discussions. Students are encouraged to read texts and passages and critical essays and develop their own ideas and arguments around English language and different literary genres and rhetoric and prosody. Students also learn and develop an understanding on the topics through continuous writing assignments and presentations.
PAPER: MAJOR 2 (ENGLMAJ102) EUROPEAN CLASSICAL LITERATURE IN TRANSLATION	**CO 1:** students are introduced to ancient Greek literary traditions such as Epics and other texts. **CO 2:** Students get to learn and understand the fundamental acts of 'reading' poetic and dramatic texts from the Greek literary tradition. **CO 3:** students learn how to analyze a text or textual passages (poetry & drama) keeping in mind the historiography, mythology and cultural ethics associated therein in the ancient Greek context. **CO 4:** students learn basic terms on literary aesthetics like imageries, similes,	Students are getting familiarized with Indian classical literary forms and genres through classroom lectures and discussions. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around classical texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions.

	metaphors.	
3RD SEM FYUGP ENGLISH MAJOR		
MAJOR 3 (UENGMAJ23004)- Indian Classical Literature in Translation	**CO 1:** students are introduced to ancient Indian literary traditions such as Epics and other texts. Indian writing in English introduces students to the role of English literary writings in resisting Colonialism and champion the cause of the colonized. **CO 2**: Students get to learn and understand the fundamental acts of 'reading' poetic and dramatic texts from the Indian domain. **CO 3**: students understand how to analyze a text or textual passages (poetry & prose) keeping in mind the historiography, mythology and cultural ethics associated therein in an Indian context. **CO 4**: students learn about various themes, socio political, cultural discourse and how Indian writings became a tool to dismantle colonial hegemony. They also learn some basic terms on literary aesthetics like imageries, similes, metaphors.	Students are familiarized with Indian classical literary forms and genres through classroom lectures and discussions. Students learn through adequate emphasis on history of Indian English literature. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around classical texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions.
MAJOR 4 (UENGMAJ23004) From the Beginning to the 16th Century	**CO 1**: Students learn about the literary writings in the old English period and the development in the old and middle English prose and poetry writing. **CO 2**: students understand the development in the prose and poetry writing in the old English and middle English period. **CO 3:** students learn about the social cultural discourse in the 14th and 15th century England.	Students are familiarized with the literary output through classroom lectures and discussions. Students learn through adequate emphasis on history of British English literature. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Students also learns and

		develops deeper understanding through continuous writing assignments, presentations and question- answer sessions.
PAPER: MAJOR 4 (UENGMAJ23005) Elizabethan and Jacobean Poetry	**CO 1:** Students get to know the historical art/ drama movements in Europe especially the Renaissance. Students learn how it dealt with superstitions of the Middle Ages and looked forward to an era of liberty in art, literature. **CO 2**: Students learn about progress in intellectual domain reading through plays and poetic compositions. **CO 3:** Students are encouraged to understand the themes imbedded the literary texts through multiple interpretations of texts. Texts like Macbeth and Edward the second connect students' learning with renaissance thoughts and liberal humanism.Authors like Spenser and Donne illuminates the students' understanding about love and life. **CO 4:** Students get to know the major literary forms like tragedy, comedy, sonnet and other poetic devices involved therein.	Undertaking reading-based assignments on thematic topics. Interactive discussions in small groups are arranged to have a good understanding on the topic. Students are encouraged to read texts and associated critical essays and develop their ideas and arguments around the texts. Students also learns and develops deeper understanding through continuous writing assignments, presentations and question- answer sessions.

DEPARTMENT OF POLITICAL SCIENCE

PROGRAMME OUTCOMES

After successfully completing B.A. Political Science Programme Students will have

PO-1	In-depth knowledge of Indian Political system, Political thinkers, administrative system
PO-2	Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO-3	Skills of working collaboratively in teams and plan as well as manage their workload.
PO-4	Awareness of personal strengths and weaknesses. Will have self-reflection and discipline
PO-5	Elicit views of others, mediate disagreements and help reach conclusions in-group settings.
PO-6	Demonstrate empathetic social concern and equity centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO-7	Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.

PROGRAMME SPECIFIC OUTCOMES

After successfully completing B.A. Political Science Programme Students will have

PSO-1	Ability to discuss about Indian Constitution and Political process.
PSO-2	Ability to discuss Political thinking in western world.
PSO-3	Ability to describe Administrative Process and thinking in western thinking, as well as Indian context
PSO-4	Capacity to analyses Political Theory and its contemporary impact on civilization

COURSE OUTCOMES

After successfully completing this Course, Students will be able to

Semester-I		
Course Code	**Course Name**	**Course Outcomes**
Core-101	**UNDERSTANDING POLITICAL SCIENCE**	• Understanding the meaning and importance of Political Science. • Understanding the sub-disciplines of Political

		Science. • Understanding key concepts of political science. • Understanding theories of the State: Social Contract, Idealist, Liberal and Neo-liberal, Anarchist
Core-102	**Perspectives on Public Administration**	• Explaining the nature, scope of Public Administration; Politics • Discussing the personnel administration • Discussing Financial Administration, budgetary process in India • Critically examining Administrative Thinkers with focus on Henri Fayol, Max Weber •

Semester-II		
Course Code	**Course Name**	**Course Outcomes**
Core-203	**INDIAN GOVERNMENT AND POLITICS**	• Understanding the making of Indian constitution • Understanding the philosophy of Indian Constitution. • Understanding Fundamental Rights; Fundamental Duties, Directive Principles of State Policy • Understanding critically analyzing legislature, executive and judiciary system of India
Core-204	**Western Political Thought**	• Define Plato`s thinking, like Ideal State & Philosopher King • Interpret Aristotle`s thought on State, Property, Slavery • Describe Machiavelli`s views on Human Nature, Religion • Describe Karl Marks theorization on Historical Materialism

Semester-III		
Course Code	**Course Name**	**Course Outcomes**
Core-305	**COMPARATIVE POLITICS**	• Understanding Comparative Politics: development, nature and scope. • Explaining Major governing principles:

		Constitutionalism; Conventions; Rule of law; • Understanding and critically analyzing the political system of U.K. • Understanding and critically analyzing the political system of U.S.A. • Understanding and critically analyzing the political system of China • Understanding and critically analyzing the political system of Switzerland
Core-306	**Public Policy and Administration**	• Explaining the nature, scope of Public Policy • Understanding and critically analyzing Public Policy in India • Understanding and Critically analyzing Citizen and Administration interface • Explaining the nature, scope of Social Welfare Administration and Policies
Core-307	**Nationalism In India**	• Understanding the Approaches to the Study of Nationalism in India • Understanding Nationalist Politics and Expansion of its Social Base • Explaining the Women's Question: Participation in the National Movement and its Impact

Semester-IV		
Course Code	**Course Name**	**Course Outcomes**
Core-408	**INTRODUCTION TO INTERNATIONAL RELATIONS**	• Understanding Origin and growth of International Relations (IR) – meaning and scope of IR. • Explaining Basic concepts: National Power; National Interest; Balance of Power; Bipolarity • Explaining Major Theories of IR: Realist Theory • Understanding Collective Security: Meaning and Safeguards --Pacific Settlement of International Disputes
Core-409	**Political Sociology**	• Understanding Political Sociology: Nature and Development • Explaining Social stratification and politics: Class, Elite. Caste in India • Understanding Political culture: Types, Influence, Political socialization: Agencies • Explaining Political development, modernization

		and social change: Concepts and Theories
Core-410	**Political Theory: Concepts and Debates**	• Understanding Importance of Freedom, Negative Freedom: Liberty, Positive Freedom: Freedom as Emancipation and Development • Understanding Significance of Equality, Formal Equality: Equality of opportunity • Understanding Indispensability of Justice, Procedural Justice, Distributive Justice, Global Justice • Explaining the Universality of Rights, Natural Rights, Moral and Legal Rights, Three Generations of Rights

Semester-V		
Course Code	**Course Name**	**Course Outcomes**
Core-511	**Understanding Global Politics**	• Explaining evolution of the State System, the concept of Sovereignty • Explaining the Global Economy, Discussing the Bretton Woods Institutions and WTO , Ideological underpinnings , Transnational Economic Actors ,Identity and Culture • Explaining Global Inequalities: Violence: Conflict, War and Terrorism • Explaining Global Environment, Global Civil Society
Core-512	**Indian Political Thought**	• Understanding Ancient Indian Political Thought: Main Features– Contribution of Kautilya, Medieval Political Thought: Main Features. • Explaining Indian Awakening and birth of Modernity: Rammohun and Syed Ahmed Khan • Explaining Ideas of Nationalism: Bankimchandra, Tilak and Rabindranath • Understanding B. R. Ambedkar: on social justice.
Elective-501A	**Party System in India**	• Knowledge gained: About the ideology and the organization of political parties in India and changing party systems. • Skill gained: To study manifestos, organizations and campaign strategies of different political parties and changing part systems in India • Competency gained: To apply the knowledge in understanding and predicting the role of political parties
Elective-502B	**International Organisations**	• Knowledge gained: Understanding the contemporary relevance of the UN and its relationship with other

		IGOs • Skill gained: to contextualize recent international crises and their resolution. • Competency gained: Faculty to represent the country in diplomatic circles, armed with the proper knowledge of international organizations.

Semester-VI		
Course Code	**Course Name**	**Course Outcomes**
Core-613	**India's Foreign Policy in a Globalized World**	• Knowledge gained: About the bases of power and influences of major powers in global politics • Skill gained: Theoretical and practical insight into the foreign policy making of the major powers • Competency gained: To apply the knowledge to predict the trends and the foreign policy decisions of the major powers
Core-614	**Political Ideology**	• Knowledge gained: Of major modern ideologies and their core assumptions including major ideologues and ideological debates. • Skill gained: To critically engage, understand the contemporary ideologies. • Competency gained: To apply it to understand political realities
Elective-603A	**India and Her Neighbours**	• Understanding the relations of India with neighboring countries. • Evaluating India's relations with Pakistan, Bangladesh, Nepal and Sri Lanka
Elective-604A	**Grass Root Democracy in India**	• Knowledge gained: About rural local self-government and administration in India • Competency gained: To apply the knowledge to grass root level situations • Knowledge gained: About urban local self-government and administration in India • Competency gained: To apply the knowledge to grassroots level situations and design alternatives

DEPARTMENT OF ENVIRONMENTAL SCIENCE

VAC1-EE (Environmental Education)

Program Outcomes

Learning Outcome Based Curriculum Framework

The Undergraduate Value-Added Course (VAC1) seeks to prepare students to meet the demands of ecological citizenship by building a solid foundation on the vital connections between ecology, society, and economics.

Program Learning Outcome

The undergraduate students will be benefitted by the following attainments:

PO1: Program will help to promote environmental education/awareness among students/pupils regarding existing environmental burden

PO2: Program will delineate the solutions of environmental problems to achieve environmental sustainability by making “Pollution free Environment" and to live more sustainably

PO3: Provide students with the opportunity to develop a thorough grasp of the numerous facets of life forms, ecological processes, and how people have affected them throughout the Anthropocene epoch.

PO4: Helps to identify important environmental challenges, analyze their different underlying causes, assess their practices and policies, and provide a framework for making well-informed judgments.

PO5: Students become empathetic toward all life forms and recognize the myriad ecological connections that make up the interconnectedness of all life.

Course Outcomes

Learning Outcome Based Curriculum Framework

The Undergraduate Environmental Science Compulsory Course (AECC1) seeks to prepare students to meet the demands of ecological citizenship by building a solid foundation on the vital connections between ecology, society, and economics.

Course Learning Outcome

The course will provide undergraduate students more strength by enabling them to:

CO1: Acquire in-depth knowledge on concept of environment, environmental education & ecosystem as well as natural processes that support life and control the economy.

CO2: Understand about different types of environmental pollution and its effects, and their management processes through implementation of environmental laws and policies across the globe.

CO3: Making predictions about how human behaviour will affect the global economy, the quality of life for people, and the web of life.

CO4: Acquire sound knowledge on different natural resources, biological diversity, different ecosystem services and their conservation processes to safeguard them.

CO5: Fostering critical thinking skills to create scientific, social, economic, and legal strategies for biodiversity conservation, environmental preservation, social justice, and sustainable development.

CO6: Developing ideals and attitudes toward comprehending complicated environmental, and social concerns, active participation in resolving immediate environmental issues & averting upcoming ones.

CO7: Embracing sustainability as a way of life, in society, and in business for achieving circular bioeconomy.

Overall, Graduates will become ecologically aware, socially conscious, and equipped to safeguard the environment while promoting sustainable lifestyles and developmental models.

DEPARTMENT OF EDUCATION

Program Outcome

One of the Subjects of Bachelor of Arts is Education. Sukanta Mahavidyalaya also offers Honors and Program courses in Education. Topics covered in this subject like philosophical foundation of education, psychological foundation of education, sociological foundation of education, historical foundation of education, Educational Research, Value education, Lifelong learning, they help the students to gain practical and practical experience along with their Physical, Mental, Social, Emotional development. Also, this subject pave way for the students to move ahead in future life.

Course Outcome

BA HONOURS IN EDUCATION (FYUGP & CBCS)

Sl.No	COURSE CODE AND NAME	COURSE OUTCOME
1	**UEDCMAJ11001 (Theory): Foundations of Education**	After completion of the course the learners will be able to: Knowledge to be acquired: • Meaning of Education and its related aspects. • Relation between Education and Philosophy. • Relation between Education and Sociology. • Relation between Education and Psychology. • Relation between Education and Technology. Skills to be gained: • Application of Philosophical Principles in Education. • Application of Sociological Principles in Education. • Application of Psychological Principles in Education. • Application of Technology in Education. Competency to be Developed: • Applying the knowledge of Educational Philosophy in daily life. • Utilizing the principles of Educational Sociology for a better overview of social problems. • Incorporation of principles of Educational Psychology for dealing with classroom situations. • Implementation of ICT in Education.
2	**UEDCSEC 11001 (Theory and Non – Lab Based Practical) : SEC – Yoga Education**	After completion of this course the learners will be able to - Knowledge to be acquired: • Meaning of Yoga. • History of Yoga Education. • Importance of Yoga for Healthy Living. • Types of Yoga.

		Skills to be gained: • Understanding of importance of Yoga as a discipline. • Demonstration of Asanas. Competency to be Developed: • Performance of Asanas to ensure a healthy lifestyle. • Ability to meditate.
3	**UPOAMDC 11020 (Theory) : Distance Education**	After end of this course the learners will able to: Knowledge to be acquired: • Concept of Open and Distance Education. • Strategies of Distance Education. Skills to be gained: • Analyzing the need and importance of Distance Education. • Understanding the role of mass media in Distance Education. Competency to be Developed: • Ability to highlight the problems of Distance Education. • Ability to think of steps to improve the condition of Distance Education.
4	**UPOAMDC 11019 (Theory) : Great Indian Educators**	After completion of the course the learners will be able to: Knowledge to be acquired: • Philosophies of Great Indian Educators. • Contribution of Great Indian Educators towards formulation of aims of education, curriculum and method of teaching. Skills to be gained: • Analyze the importance of philosophies of Great Indian Educators. • Understand the contribution of Great Indian Educators. Competency to be developed: • Ability to implement the philosophies of Great Indian Educators in the present educational scenario. • Analysis of contribution of the Great Indian Educators.
5	**UEDCMIN10001 (Theory) : Philosophical Foundation of Education**	After completion of the course the learners will be able to: Knowledge to be acquired: • Concept of Educational Philosophy. • Information about factors of Education. • Contribution of Schools of Philosophy towards development of educational aims, curriculum, method of teaching. • Contribution of Educators. Skills to be gained: • Analyzing the aims of education. • Understanding of factors of education. • Understanding of the importance of schools of

		philosophy. • Understanding the philosophies of the educators. Competency to be Developed: • Inter-relating the factors of education. • Application of principles of schools of philosophy. • Comparing the philosophies of the thinkers.
6	**UEDCMAJ12002: Perspectives of Education**	After completion of this course the learners will be able to: • Familiar with the concept of Child Centric Education. • Aware of the importance of Co – curricular Activities. • Able to explain the different stages of Growth and Development. • Able to explain the concept of Teacher Education.
7	**UEDCSEC 12002: Lesson Planning**	After completion of the course the learners should be able to: • Explain the concept and types of lesson plan. • Understand the principles of preparing a lesson plan. • Analyze the need and types of Teaching – Learning Materials • Analyze teaching skills.
8	**UPOBMDC 12040: Education of Children with Special Needs**	After completion of the course the learners should be able to: • Differentiate between Disability, Handicap and Impairment. • Understand the importance of educational interventions. • • Devise strategies for improving condition of children with special needs.
9	**UPOBMDC 12041: Mental Health and Hygiene**	After completion of the course the learners should be able to: • Relate with the concept of Mental Health and Mental Hygiene. • Deal with stress and stressors. • • Inculcate good habits to preserve mental health.
10	**CC-5 EDU-H- DSC –T-5: Psychology of Instruction**	After completion of the course the learners will be able to: • Discuss the concept, factors, and principles of teaching. • Explain the Flander's Interactional analysis • Explain the characteristics of a good teacher. • Discuss the nature of classroom teaching, traditional teaching, and constructivist teaching. • Explain the concept and implications of Micro-teaching • Discuss different types of teaching methods
11	**CC-6 EDU-H- DSC -T-6: Educational Evaluation & Statistics**	After completion of the course the learners will be able to: • Discuss the concepts, scope and need of measurement and evaluation • Explain the relation between Evaluation & Measurement and scale of Measurement • Describe basic concept of Statistics • Organize and tabulate data

		• Explain different types of measuring scales and their uses in education • Describe different types of Tools and Techniques in the field of Education. • Elaborate the concept and methods of validity, reliability and norms and their importance in educational measurement. • Explain different type of Evaluation process.
12	**CC-7 EDU-H- DSC -T-7: History of Education in Colonial India**	After completion of this course the learners will be able to: • Discuss the development of education in Colonial India in historical perspectives. • Elaborate the contributions of Education Commission in post independent India. • Describe the Educational Policy in Colonial India. • Discuss Bengal Renaissance and its influence on Indian Education • Describe National Education Movement and its impacts on Education. • State different educational reform under colonial rule. • Explain the nature of basic education. • Discuss the impact of the colonial rule on the development of Indian Education
Skill Enhancement Courses (SEC)		
13	**1. EDU-H-SEC-T-1(A): Statistical Analysis**	After completion of the course the learners will be able to: • Explain the concept of central tendency, variability and their properties • Discuss the concept of Percentile and Percentile Rank and its application. • Describe the concept of co-relation and their application • Explain the concept of Parametric and Non-Parametric Test • Apply the knowledge and calculate different statistical values
14	**2. EDU-H-SEC-T-1(B):Computer Application**	After completion the course the learners will be able to: • Explain the beginning, basic editing, templates by using MS word • Work with Graph, Pictures. Tables by using MS word • Work with Desktop Publishing, Mail Merge by using MS word • Discuss about the Proofing, Printing, Publishing, Comparing, Merging and Protecting Documents by

		using MS word • Activate Power Point, uses of Themes and Layouts • Insert Text, WordArt, Graphics, Animations, sounds • Apply Edit, save, print and publish by using MS Power Point
15	**CC-8 EDU-H- DSC -T-8: Inclusive Education**	After completion the course the learners will be able to: • Discuss the Concept, nature, need of Inclusive Education. • Describe the theories of Inclusive Education. • Explain the development of competencies for Inclusive Education. • Discuss the practices of Inclusive Education • Describe the Infrastructural facilities for an ideal Inclusive School. • Discuss the Role of teacher in Inclusive Classroom setting
16	**CC-9 EDU-H-DSC-T-9: Educational Management and Administration**	After completion the course the learners will be able to: • Explain the Meaning, Nature, Scope, Function and Needs and types of Educational management. • Explain the meaning and function of Educational Administration. • Explain the meaning, purpose of supervision and distinguish between supervision and inspection. • Illustrate educational planning and types of educational planning. Discuss the functions of some selected administrative bodies.
17	**CC-10 EDU-H- DSC -T-10: History of Education in Post-Independence India**	After completion of the course the learners will be able to: • Describe the Preamble, various articles and act on education in Indian Constitution. • Explain the recommendations and educational importance of various Education • Commission in post Independent India • Discuss the functions of some educational bodies in West Bengal • Discuss the National Policy on Education in different time. • Describe the Human Rights Education in National and International Context

Skill Enhancement Courses (SEC)		
18	**3. EDU-H-SEC-T-2(A):Community Development**	• After completion the course the learners will be able to: To know the basic concept of community and its development • To understand community group dynamics • To understand the concept of equality, diversity, social justice within community • To know community development programme in India
19	**4. EDU-H-SEC-T-2(B): Lesson Planning**	After completion of the course the learners will be able to: • Discuss the meaning and characteristics of Lesson Plan • Explain the advantages of Lesson Plan • Classify different Lesson Plans • Explain the steps of constructing Lesson Plan • Discuss the principles of Lesson Plan • Develop Lesson Plan
20	**CC-11 EDU-H- DSC -T-11:Contemporary issues in Education**	After completion of the course the learners will be able to: • Explain constitutional provisions with special reference to RTE Act. DPEP, SSA-SSM of • Universalization of Elementary Education. • Describe the meaning, aims & objectives, significance of Universalization of Secondary • Education and Role of RMSA. • Explain the concept, role of Higher Education and Knowledge Commission and RUSA. • Discuss modern issues in Indian Education like- Peace Education, Sustainable development, • Inclusive Education, Open & Distance learning, Equality & Equity in Education, Women • Education. • Discuss Gender and its importance in educational and social context
21	**CC-12 EDU-H- DSC -T-12:Educational Technology**	After completion of the course the learners will be able to: • Discuss the concept, nature and scope of educational technology. • Explain the role of communication & multimedia approach in the field of Education. • Discuss the role Seminar, Panel Discussion. Team teaching in the field of education. • Describe the role of technology in modern teaching-

		learning process.
22	**CC-13EDU-H- DSC -T-13:Curriculum Studies**	After completion of the course the learners will be able to - • Illustrate the meaning, nature, scope, determinants and functions of Curriculum. • Discuss the types and bases of curriculum. • Explain the concept of curriculum framework and NCF-2005. • Discuss the basis of curriculum construction, evaluation and innovation. • Describe the definition and types of curriculum theories
23	**CC-14 EDU-H- DSC -T-14:Educational Research**	After completion of the course the learners will be able to: • Define and explain the meaning, and nature of research. • Define and explain the meaning and nature of Educational research. • Identify sources of data for Research. • Describe the types of Research. • Describe the meaning of Research problem, Review of Related Literature. • Explain the concept of Hypothesis, Variables, and Research data. • Analyze the Qualitative and Quantitative data. □ Acquaint with the process of collecting data.
24	**B. Discipline specific elective courses (DSE)** **EDU-H-DSE-T-1/2(A):Value Education**	After end of this course learner will able to- • Explain the meaning, nature, classify value and its reflection in Indian Constitution. • Discuss the meaning, objectives and need of value Education • Describe the role of value education through Curriculum, Co-curricular activities. • Explain the meaning, advantages and disadvantage of Storytelling, Play-way method • and Role plays
25	**EDU-H-DSE-T-1/2(B):Population Education**	After end of this course learner will able to- • Explain the meaning, concept, scope & objectives of Population Education. • Discuss the historical development of Population Education. • Describe the definition, factors, causes and prevention of population growth.

		• Explain the Population Education curriculum and policies.
26	**EDU-H-DSE-T-1/2(C):Distance Education**	After completing of the course the students will be able to- • Explain the meaning, characteristics, objectives, merits &demerits of distance & open • education. • Discuss the mode and strategies of distance education. • Describe the relationship among Non-formal, Correspondence, Distance and Open • Education. • Discuss the present status of distance and open education in India. • Explain the role of multi-media in Distance and Open Education. • Discuss the problems and remedies of distance and open education in India.
27	**EDU-H-DSE-T-1/2(D):Great Educator**	After end of this course learner will able to- • Discuss the philosophies of great thinker of the east and west • Explain the educational ideas of great thinker of the east and west • Explain some experiments on education of eastern and western philosophers and thinkers • Discuss the ideas of contemporary thinkers on education of eastern and western philosophers and thinkers
28	**EDU-H-DSE-T-3/4(A):Mental Hygiene**	After completion of the course the learner will be able to: • Discuss the concept, nature, aims and scope of Mental Hygiene • Discuss the concept, nature, symptoms and causes of mental illness Explain the different characteristics of mental disorder • Discuss the role of parents for preventing Mental health • Discuss the role of teachers for preventing Mental health
29	**EDU-H-DSE-T-3/4(B):Comparative Education**	After completion of the course the learners will be able to: • Discuss the meaning, nature, scope, importance, and methods of Comparative Education. • Explain the concept of Universalization of Elementary and Secondary Education in UK & USA.

		• Compare Indian Education system with USA Compare Indian Education system with UK
30	**EDU-H-DSE-T-3/4(C):Guidance & Counselling**	After completion of the course the learners will be able to: • Explain the concept, nature, scope, types & importance of Guidance. • Discuss the concept, nature, scope, types & importance of Counselling. • Discuss different tools and techniques used in Guidance & Counselling. • Identify the characteristics of diverse learner. • Explain the need of Guidance for diverse learner • Explain the need of counselling for diverse learner
31	**EDU-H-DSE-3/4(D):a. Educational Tour b. Project.**	After completion of the course the learners will be able to: • Apply the knowledge gained through different courses in practical field. • Solve problems related to his course of study. • Document, calculate, analyze and interpret data. • Deduce findings from different studies • Write and report in standard academic formats.
32	**C. Generic elective courses (GE):** **1. EDU-H-GE-T-1(A): Lifelong Learning and Education**	After completion of the course the learners will be able to: • Explain the concept, characteristics, aims, nature, scope and need of Life Long Education • Describe the different dimensions of Life Long Learning • Explain the different teaching methods of Life Long Learning • Explain the curriculum construction of Life Long Learning • Discuss the Historical background of Life Long Learning • Describe the different recommendations of different education commission on Life Long Learning.
33	**2. EDU-H-GE-T-1(B): Gender and Society in Educational Context**	• After completion of the course the learners will be able to: To understand the basic terms, concepts used in gender studies. • To understand the gender discrimination in construction and dissemination of knowledge. To develop an awareness and sensitivity.

34	**3. EDU-H-GE-T-2(A):Yoga Education**	After completion of the course the learners will be able to: • Explain the meaning, nature, aims and role of teacher of Yoga education • Discuss different types of Yoga • Express the guidelines of Yoga education • Discuss the significance of Yoga Education • Explain the historical background of Yoga Education • Discuss the relationship among Yoga, Sankhya Philosophy and Bhagwat Gita • □ Describe the need of Yoga for healthy life style
35	**4. EDU-H-GE-T-2(B):Human Rights Education**	After completion of the course the learners will be able to: • To know the basic concept of human rights • To know the role of United Nations and human rights • To understand enforcement mechanism in India • To know the role of advocacy groups

DEPARTMENT OF ECONOMICS

Paper code	Paper Name	Course Outcomes	Programme outcomes
DSC-101	Introductory Microeconomics	Recognizes the students about the demand and supply and its behaviour in different perspective. Enables the students about households' behaviour in various conditions. Provide the knowledge about firm's and producer's behaviour. Provide the knowledge about the cost's behaviour in different situations	1.Introduces the students to the fundamental methods of explaining the economic issues. 2. Makes the students to identify the basic problems of the economy. 3. By achieving the extensive knowledge regarding basic economics, the Indian economy as well as global economy, students will be ready for further higher study. 4. Students who gathered the knowledge regarding economics they will be capable to explain future path of economics and properly explain the new phenomenon of economic incidents. 5. Students who will complete the programme become confident in the sense that they will feel they are employable.
DSC-102	Mathematical Methods for Economics-I	Provides the basic knowledge regarding different mathematical tools which are useful to solve the economic problems.	
DSC-203	Introductory Macroeconomics	Provides the knowledge about fundamental theory of macro economics (like classical theory, Keynesian theory, invest theory, national income accounting, etc)	
DSC-204	Mathematical Methods for Economics-II	Provides the basic knowledge regarding different mathematical tools (such as Difference equations, Differential equations, Linear programming and Game theory) which are useful to solve the economic problems.	
DSC-305	Intermediate Microeconomics-I	Provides the knowledge about different market structures in different conditions with their mathematical applications. With this student will know about what is general equilibrium and welfare economics.	
DSC-306	Intermediate Macroeconomics-I	Introduces the students about the knowledge of money market and LM curve and Goods market and IS curve and its application in equilibrium in economy. To understand the concept of multiplier, effectiveness of monetary policy and fiscal policy in different context.	
DSC-307	Statistical Methods for Economics-I	Provides the knowledge about the different type of data, how to handle the different types of data with the various type of statistical tools	

DSC-408	Intermediate Microeconomics-II	Students will gather knowledge regarding the choice under uncertainty. What is market failure and how does it solve. Application of game theory in various economic situations.	
DSC-409	Intermediate Macroeconomics-II	1.This syllabus will provide vital knowledge regarding inflation, what is the relation between inflation unemployment, what is new classical economics and new Keynesian economics. It also helps to explore the knowledge about consumption behaviour and its related hypothesis and various growth theories.	
DSC-410	Statistics and Econometrics	It will help the students providing the knowledge regarding probability, random variables and its distribution, method of sampling. It will also help the gathering knowledge about bivariate and multiple linear regression and its applications in economics.	
DSC-511	Indian Economy	Enables the students to understand the structure and constraints of Indian economy, development of Indian economy since independence in different sectors like agriculture, industry as well as foreign trade. It will also help the students to understand the growth of Indian economy and its distributional effect on the people.	
DSC-512	Development Economics	This part will provide the basic knowledge regarding the development theories and their limitations. It will enable the students to know regarding the differences among the growth, development and sustainable development and its necessity in context of poverty alleviation, environment sustainability.	
DSC-613	International Economics	Enables the students about the knowledge of international economics. How to utilise trade model	

		examples to show the benefits of exchange brought about by trading with other countries. Recognize the impact of international factor mobility. Recognize the impact that tariffs and import quotas have on a country's foreign trade. Recognize the crucial role that various international institutions play in facilitating global trade. Recognize how various policies may impact a country's welfare and exchange rate. Knowing how various currency rate regimes, such as the gold standard, fixed exchange rates, and flexible exchange rates, operate Knowing how various international institutions operate in terms of the rate of currency and the flow of international	
DSC-614	Public Economics	How to use microeconomic principles in public policy Recognize the significance of the direct and indirect taxation systems for Recognize the idea of public spending and its significance for the Recognize the significance of the public budget for a	
DSE-701	Economics of Health and Education	Enables the students to know the importance of education and health to promote the human development as well as economic development of a country. What is the economics behind it and what will be the role of public and private institutions to promote the economic development eradicating poverty and inequality.	
DSE-702	Economic History of India (1857-1947)	This part will help to know the economic scenario under the British Rules. Enables the students what are the weakness and strongness of our economy in different sectors.	
DSE-707	Topics in International Economics	Identify key trade indicators of Balance of payment and understand the structure, disequilibrium and analyse the	

		growth and learn the efficacy of corrective measures. The students will be able to know the functioning of foreign exchange market, classification of rates of exchange and determination of foreign exchange rate and convertibility of Rupee. The students are able analyse the major concepts of Foreign Investment, Brain Drain and its effects on trade and growth. The students are able to identify the relationship between Regionalism, Multilateralism and trade specifically and growth, stability in real and nominal terms in general. The students will also be able to understand and list the impact of global trade and institutions that govern global trade.	
DSE-708	Dissertation/Project		

Generic Elective (GE) for Other Honours Programme Courses (Excluding Economics Honours) in Semesters I and II (or Semesters in III and IV)

Paper Code	Paper Name	Course Outcomes	Programme outcomes
GE-I	Indian Economy-I	Enables the students to know the economic structure of our country as well as problem related with it. It will help the students to know the national income,trend of national income and its trend since 1951. As well as population structures and trend.To study the significance of agriculture and land reforms in economic development and	1. Introduces the students to the fundamental issues of Indian economy. 2. .Makes the students to identify the basic problems of the economy. 3. By achieving the extensive knowledge regarding the Indian economy as well as global economy. 4. Students who will complete the programme become confident in the sense that they will feel

		problems related regarding promotional policy.	they are employable for the administrative jobs also.
GE-II	Indian Economy-II	Provides the knowledge about our industrial sector mainly small and cottage industry and its importance in Indian economy. It also deals regarding the labour conditions and role of trade unions. Provides the knowledge about economic planning and monetary policy and its limitations and role of foreign trade in economic development.	

Skill Enhancement Course (SEC)

Paper Code	Paper Name	Course Outcomes	Programme Outcomes
SEC-I	Basic Computer Applications	Enables skills and concepts for basic use of a computer. Understand to appropriate tool of MS office to prepare basic documents, charts, spreadsheets and presentations. Enables themselves to make power point presentations and its applications It will help themselves to use the software to analyze the economic problems.	1. Demonstrate basic understanding of computer hardware and software. 2. Apply skills and concepts for basic use of a computer. 3. Identify appropriate tool of MS office to prepare basic documents, charts, spreadsheets and presentations. 4. Create spreadsheets, charts and PP presentations. 5. Analyze data using charts and applications in economic problems.

SEC-II	Tourism Management	Provides the knowledge about tourism and its measurement. Enables the idea regarding our cultural heritages and its importance for socio-economic development of a country. It also helps the students to understand about the special interest tourism particularly in West Bengal and its trends.	1. If students complete the course competently then he or she will know the reality of tourism. 4. And they will be employable in this sector or they will start the tourism business.

Discipline Specific Core Course (DSC)

Paper Code	Paper Name	Course Outcomes	Programme Outcomes
DSC-I	Microeconomics	Explain the nature and structure of Economics. To identify and explain economic concepts and theoriesrelated to behavior of economic agents, markets, industry.	1. Introduces the students to the fundamental methods of explaining the economic issues. 2. Makes the students to identify the basic problems of the economy. 3. By achieving the extensive knowledge regarding the Indian economy as well as global economy. 4. Students who will complete the programme become confident in the sense that they will feel they are employable for the administrative jobs also.
DSC-II	Macroeconomics	Identify key macroeconomic indicators and measures of economic change, growth and development. The students are trained in understanding the distinction and functioning of macro economies and the macro economic issues. The students are able to	

		analyse the major concepts of GDP and its measurement. The students are able to identify and describe the relationship of GDP growth, stability in real and nominal terms. The students are able to understand monetary, fiscal, demographic indicators, variables and economic model building	
DSC-III	Development economics	This part will provide the basic knowledge regarding the development theories and their limitations. It will enable the students to know regarding the differences among the growth, development and sustainable development and its necessity in context of poverty alleviation, environment sustainability. To understand the several parameters of development ofthe nation.	
DSC-IV	Elementary Statistics	Provides the knowledge about the different type of data, how to handle the different types of data with the various type of statistical tools	
DSE-I	Indian Economy-I	Enables the students to know the economic structure of our country as well as problem related with it. It will help the students to know the national income, trend of national income and its trend since	

		1951. As well as population structures and trend. To study the significance ofagriculture and land reforms in economic development and problems related regarding promotional policy.	
DSE-II	Indian Economy-II	Provides the knowledge about our industrial sector mainly small and cottage industry and its importance in Indian economy. It also deals regarding the labour conditions and role of trade unions. Provides the knowledge about economic planning and monetary policy and its limitations and role of foreign trade in economic development.	

DEPARTMENT OF HISTORY

PROGRAMME OUTCOME

Programme Specific Outcome (PSO)

1. Three Year, Six Semester Honors Degree Programme (CBCS)
2. Four Year Honors with research Degree Programme and four year multidisciplinary Programme (NEP-2020, FYUGP)

Under NORTH BENGAL UNIVERSITY From the Academic Session 2018-19, CBCS was introduced by the ***NORTH BENGAL UNIVERSITY***, which is our affiliating university at present. The first batch of students under the newly introduced semester system is, therefore, supposed to complete graduation in the year 2022. It thus appears difficult to measure programme specific outcomes on definite terms. Besides, the University itself is yet to provide concrete Programme Specific outcomes to its affiliated Colleges. However, our esteemed teachers of the Department of History pondered over the current syllabus and tried to chalk out some specific outcomes of B.A. three year, six semesters Honors Degree Programme and Four Year Honors with research Degree Programme and four year multidisciplinary Programme **(NEP-2020, FYUGP)** of their own. Such expected Programme Specific Outcomes may be listed as follows:

Sound Knowledge of different Historical Periods: The CBCS and FYUGP papers in each semester are devoted to the study of particular Historical phases in the historical events along with the study of a few major works by some master Historians of that period. These not only help the students to understand a historical period better, but also reduce the load of study in the concerned area.

Knowledge of the Development of Historical perspective: While pursuing Honors course of studies in History it is mandatory that a student develops proper knowledge of the historical events. In this sphere also the present syllabus appears to be illuminating, as it provides the students with standard and up to date knowledge of historical events, impact, war and history, result. The students may acquire knowledge of the historical events of Ancient, Medieval, Modern and European history in new aspects.

Development of the Historical Perspectives: The current syllabus is well chosen to represent different events from different angles. They are not only meant to make the students familiar with the dominant events of different ages, but also to open out new perspectives, the student may acquire a knowledge of the changing nature of politics or kingdoms of the changing times.

Programme and course outcomes

The university develops the programme curriculum; however, the college authority and/or Faculty members established the following programme outcomes of each programme provided by the institution.

Programme Outcomes: B.A. Honours (CBCS) and FYUGP

- Students completing B.A. Hons from this college are supposed to have a reasoning skill that will help them to address problem-solving challenges that they would encounter in their further studies.
- Students are anticipated to become quite capable of communicating their grasp of the subject-related issues after completing the programme.
- Students who complete this course will be able to speak freely, evaluate academic presentations in any format, and discuss topics that promote cross-discussion.
- Project work and field studies give them the opportunity to learn independently and practice with academic concepts, students were taught in classroom.
- Students who complete this course seem to be able to connect what they have learned in classroom teaching to social and national issues.
- This college prepares learners to conduct basic research and hence motivates them to pursue cutting edge research once they pursue higher education.
- Students who successfully complete the curriculum, gain confidence in their ability to find work.
- The course instills stronger life values in pupils, enabling them to become good citizens.

Programme Outcome: Graduate Programme (BA) and FYUGP

- Students completing this curriculum from this college are supposed to have a reasoning skill that will help them to address problem-solving challenges that they would encounter in their further studies.
- It is envisaged that by the completing this course, students will have a good understanding of the evolution of concerned subject, including how it arose, evolved, and progressed despite several crises.
- Students are anticipated to become quite capable of communicating their grasp of the

Subject-related issues after completing the programme.

- Learners are required to improve their learning skills.
- As a result of this course, a student's interacting ability is enhanced, and he gets skilled enough to propose his creative ideas autonomously.
- This curriculum also encourages pupils to engage actively in many socio-cultural and economic pursuits that they may have learned about in classroom. This curriculum encourages learners to do comprehensive and organized study in a variety of areas of knowledge that have yet to be investigated. Knowledge of the domain's intellectual, moral, economic, safety, and societal challenges and obligations.
- Learners who complete this course are found to be employable.
- The most important result of the curriculum would be that students leave with stronger life priorities.

Honours Course

SERIAL	COURSES OFFERED	NAME OF THE PAPER	SEMESTER	CREDIT	COURSE OUTCOME
1	CC Paper-I	History of India-I (from earliest time to 300 AD)	I	6	Students will acquire knowledge regarding the primitive life and cultural status of the people of ancient India. They can gather knowledge about the society, culture, religion and political history of ancient India. They will also acquire the knowledge of changing socio-cultural scenarios of India.
2	CC Paper-II	Social formations and Cultural Patterns of the Ancient world	I	6	Students will acquire knowledge about the evolution of human society and transformation of ancient civilizations & also Students will learn the history of evolution of earth, people and society through this course.
3	GE-Paper-I	History of India from Earliest Times up to 1193 CE	I	6	In this long history lesson, students will learn in detail the history of India from the ancient period to the advent of Islam.
4	CC Paper-III	History of India-II (from 300AD to 750A.D)	II	6	From this paper students will know the history of ancient India and socio-economic and cultural history of ancient India.
5	CC Paper-IV	Social Formations And cultural Patterns of the Medieval World	II	6	The students will know the crossroads of medieval history, the rise of the Roman Empire, the social picture of the medieval world, the economy, the history of the arrival of Islam, etc.
6	GE Paper-II	History of India from 1193 to 1950 CE	II	6	Students will learn about the social economic and other aspects of the medieval history of India. Apart from this, the history of India's modern era, social reform movement, rise of nationalism, Gandhi's non-cooperation movement and the achievement of independence will be known in detail.
7	CC Paper-	History of India-	III	6	The students would also be enlightened. Also, the last phase of the history of ancient India and the emergence of feudalism will be known, besides the characteristics of the early medieval history and

	V	III(750-1206 A.D			urbanization, the history of trade and commerce will be known.
8	CC Paper-VI	Rise of the Modern West-I	III	6	A History of Europe from the Middle Ages to the Modern Era. Students will learn about the economic history of historical Renaissance and Medieval Europe
9	CC Paper-VII	History of India-IV (1206-1550)	III	6	Students will learn about the arrival of Islam in India and their system of governance. Social, political and economic conditions will be known as a result of the advent of Islam
10	CC Sec-Paper-I	Understanding Heritage or Archives & Museum	III	2	As we can learn about the country's traditions, continuity etc. from this course, on the other hand students can also learn about ongoing and permanent traditions. People can also be conscious in keeping the country's traditions and culture
11	GE Paper-III	History of India from Earliest Times up to 1193 CE	III	6	In this long history lesson, students will learn in detail the history of India from the ancient period to the advent of Islam.
12	CC Paper-VIII	Rise of the Modern West-II	IV	6	In this course, students will learn about the history of modern Europe as well as the history of mercantilism and the history of the American war of independence.
13	CC Paper-IX	History of India-V(1550-1605)	IV	6	The arrival of the Mughals is a very important event in the history of India. Through this course, students will learn about the arrival of Mughals in India, their political thought, history of governance and their cultural activities.
14	CC Paper-X	History of India-VI (1605-1750)	IV	6	Aurangzeb's reign is highly controversial in the history of the Mughal Empire. Historians have discussed much about his activities. The decline of the Mughal Empire began during his time. Moreover, the contribution of Mughal Empire will be known from this course
15	CC SEC Paper-II	Art Appreciation an introduction to Indian Art Or	IV	2	Through this course students can learn about Indian heritage and history as well as about the country's cultural heritage, arts etc. Moreover, we can gather historical material from the various temples and mosques built by Indian kings in

		Understanding Popular Culture.			**different times.**
16	**GE Paper-IV**	**History of India from Earliest Times up to 1193 CE**	**IV**	**6**	**Students will learn about the social economic and other aspects of the medieval history of India. Apart from this, the history of India's modern era, social reform movement, rise of nationalism, Gandhi's non-cooperation movement and the achievement of independence will be known in detail.**
17	**CC Paper-XI**	**History of Modern Europe-I (1789-1939)**	**V**	**6**	**Through this course we learn the history of the first bourgeois democratic revolution in the history of the world, which took place in France in 1789. The Declaration of the Rights of Man, the rise of Napoleon and the French Empire under Napoleon, the emergence of nationalism in Europe**
18	**CC Paper-XII**	**History of India-VII (1750-1857)**	**V**	**6**	**This course covers the social, political and economic history of 18th century India, the arrival of the English East India Company and their ideology & policy towards India.**
19	**CC-DSE Paper-I**	**History of Modern East Asia-I(1840-1949)**	**V**	**6**	**Through this course, students will learn about the past political, social and economic history of a traditional Asian country like China. As an Indian it is very important to know the history of China**
20	**CC-DSE Paper-II**	**History of Modern East Asia-II- Japan (1868-1945)**	**V**	**6**	**This lesson discusses the history of Japan, another powerful country in Asia. It is also important to know the history of Japan with China, so students can learn the history of Japan's development from this paper.**
21	**CC Paper-XIII**	**History of India-VIII (1857-1950)**	**VI**	**6**	**Through this course one will know the true character of British rule and history of exploitation in India. As a result of British rule, resentment arose among all sections of the people in the country, and peasant revolts broke out in various parts of India. Moreover, we can get to know the various aspects of Indian politics, the development of nationalism, etc. from here**
22	**CC Paper-XIV**	**History of Modern Europe-II (1780-**	**VI**	**6**	**In this course we find the details of the events that characterize the modern era. The arrival of Marxism and the revolution in Russia based on it, the arrival of capitalism in the post-feudal era, the**

		1939)			**development of imperialism, and the Great War are all known from now on.**
23	**CC-DSE-III**	**History of North Bengal-I**	**VI**	**6**	**In recent times the study of social science and regional history has occupied an important place. Based on that, the students will be able to gain special knowledge about the importance of the history of North Bengal**
24	**CC-DSE-IV**	**History of North Bengal-II**	**VI**	**6**	**British imperialism established its authority in North Bengal. Although we read the history of Bengal as a whole, the history of North Bengal has a special character and characteristic. This particular feature of history is discussed in detail in this lesson from which students will no doubt benefit.**

Programme Course

SERIAL	COURSES OFFERED	NAME OF THE PAPER	SEMESTER	CREDIT	FULL MARKS	COURSE OUTCOME
1	DSC-I PAPER-I	History of India from earliest times up to 300 CE	I	6	75	Students will acquire knowledge regarding the primitive life and cultural status of the people of ancient India. They can gather knowledge about the society, culture, religion and political history of ancient India. They will also acquire the knowledge of changing socio-cultural scenarios of India.
2	DSC-I PAPER-II	History of India from 300 to 1206 AD	II	6	75	From this paper students will know the history of ancient India and socio-economic and cultural history of ancient India.Also the period of arrival of Islam in India

						and its importance will be known
3	DSC-I PAPER-III	History of India from 1206-to 1707	III	6	75	Through this course students will learn the overall medieval history of India from the Early Middle Ages. A history of Mughal era in India will also tell about their multi-dimensional activities
4	SEC-I Paper-I	Understanding Heritage or Archives or Museum	III	2	50	As we can learn about the country's traditions, continuity etc. from this course, on the other hand students can also learn about ongoing and permanent traditions. People can also be conscious in keeping the country's traditions and culture
5	DSC-I Paper-IV	History of India C 1707 to 1950	IV	6	75	Through this course students will learn the overall medieval history of India from the Early Middle Ages. A history of the Mughal period in India will also tell about their multifaceted activities as well as about the rise of British power in India and their policies and activities in India.
6	SEC-I Paper-II	Art Appreciation an Introduction to Indian Art or Understanding Popular Culture	IV	2	50	Through this course students can learn about Indian heritage and history as well as about the country's cultural heritage, arts etc. Moreover, we can gather historical material from the various temples and mosques built by Indian kings in different times.
7	DSE-I Paper-I	Some Aspects of European History 1780 to 1945	V	6	75	This course provides a detailed account of the history of modern Europe and the causes and consequences of the two world wars

8	GE Paper-I	History of India from Prehistory to 1206 or History of India 1206 to 1757	V	6	75	From this course, the arrival of Islam to India as well as their governance and history will be known as well as the arrival of the British in India about the Battle of Palashi and its results.
9	SEC-2 Paper-I	Understanding Heritage or Archives and Museum	V	2	50	As we can learn about the country's traditions, continuity etc. from this course, on the other hand students can also learn about ongoing and permanent traditions. People can also be conscious in keeping the country's traditions and culture
10	DSE-I Paper-II	History of NorthBengal-II	VI	6	75	British imperialism established its authority in North Bengal. Although we read the history of Bengal as a whole, the history of North Bengal has a special character and characteristic. This particular feature of history is discussed in detail in this lesson from which students will no doubt benefit.
11	GE paper-II	History of India 1757 to 1964	VI	6	75	From this course students will learn about the arrival of the British Empire in India and their India policy. Learn about India's freedom struggle and independence, as well as the constitution of India after independence and the progress of the new India
12	SEC-2 Paper-II	Art Appreciation an Introduction to Indian Art or Understanding Popular Culture	VI	2	50	Through this course students can learn about Indian heritage and history as well as about the country's cultural heritage, arts etc. Moreover, we can gather historical material from the various temples and mosques built by Indian kings in different times.

DEPARTMENT OF PHILOSOPHY

Name of the Programme	Year of Introduction	Status of Implementation in CBCS/ FYUGP Curriculum (Yes/No)	Program outcome	Course outcome
B.A in Philosophy	2023 - 2024	Yes	**Philosophy Honours (CBCS) :** **1.** Lays the groundwork for a solid understanding of the basics of philosophy. **2.** Offers insight into Indian philosophy, western ethical, logical and western philosophy history. **3.** Promotes the study of psychology, philosophy of religion, and social-political philosophy. **4.** Fundamental understanding through classic texts, including the Tarkasamgraha, Gita and Russell's The Problems of Philosophy- **5.** Introduces new themes of feminism, aesthetics and modern Indian philosophy. **6.** Increases analytical thinking and reasoning skills by critically studying texts, including Hume's Enquiry and Shaffer's Philosophy of Mind. **7.** Bringing students to reflective and reasoned engagement with diverse philosophical issues. **8.** Cultivates the intellect and	**Philosophy Honours (CBCS):** **CC-1:** **Indian Philosophy** **1.** The definition of Indian philosophy is provided in this paper, assisting in the understanding of its numerous schools in the future. **2.** It addresses the various branches of Indian philosophy such as Carvaka, Jaina and Buddha and their contributions in the theory of life, knowledge, and morality. **3.** The paper also discusses the philosophical systems of Nyaya, Advaita and Ramanuja positioning the reader in the realms of logic, basic oneness and god-centerdness in Indian philosophy **CC-2:** **Western Logic 1** **1.** Students get concepts beginning from reasoning, with concentration on both Aristotelian logic and the logic of compound propositions attending to the basics of proving. **2.** Key techniques that students

			prepares students for challenging social, political and practical philosophy. **Program Course (CBCS):** **1.** It creates awareness of one's own traditions of thought and cultural inheritance. **2.** It also helps develop logical thinking skills. **3.** Prompts deep thinking on ethics, spirituality and existential issues **4.** It encourages self-introspection and self-understanding. **5.** It helps in critical analyzing and evaluating different perspectives. **6.** Bolsters intellectual interaction with life's larger meaning and difficulties. **7.** Aiding students in creating an informed, independent worldview **8.** Encourages you to explore how the world works and where you fit into that equation. Philosophy Major (FYUGP) : **1.** Provides in-depth insight into key areas of philosophy. **2.** Indian Philosophy including Vedanta, Buddhism, reality, self, and liberation.	learn include proving validity, formal proofs, Reverse Proof, or Reductio Ad Absurdum and Proof by means of simple enumeration, all which aid in problem solving for them. **3.** The program also presents argument by analogy and the criticism of analogical arguments, thereby sharpening students' skills in analysis and creation of logical arguments. **CC-3** **Western Philosophy I** **1.** This paper describes the assertions of the first Greek philosophers, such as Socrates, Plato, and Aristotle with emphasis on their ideas about knowledge, ethics and reality. **2.** Students learn how Socratic dialog, Platonic forms, and Aristotelian logic affected the evolution of Western philosophy. **3.** The paper shows how those philosophers greatly affected the development of modern philosophy, as well as ethics and comprehension of the world. **CC-4: Ethics** **1.** The paper gives students a good starting point about Western ethics by examining some of the most important moral theories and moral system ethics of the

			3. The other is Western Ethics and Logic continuing the previous course with moral philosophers such as Plato and Aristotle. **4.** Explores the History of Western Philosophy, from Plato to Nietzsche. **5.** Explores concepts of faith, belief and reason, drawing from Philosophy of Religion **6.** Social and Political Philosophy have been studied, discussing questions of justice, rights, and political authority. **7.** Learns Behavioral Science of human and consciousness. **8.** Set Theory, Pre-Socratic Philosophy, Plato's works, Aristotle's works and many classical works of philosophy, interacting with themes of feminism, aesthetics, yoga and health to further advance critical thinking and a holistic personal development. **BA Minor in Philosophy:** **1.** Strengthen the critical thinking necessary to analyze complex ideas and arguments. **2.** Learn about the philosophical traditions of India and the West. **3.** Use critical thinking to assess and make arguments. **4.** Use philosophical frameworks to contemplate ethical and moral	West. **2.** Students are made acquainted to Indian ethics as well, specifically relating to Dharma, Karma and other moral teachings contained in the Bhagavad Gita, Upanishads and such. **3.** This course evaluates and contrasts both Western ethics and Indian ethics with regard to the notions of work, obligations and ethical living. **CC-5:** **Indian Philosophy II** **1.** This paper explains to students Vaisesika Philosophy in detail – the atomistic worldview and the nature of reality. **2.** Students investigate Samkhya and Yoga philosophies and how these two philosophies are dualistic and provide a way for one to attain liberation through the self-discipline of the mind and through meditation. **3.** The course also explains the philosophy of Mimamsa, as well as the principles of Advaita and Visistadvaita, which offer an opportunity to have a different interpretation of metaphysics, epistemology and the Absolute. **CC-6:**

			dilemmas. **5.** No 1: Compare Indian and Western philosophies to understand global relevance. **6.** Use philosophy to offer new perspectives on modern social, cultural, and personal dilemmas. **7.** Guide students in self-reflection and encourage enduring interest in philosophy. **8.** Combine philosophy with other individual disciplines to work on problem solving at a systematic level.	**Western Philosophy II** **1.** This paper introduces students to the philosophies of Locke, Berkeley, Hume, and Kant and discusses how these philosophers developed theories of knowledge that have shaped the current understandings of epistemology and metaphysics. **2.** The student covers the theory of knowledge by Locke, idealism by Berkeley, empiricism by Hume, and the synthesis of reason to experience by Kant. **3.** These thinkers will be placed in the context of a general history of philosophy to explain how their ideas contribute to the development of thought within the West. **CC-7:** **Western Logic II** **1.** This paper explains the concepts of predicate logic to the students, such as Shaffer's stroke function and CNF/DNF in a logical expression. **2.** Students learn the Truth-tree method for testing the validity of logical arguments and Mill's Method for finding causal relationships in scientific reasoning. **3.** It also covers concepts on the theories of science and hypothesis testing, a notion of probability that enables students to apply

				logical reasoning in scientific inquiry and real-life situations. **Skill Enhancement Course (SEC: Paper 1):** **Basics of Counselling:** **1.** The course introduces students to the counseling techniques that deal with mental health, academic health, and the importance of emotional well-being. **2.** It deals with the dynamics of relationships between patients and physicians, helping students to understand that effective communication and empathy are really the bedrock on which improved healthcare outcomes are built. **3.** This course shall therefore make the students aware of critical issues in personal development, professional growthh, and support of others in the area of wellness, which may include topics that are related to mental and/or academic health. **CC-8: Psychology** **1.** The course will introduce the basics of psychology to the students, enabling them to comprehend the fundamental principles of human behavior and mental processes. **2.** Students gain helpful knowledge in the working of the

				mind, including perception, cognition, emotion, and behavior. **3.** The course provides an insider's view of our mental world, furthering one's realization of how psychological factors affect the way we think, act, and interact. **CC-9:** **Philosophy of Religion** **1.**The course has placed sufficient emphasis on religion in life and helped students gain an understanding or explore the same in terms of its significance logically. **2.** It helps students to think of religious concepts in a critical and logical manner, which helps them delve deeper into belief systems. **3.** By applying logical reasoning to religious ideas, the course will enable students to analyze and understand religion in a more systematic and reflective way. **CC-10:** **Social and political philosophy** **1.** This course introduces students to basic social and political concepts, emphasizing their relations to everyday life and the operations of society. **2.** It covers both Indian and Western perspectives on society and politics, providing a

				comprehensive view of how different cultures approach these subjects. **3.** It is in these that students acquire a deeper understanding of social structures, political systems, and their consequences for individual and collective well-being. **Skill Enhancement Course (SEC: Paper II):** **Critical Thinking** **1.** The course is designed to develop the student's powers of philosophical thought, urging them to think critically about complicated ideas and concepts. **2.** It enhances logical reasoning in students by enabling them to build and assess arguments in a more appropriate manner. **3.** This course equips the student with skillful ways of approaching a problem and reasoning it out through philosophy combined with logic; these are important skills useful in a number of fields. The course would thus contribute toward intellectual development and problem-solving ability. **CC-11:** **Tarkasamgraha with Dipika** **1.** The text introduces Indian Epistemology, the study of how knowledge is acquired and

				understood in Indian philosophical traditions. **2.** It is a summary of all major ideas of Indian logic, such as reasoning, argumentation, and ways of knowledge and truth treatment. **3.** The Indian Epistemology and Logic study aids students in gaining insight into the peculiar approach towards knowledge adopted by the Indian way of thought and philosophy. **CC-12: Analytic Philosophy I:** ***Text: John Hospers: An Introduction to Philosophical Analysis*.** **1.** Understand the important aspects of word meaning, definition and vagueness in order to be more articulate in philosophical analysis. **2.** Analyze the nature and source of knowledge including the criteria for what constitutes knowledge. **3.** explore the relationship between empirical knowledge, testability and meaning in philosophical enquiry. **CC-13:** **Analytic Philosophy** **1.** Learns about the basic problems of Philosophy

				2. Gains the logical thinking ability **3.** Build up the ability to identify the problems in philosophy. **CC-14: Applied Ethics** **1.** Learning ethical values **2.** Learning to apply ethics in practical life. **3.** Learning why environment is important in the ethical point of view **Discipline Specific Course I (DSE-I):** **An Enquiry Concerning Human Understanding:** **1.** The text introduces Hume's view of human cognition, focused on experience and the limitation of knowledge. **2.** Students examine Hume's skepticism regarding causality and the role of custom in belief formation. **3.** It provides a look into empirical philosophy, its relation to modern-day epistemology, and its relation to science. ***Or*** **Gita:** **1.** The Bhagavad Gita teaches about duty known as Dharma, self-realization, and what the self is.

				2. Concepts of karma, devotion, and the path to spiritual liberation are taught to students. **3.**It is in the Gita that valuable lessons in ethical living, reality, and how one can be able to have a balanced life are learned. **<u>Discipline Specific Course II: (DSE-2)</u>** **<u>Text:</u>** ***Philosophy of Mind by Jerome Shaffer***. **1.** The text discusses some key concepts of the philosophy of mind, those which involve consciousness, mental states, and the mind-body problem. **2.** They learn about such theories of the mind as dualism and materialism. **3.** It provides insight into how the mind interacts with the body and into the nature of personal identity. Problems of Philosophy by Bertrand Russell: ***<u>Or</u>*** **<u>Text:</u>** ***The Problems of Philosophy by Bertrand Russell*** : **1.** This text introduces the student to a sequence of basic philosophical questions and problems involving knowledge, reality, and perception. **2.** Students explore some of Russell's views on empiricism, skepticism, and human

				knowledge. **3.** It enables students to work on fundamental issues in philosophy, creating the groundwork for future philosophical activity. **DSE-3 :** **Feminist Philosophy :** **1.** Explores how gender shapes knowledge, ethics, and justice. **2.** Examines feminist critiques of traditional philosophy, promoting equality. **3.** Focuses on the reflections around issues like gender identity, oppression, and placing women's roles within the circle of philosophy. ***Or*** **Phenomenology and Existentialism:** **1.** Introduces phenomenology, the study of experience and consciousness. **2.** Includes existentialism, freedom, responsibility, and the meaning of life. **3.** It nurtures reflections about human existence and personal meaning. **DSE-4:** **Contemporary Indian**

				Philosophy : **1.** Focuses on modern Indian philosophical thought and its response to Western ideas. **2.** Covers key figures and movements such as neo-Vedanta and thinkers like Tagore and Aurobindo. **3.** It is concerned with how contemporary Indian philosophy deals with identity-related, spiritual, and social issues. ***Or*** **Aesthetics :** **1.** The study of the philosophy of art, beauty, and taste, and what thing is aesthetically of value. **2.** Key concepts include the focus on aesthetic experience, judgment, and expression. **3.** Analyzes the role of art and beauty in human life and culture. **Generic Elective Course** **for** **Semester I/III** **GE I** **Fundamentals of Indian Philosophy** **1.** The definition of Indian philosophy is provided in this paper, assisting in the

				understanding of its numerous schools in the future. **2.** It addresses the various branches of Indian philosophy such as Carvaka, Jaina and Buddha and their contributions in the theory of life, knowledge, and morality. **3.** The paper also discusses the philosophical systems of Nyaya, Advaita and Ramanuja positioning the reader in the realms of logic, basic oneness and god-centerdness in Indian philosophy **Generic Elective Course for II/IV** **GE 2** **Western Logic.** **1.** Students get concepts beginning from reasoning, with concentration on both Aristotelian logic and the logic of compound propositions attending to the basics of proving. **2.** Key techniques that students learn include proving validity, Venn Diagram, Syllogistic Rules, Truth table, etc., all which aid in problem solving for them. **3.** The program also presents argument by analogy and the criticism of analogical arguments, thereby sharpening students' skills in analysis and creation of logical arguments.

				Program Course : **Discipline Specific course (DSC)** **Paper I: Fundament6als of Indian Philosophy** **1.** The definition of Indian philosophy is provided in this paper, assisting in the understanding of its numerous schools in the future. **2.** It addresses the various branches of Indian philosophy such as Carvaka, Jaina and Buddha and their contributions in the theory of life, knowledge, and morality. **3.** The paper also discusses the philosophical systems of Nyaya, Advaita and Ramanuja positioning the reader in the realms of logic, basic oneness and god-centerdness in Indian philosophy **Paper 2: Western Logic** **1.** Students get concepts beginning from reasoning, with concentration on both Aristotelian logic and the logic of compound propositions attending to the basics of proving. **2.** Key techniques that students learn include proving validity, Venn Diagram, Syllogistic Rules, Truth table, etc., all which aid in problem solving for them.

				3. The program also presents argument by analogy and the criticism of analogical arguments, thereby sharpening students' skills in analysis and creation of logical arguments. **Paper III: Western Epistemology and Metaphysics :** **1.** Students explore theories on the origins of knowledge, including empiricism and rationalism. **2.** Realism, idealism, causality are some of the concepts that the course will cover. **3.** Students discuss the mind-body problem, the relation between mental and physical states. **PaperIV: Western Ethics** **1.** An introduction to the basic concepts and theories of Western ethics. **2.** Explores key moral philosophies and ethical frameworks. **3.** Helps students to gain an overview of various methods of moral reasoning. **SEC, Paper-1 Basics of Counselling :** **1.** The course introduces students to the counseling techniques that deal with mental health, academic health, and the importance of

				emotional well-being. **2.** It deals with the dynamics of relationships between patients and physicians, helping students to understand that effective communication and empathy are really the bedrock on which improved healthcare outcomes are built. **3.** This course shall therefore make the students aware of critical issues in personal development, professional growthh, and support of others in the area of wellness, which may include topics that are related to mental and/or academic health. **SEC Paper-2: Critical Thinking:** **1.** The course is designed to develop the student's powers of philosophical thought, urging them to think critically about complicated ideas and concepts. **2.** It enhances logical reasoning in students by enabling them to build and assess arguments in a more appropriate manner. **3.** This course equips the student with skillful ways of approaching a problem and reasoning it out through philosophy combined with logic; these are important skills useful in a number of fields. The course would thus contribute toward intellectual development and problem-solving ability. **DSE Paper 1:**

				Psychology : **1.** The course will introduce the basics of psychology to the students, enabling them to comprehend the fundamental principles of human behavior and mental processes. **2.** Students gain helpful knowledge in the working of the mind, including perception, cognition, emotion, and behavior. **3.** The course provides an insider's view of our mental world, furthering one's realization of how psychological factors affect the way we think, act, and interact. ***or*** **Philosophy of Religion :** **1.**The course has placed sufficient emphasis on religion in life and helped students gain an understanding or explore the same in terms of its significance logically. **2.** It helps students to think of religious concepts in a critical and logical manner, which helps them delve deeper into belief systems. **3.** By applying logical reasoning to religious ideas, the course will enable students to analyze and understand religion in a more systematic and reflective way. **DSE Paper 2:** **Socio- political philosophy :**

				1. This course introduces students to basic social and political concepts, emphasizing their relations to everyday life and the operations of society. **2.** It covers both Indian and Western perspectives on society and politics, providing a comprehensive view of how different cultures approach these subjects. **3.** It is in these that students acquire a deeper understanding of social structures, political consequences for individual and collective well-being or ***Or*** **Practical ethics:** **1.** Learns ethical values **2.** Learns to apply ethics in practical life. **3.** Learns why environment is important in the ethical point of view **GE Paper 1: Fundamentals of Indian Philosophy:** **1.** The definition of Indian philosophy is provided in this paper, assisting in the understanding of its numerous schools in the future. **2.** It addresses the various branches of Indian philosophy such as Carvaka, Jaina and Buddha

				and their contributions in the theory of life, knowledge, and morality. **3.** The paper also discusses the philosophical systems of Nyaya, Advaita and Ramanuja positioning the reader in the realms of logic, basic oneness and god-centerdness in Indian philosophy **GE Paper 2 : Western Logic :** **1.** Students get concepts beginning from reasoning, with concentration on both Aristotelian logic and the logic of compound propositions attending to the basics of proving. **2.** Key techniques that students learn include proving validity, Venn Diagram, Syllogistic Rules, Truth table, etc., all which aid in problem solving for them. **3.** The program also presents argument by analogy and the criticism of analogical arguments, thereby sharpening students' skills in analysis and creation of logical arguments. **FYUGP :** **Major I:** **Indian Philosophy – I** **1.** Graphs the self, duty, and spiritual growth. **2.** Lessons From Ancient India On

				Ethical Living And Self-Development. **3.** Get a better sense of how Indian philosophy is useful for us today. **Major II:** **Western Philosophy – I** **1.** This paper describes the assertions of the first Greek philosophers, such as Socrates, Plato, and Aristotle with emphasis on their ideas about knowledge, ethics and reality. **2.** Students learn how Socratic dialog, Platonic forms, and Aristotelian logic affected the evolution of Western philosophy. **3.** The paper shows how those philosophers greatly affected the development of modern philosophy, as well as ethics and comprehension of the world. **SEC 1:** **Yoga and Health** **1.** Understand the philosophy and practice of yoga to enable physical health and well-being. **2.** Learn yoga tips for clarity of mind and concentration. **3.** Reduce stress and transcends through postures and breathing practices

				SEC 2: **Reasoning and Logical Thinking** **1.** Students learn critical thinking ability.

				2. Students improve problem solving techniques. **3.** Students understand the basic logical concept by Set theory, which can be applied in practical life as well. **Minor 1:** **Western Logic** **1.** Get a basic idea of logical reasoning and argument analysis. **2.** Create skills for recognizing logical fallacies in reasoning. **3.** Improve critical thinking to make better decisions and solve problems more effectively.

DEPARTMENT OF SOCIOLOGY

Department of Sociology PO-CO: 2023-24				
Name of the Program	**Year of Publication**	**Status of Implementation in CBCS Curriculum (Yes/No)**	**Program Outcome**	**Course Outcome**
Sociology Program CBCS & FYUGP (1st, 2nd 3rd,4th, 5th &6th)	**2018-19 (CBCS) 2023-2024 (FYUGP)**	**Yes**	This CBCS Program will help you to understand the society at large, institutions, social ethics, values, norms, social cohesion, and social interaction, agencies of social control and changes. This course also gives focus on structural and functional changes with social development. It also denotes the Dalit and Women movement in Indian society. This program gives light on gender and violence in workplace and within the family, policies to fight against it and demographic transition, population policy. Sociology program course part-II and part-III highlighted the concept of marriage, family, kinship, and unilineal descent. This program also denotes the society and culture in India highlighting the unity in diversity, British rule in India, and mode of production with	**Paper-GE-01a.: Gender & Violence** To familiarize students with the nature of structured gendered violence, situated violence and harassment in the workplace, and sexual and domestic violence within the family sometimes by intimate partners or outside personnel. This will also be addressing violence and policies to fight against it. **Paper- GE-02 b. Population and Society** To make the students understand about the demographic transition, population growth, fertility, mortality, fecundity, Malthusian and post-Malthusian and Marxist Theory. To acknowledge the policies of population control. **Paper -DSC-1- Introduction to Sociology** The readers will get knowledge about the origin and development of

			changing aspects. Issues of Inequality, problems of Nation Building: Secularism, Pluralism, and communal violence also have been highlighted within this program. The subject matter also highlights social research method, tools and techniques of data collection, and method of data analysis in qualitative and quantitative research.	sociology as a discipline, the difference between sociology with other sciences, and relevant sociological concepts like social status, groups, social roles, norms, values, culture, community, and associations. The agencies of social control and changes, the process of socialization. **Paper- DSC-2- Sociology of India -**To understand sociology from Indian perspectives, social institutions, and practices. This paper highlights on the role of family, marriage, and kinship within the society, structural and functional changes with social development. It also focuses on Dalit and Women movement in Indian society and the concept of communalism and secularism. **DSC-3-Sociological Theories:** This will help students understand about the classical sociological thinkers and their theoretical orientation regarding social class, division of labor, suicide, Weber's Ideal type, social action and Spencer's social evolution. **DSC-4- Techniques of**

				Social Research-This course will enhance the knowledge about social research methodology, process and design of research, hypothesis testing, reliability and validity. This will give light on qualitative and quantitative approach of research, methods of data collection, statistical data analysis and ethics of research. **DSE-01.a Religion and Society-**To make students understand about Sociology of Religion, meaning and scope through the concept of sacred and profane, Rites De passage. Fundamental doctrine, features and influence of Hinduism, Islam, Christianity, Sikhism and Buddhism. **DSE-02 a. –Social Stratification-** To acknowledge students about various social strata in terms of class, caste, race, power and gender. This course will also highlight factors and forces of poverty in rural and urban India, social mobility and change. **SEC-01- Sociology of Media**-To emphasize on the interconnection

				between media and society through Neo-Marxist, Feminist, Interactionist and semiotics theoretical connotation. This will focus on the media representation and audience reception in society at large. **SEC-02- Visual Sociology-** This course will give light on the visual sociology, simulacrum and visual culture, John Berger's way of seeing. This discourse will stress on inter-textually, discursive formation and power knowledge propagated by Michel Foucault. It will also deal with documentary photography, photo journalism, and poster design. **Major Course 01** This course will highlight on the perspective and discipline of the subject matter of Sociology, nature scope and importance of it. This paper will dive into the difference and similarities of sociology and other social sciences, concepts of community, associations groups, and social control. **Major Course 02** This course will focus on Unity in Diversity in Indian Perspectives, Caste,

				Varna system in India, meaning features functions of family, concept of marriage and its rules. **Minor Programme 01** This course will highlight on the perspective and discipline of the subject matter of Sociology, nature, scope and importance of it. This paper will focus into the difference and similarities of sociology with other social sciences, concepts of community, associations, institution, groups, and importance of social control-formal, informal.

DEPARTMENT OF SANSKRIT

Program Specific Outcomes (Honours and General):

In IE language group Sanskrit is a very rich language. Through Sanskrit texts students can know about ancient Indian history, culture, social life, religion etc. The academic program of both Honours and General degree courses are so designed that students can achieve not only professional skill but also they can develop a deep understanding of rich heritage and dynamic prevalent scenario of India through various Sanskrit texts. Primarily A certificate/degree is the outcome of the individual program. To be awarded a specific Degree/certificate etc., the students have to demonstrate skills and competencies which are both subject specific as well as generic. After completion of the program students get prepared for further study, employment etc. and they are able to be a good citizen.

Bachelor's degree in Sanskrit is awarded upon completion of six semesters (three full years) of the subject study at the undergraduate level. The learning At the end of the program enables the students to have the academic, behavioral and social competencies as given below:

- Basic communication skills in understanding Sanskrit with LSRW (Listening, Speaking, Reading, Writing) capacities.
- Articulation of ideas, literary writings, innovations and effective presentation skills in Sanskrit as well as in other native languages and English.
- Ability to explore ancient Sciences with confidence.
- Skill adaptability in Specific areas.
- Competency building to convey the Society at large about Indic knowledge and wisdom.
- Usage of Shastric discipline and ancient traditional learning while discriminating others.
- Ability to write Devnagari Script which provide paleographical knowledge to read out the script of modern languages like Hindi, Marathi.
- Reasonable understanding of multi-disciplinary relevance of literature of Sanskrit like Veda, Grammar, Kavya, Philosophy, Smritisastra, Arthasastra etc.
- Develop research aptitude and independent thinking.
- Accentuating memory power and concentration in a specific area.
- Developing patriotism with a sense of responsibility.
- Analyzing social problems and understanding social dynamics.
- Develop self confidence in executing and planning.

Course Outcomes (Sanskrit Honourse):

Semester	Course / Paper	Title	Outcomes
3rd	CC5	Gita and Upanishad	Helps in Spiritual upliftment and treats how to live a proper life.
	CC6	Classical Sanskrit Literature(Drama)	Gives an impression of different demeanors of different social characters.
	CC7	Poetics and Literary Criticism	Makes aware of the quality and great knowledge of a poet.
	SEC-1	Translation and Computer Application	Enhances technical skill.
4th	CC8	Indian Social Institutions and Polity	Gives a brief knowledge of ancient Indian Polity which is too relevant to modern age.
	CC9	Indian Epigraphy, Paleography and Manuscriptology	Gives paleographical and epigraphical knowledge to some extent and makes aware of the condition and preserving process of ancient Indian texts.
	CC10	Modern Sanskrit Literature and Poetics	Gives information of modern Sanskrit texts and culture.
	SEC-2	Yoga and Upanisad	Introduces Ultimate Knowledge.
5th	CC11	Vedic Hymns and Grammar	Gives sacred feelings and gives an idea of the

			generous, pious grateful attitude of Vedic Rishis.
	CC12	**Ontology and Epistemology**	**Gives an idea of ontology and epistemology through philosophical aspects to some extent.**
	DSE1	**Art of Balanced Living OR Trends of Indian Philosophy**	**Gives an idea to lead a proper life. OR Describes elaborately Indian Philosophy which produces and enhances philosophical thinking.**
	DSE2	**Philosophy Religion and culture in Sanskrit OR Literary Criticism and History of Sanskrit Poetics**	**Gives different ideas of Indian culture, religion etc. OR Gives a brief idea of Poetics.**
6th	**CC13**	**Sanskrit Grammar and Linguistics**	**Enhances intellectual ability.**
	CC14	**Ancient Indian Polity and General Survey of Dharma, Artha and Nitisastra**	**Gives valuable knowledge of ancient Indian Polity, Religion etc.**
	DSE3	**Sanskrit Linguistics OR Ethical literature in Sanskrit**	**Gives scientific knowledge of Language. OR Enhances ethical values.**
	DSE4	**Environmental Awareness in Sanskrit Literature OR Fundamentals of Ayurveda**	**Makes aware of environmental issues. OR Gives a brief idea of medical Science**

Overall Course outcomes: After successful completion of the total course of Honours program in Sanskrit, at first students are able to be an ideal human being or ideal social citizen equipped with actual knowledge, ethical values, great intellect etc. Secondly, they can apply in the field of WBCS etc. and also after post-graduation they can apply against teaching posts in schools, Colleges and other educational institutions. Thirdly, through the knowledge of Sanskrit and Devnagari scripts students can get job in various fields.

Course Outcomes (Sanskrit General):

After successful completion of total courses all undergraduate general degree course's students should be able to achieve the following objectives.

- Students will be able to know ancient Indian history of literature and literary criticism.
- They will learn about the Indian Philosophy, Religion and Culture in Sanskrit tradition.
- Through Gita they also develop their personality, self-respect etc.
- Ayurveda will help them to know about the ancient Indian medical science.
- Introducing with computer application they can develop their technical skill.
- The students will able to learn Yoga, their cocept, features etc.
- Grammar is an important part of the language. Having some knowledge of it students can make sentences Sentence in Sanskrit Language.
- After completion of the course students can apply for various jobs through the certificate.

DEPARTMENT OF PHYSICAL EDUCATION

Programme Outcomes:

1. Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

2. Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.

3. Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.

4. Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.

5. Effective Citizenship: Demonstrate empathetic social concern and equity-centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.

6. Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.

7. Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.

8. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.

Programme Specific Outcomes (PSO):

1. Students will acquire a comprehensive knowledge and sound understanding of fundamentals of Physical Education.

2. Students will develop practical, theoretical skills in Physical Education.

3. Students will be prepared to acquire a range of general skills, to specific skills to communicate with society effectively and learn independently.

4. Students will acquire a job efficiently in diverse fields such as B.P.Ed, M.P.Ed, SSC, PSC, NET, SET, ETC.

COURSE	SEMESTER	COURSE CODE	Course outcome	Skill Development related to employability and Entrepreneurship development
	1	DSC-PE-1	After completion of this course, students will Apply knowledge of physical education, growth and development, play, sports and games knowledge, history of physical education and yoga to explain aim and objectives of physicaleducation. Use an understanding of history of yoga, Astanga yoga to effectively know about yoga in everyday life, further study in Physical Education.	The course focuses to develop the basic knowledge in physical education. The basic knowledge and conception of physical education is essential to understand the higher-level Games and Sports. The content of course is also important to qualify the NET, SET, and other job-oriented examinations for Physical education students.
PHYSICAL EDUCATION (Theory)	2	DSC-PE-2	Having successfully completed	Basic knowledge of Management is essential to realize the higher physical education to draw the fixtures in the Tournaments. The content of course is also important to qualify the SSC, PSC, NET, SET, and other job-oriented examinations for Physics students.
PHYSICAL EDUCATION (Theory)	3	DSC-PE-3 & SEC-PE-1	Completion of this course will enable the students to: Know the basics of anatomy, physiology, exercise physiology, musculo-skeletal system, circulatory system, respiratorysystem. Use an understanding Gymnastics effectively, further study in Physical Education.	The basic knowledge in anatomy physiology to know at higher level.The content of course is also important to qualify the SSC, PSC, NET, SET and other job-oriented examinations for Physics students.
PHYSICAL EDUCATION (Practical)	4	DSC-PE-4 & SEC-PE-2	After completion of this course will enable the Students to: Know the basics of Health, Health Education, personal hygiene, health problems-prevention and control, physical fitness and wellness & First Aid Management. They will also experience about Balanced Diet. On completion of this course students will have hands of experience to perform starting, finishing, relay race, long jump, high jump, shot-put, discuss throw, javelin throw They will be having the concepts of track and field events.	Basic knowledge of health education is essential to realize the higherphysical education. The content of course is also important to qualify the SSC, PSC, NET, SET, and other job-oriented examinations for Physics students. Developed physical fitness through track and field event. The knowledge is essential for the experiment of higher physical educationresearch.

PHYSICAL EDUCATION (Theory)	5	DSE-PE-1, GE-PE-1 & SEC-PE-3	On completion of this course students will be able to understand about Tests, Measurements and Evaluation in Physical Education. Or, students will be able to understand about Sports Training. Also know about Modern Trends in Physical Education and Sports Sciences. Students also have the knowledge about Archery, Combative Sports and Adventure Sports.	Learning Tests, measurements and Evaluations, students can apply their knowledge for Higher Studies & Research work in Physical Education. The content of course is also important to qualify the NET, SET, PSC and other job-oriented examinations for Physical education students.
PHYSICAL EDUCATION (Practical)	6	DSE-PE-2, GE-PE-2 & SEC-PE-4	On completion of this course students will be able to understand psychology, learning, learning curve, motivation, instinct, and emotion, stress, personality and sociological aspects etc. Or completion of this course students will be able to understand Kinesiology and Biomechanics. On completion of this course students will have hands of Experience to perform gymnastics, yogasana. They will be having the concepts of asana, pranayam, surya namaskar etc.	Learning and psychological factors is building block to understand the psychology for physical education students at higher level. The content of course is also important to qualify the NET, SET, and other job-oriented examinations for Physical education students. Learning Kinesiology & Biomechanics, students can gather knowledge about motion, C.G. Axis, Planes, Kinematics, Kinetics etc. which they can apply for their Higher Studies & Research work in Physical Education. The content of course is also important to qualify the NET, SET, PSC and other job-oriented examinations for Physical education students Developing the skills & techniques by Practicing the Ball Games like Football, handball Basketball, Volleyball, Netball & Throwball.

DEPARTMENT OF CHEMISTRY

Name of Programme	Year of Introduction	Status Implementation in CBCS Curriculum (Yes/No)	Programme Outcome	Course Outcome
Chemistry Hons.		YES	This programme will make the students eligible for understanding the various physical, chemical and biochemical processes occurring in nature. They can choose their career in various chemical, biochemical, pharmaceutical, ceramic, polymer and analytical industries by learning this programme.	**CC1**: This course provides knowledge about the structure of atoms, which gives a great insight into the entire class of chemicals and their physical properties.
				CC2: Study of this course gives ideas how ideal, real gas, solvent behaves and how structure of solid crystals can be determined. This course also gives ideas of acidity and alkalinity of electrolytic solution in terms of reaction equilibrium.
				CC3: Stereochemistry is of critical importance to drug action because the shape of a drug molecule is an important factor in determining how it interacts with the various biological molecules that encounters in the body.
				CC4: Thermodynamics gives the foundation knowledge for heat engines, power plants, chemical reactions, refrigerators, materials science and aerospace engineering etc. Students have a wide range of scope to develop their

				career in science and engineering areas, including physical chemistry, biochemistry, chemical engineering, and mechanical engineering etc.
				CC5: Study of this course is very useful for almost every sector of chemical industry including catalysis, materials science, medicine and polymer industry.
				CC6: Organic chemistry plays a part in the development of common household chemicals, medicine, foods, drugs and fuels most of the chemicals part of daily life.
				CC7: This course gives ideas about why some reactions are slow and fast, how catalysts alter the rate of a reaction without changing equilibrium constant. Study of phase behaviors of one and two components systems gives knowledge tapes of phase present different temperature and pressure.
				SEC1: Studying pharmaceutical chemistry allows students to contribute to life-saving remedies, enhance the speed of new medications and help others.
				CC8: This course gives a detailed discussion about co-ordination compounds which have important

				roles in industrial catalysts in controlling reactivity and in essential biochemical processes.
				CC9: The heterocyclic compounds have critical importance for medicinal chemists, because using them, it is possible to expand the available drug-like chemical space and drive more effective drug discovery programs.
				CC10: This course helps to understand the driving force of a redox chemical reaction and how it changes with different conditions. By studying the properties like Electric, Magnetic and conductivity of atoms, molecules and ions help to understand the physical properties of compounds.
				SEC2: Green chemistry aims to design and produce cost-competitive chemical products and processes that attain the highest level of the pollution prevention hierarchy environment pollution at its source.
				CC11: This course helps to learn synthesis of many important organic compounds using light and heat. Students also get knowledge in this course how catabolism and anabolism and enzymes work in different living bodies.
				CC12: This course is the bridge between

				microscopic and macroscopic properties of molecules that help to know how properties change from small quantity to ensemble average quantity. Spectroscopy part is used to quantitatively measure the different physical properties of a molecule.
				DSE1: This course provides the idea about quantitative analysis of different inorganic and industrial and agriculture chemicals.
				DSE2: This course provides a clear idea about industrial chemicals and development of thousands of new and improved synthetic fibers, paints, adhesives, cosmetics, electronic components, lubricants and other products.
				CC13: This course enables the students to develop chemical analytical skills to measure quantitatively inorganic compounds and also provides a clear idea about the effect of catalysts on a reaction mechanism.
				CC14: Spectroscopy is used as a tool for studying the structures of atoms and molecules, and carbohydrates serve as energy sources and essential structural components in organisms.

				DSE3: This course will help to understand the physical, chemical properties and synthesis techniques of polymer compounds. Understanding of Kinetics Mechanism will help to control the length of polymer compound and suitable materials design.
				DSE4: This course helps to build a great career opportunity in industrial chemists including agriculture, medicine, energy, and the environment. Students can learn the ideas to manage the different harmful chemicals for lower potential for global warming, ozone depletion, smog formation, chemical disruption of ecosystems, water pollution and air pollution.
Chemistry Programme			This programme will make the students eligible for understanding the various physical and chemical processes occurring in nature. They can choose their career in various chemical, pharmaceutical and analytical	**DSC1**: This course includes fundamentals of organic chemistry, stereochemistry as well as some name reactions which is essential for the comprehension of almost all aspects of modern organic chemistry. In another section the course provides knowledge about the structure of atoms, which gives a great insight into the entire class of chemicals and their physical properties.
				DSC2: This course helps to predict the outcome and mechanism of some

			industries by learning this programme.	simple organic reaction using a basic understanding of relative reactivity of functional groups. In another section students learn basic thermodynamics that help to predict natural occurring physical and chemical processes.
				DSC3: This course includes carbohydrates, amino acids, peptides, proteins, carboxylic acids which help students to understand about properties of such molecules and their synthesis process. In other section students get knowledge phase diagrams, conductive properties of electrolytes and electrochemical processes that help to understand physical and chemical properties of matter.
				DSC4: This course gives a detailed discussion about co-ordination compounds which have important roles in industrial catalysts in controlling reactivity and in essential biochemical processes. In other sections students get knowledge about solid, liquid and gaseous state.
				GE1:: This course includes fundamentals of organic chemistry, stereochemistry as well as some name reactions which is essential for the comprehension of almost

				all aspects of modern organic chemistry. In another section the course provides knowledge about the structure of atoms, which gives a great insight into the entire class of chemicals and their physical properties.
				GE2: This course helps to predict the outcome and mechanism of some simple organic reaction using a basic understanding of relative reactivity of functional groups. In another section students learn basic thermodynamics that help to predict natural occurring physical and chemical processes
				GE3: This course includes carbohydrates, amino acids, peptides, proteins, carboxylic acids which help students to understand about properties of such molecules and their synthesis process. In other section students get knowledge phase diagrams, conductive properties of electrolytes and electrochemical processes that help to understand physical and chemical properties of matter.
				GE4: This course gives a detailed discussion about co-ordination compounds which have important roles in industrial catalysts in controlling reactivity

				and in essential biochemical processes. In other sections students get knowledge about solid, liquid and gaseous state.
				SEC1 (DSC): Studying pharmaceutical chemistry allows students to contribute to life-saving remedies, enhance the speed of new medications and help others.
				SEC2 (DSC): Green chemistry aims to design and produce cost-competitive chemical products and processes that attain the highest level of the pollution prevention hierarchy environment pollution at its source.
				DSE1 (DSC) : This course provides a clear idea about industrial chemicals and development of thousands of new and improved synthetic fibers, paints, adhesives, cosmetics, electronic components, lubricants and other products.
				SEC3 (DSC) : Students get the knowledge regarding how to increase agriculture productivity by protecting crops from pests, diseases and weeds with use of pesticide. It provide the awareness on Acute effects (rashes, nausea, diarrhea etc) and Chronic effects as (cause birth defects, cancers, neurological harm, reproductive harm) at the using time of Pesticide.

				DSE2 (DSC): This course helps to build a great career opportunity in industrial chemists including agriculture, medicine, energy, and the environment. Student can learn the ideas to management the different harmful chemical for lower potential for global warming, ozone depletion, smog formation, chemical disruption of ecosystems water pollution and air pollution.
				SEC4 (DSC): Learning this course students have chances to get a job in a perfume company as perfume chemists to focus on fragrance production. To know how we enhance our appearance and boost our self-esteem through cleaning and make-up the beauty by using of cosmetic and perfume.

DEPARTMENT OF PHYSICS

Programme Outcomes:

- The knowledge of Physics is very much essential for understanding the development of eco-friendly technologies.
- The course Curricula is designed according to the guidelines of the CBCS Curriculum of the University of North Bengal.
- It provides the basic understanding of Physics and its relative significance in the global scenario, aiding human lives with the progress of technology.
- The course is combined with the development of knowledge and a conceptual understanding about topics which help the stakeholders in higher education, engineering and research.
- Most of the papers of the course are interlinked with laboratory experiments which facilitate dealing with basic instruments, generating practical knowledge with the electrical, electronics and optical instruments, understanding of physical properties of matter etc.
- The Course includes computational facilities for a deeper understanding of the dynamics of theoretical and mathematical physics.
- The skill enhancement course develops the concept of basic building blocks of electronic devices and also encourages learning the necessity of green energy for a better sustenance for human civilization.
- The Curricula trains the students for future research work augmenting the importance of Physics and Engineering in our life.

Programme Specific Outcomes:

1. It provides the basic understanding of Physics and its relative significance in the global scenario, aiding human lives with the progress of technology.
2. Most of the papers of the course are interlinked with laboratory experiments which facilitate dealing with basic instruments, generating practical knowledge with the electrical, electronics and optical instruments, understanding of physical properties of matter etc.
3. The Course includes computational facilities for a deeper understanding of the dynamics of theoretical and mathematical physics.
4. The skill enhancement course develops the concept of basic building blocks of electronic devices and also encourages learning the necessity of green energy for a better sustenance for human civilization.

FYUGP 2023-24 SYSTEM

Semester	Course Code	*Course Name*	Course Outcomes
SEM-I	**UPHYMAJ 11001 (Major)**	***Mathematical Physics-I***	• **Basic understanding in areas like (i) Limits (ii) Continuity (iii) Differentiation (iv) Plotting of functions etc.** • **Knowledge gain in areas like (i) Vector Calculus (ii) Curvilinear coordinate systems (iii) Dirac-Delta function** • **It includes introduction to probability** • **Knowledge gain in (i) Computer organization (ii) Basic scientific computing (iii) Plotting graphs with Gnuplot (iv) Programming using Python etc.**
	UPHYSEC 11001 (For Major students)	***Basic Electrical Circuits and Measurements***	• **Knowledge gained on (i) Basic Electricity Principles, (ii)Electrical Circuits(iii)Electrical Drawing and Symbols (iv)Generators and Transformers Electric Motor Solid-State Devices and (V)Electrical Protection &Electrical Wiring.** • **Understanding Electrical Circuits & Electrical Drawing and Symbols.** • **Understanding the working principle electrical motors and generators.** • **Understanding the working principle Electrical Protection &Electrical Wiring and importance electrical protection.** • **<u>Skills learned in Lab:</u>** **1. Designing a Voltmeter and ammeter using a Galvanometer.** **2. Resistance measurement using P. O. Box and meter bridge.** **3. Designing Half-wave / Full-wave / Bridge rectifier circuits with and without filter and determination of percentage regulation.** **4. Measurement of Capacitance and Inductance using an A. C. Bridge.**
	UPHYMIN 10001 (Minor)	***Mechanics***	• **Learnt to express velocity and acceleration in different co-ordinate systems** • **Review of Newton's laws of motion and solving problems**

			• **Knowledge of mechanics of system of particles** • **Grow concept about the pseudo forces appearing in non-inertial frame of references** • **Knowledge the rigid body dynamics** • **Concept of central force and its applications** • **Grow concept about Newton's laws of gravitation and determination of gravitational potential and intensities in various cases**
	UPHYMAJ 12002 (Major)	***Mechanics -I***	• **Knowledge gain in Fundamentals of Dynamics such as frame of references, Newton's law of motion, motion of projectile, rocket etc.** • **Knowledge gain in areas in (i) Work and energy (ii) Collisions (iii) Rotational Dynamics (iv) Elasticity (v) Fluid Motion (vi) Gravitation and Central Force Motion (vii) Oscillations (viii) Non-Inertial Systems etc.** • **Introduction to Special Theory of Relativity** • **Knowledge gain in performing experiment to determine spring constant, acceleration due to gravity, MI of fly wheel, viscosity of water, rigidity modulus etc.**
	UPHYSEC 12002 (Major)	***Renewable Energy and Energy Harvesting***	• **Knowledge gain about Fossil fuels and Alternate Sources of energy.** • **Understanding the energy crisis.** • **Understanding importance of renewable energy.** • **Knowledge gain about Solar energy and its usefulness.** • **Knowledge gain about Wind Energy harvesting and its usefulness.** • **Knowledge gain about Ocean Energy.** • **Knowledge gain about Geothermal Energy and Hydro Energy.** • **Knowledge gain about Piezoelectric Energy harvesting.** • **Knowledge gain about Electromagnetic Energy** • **Learning how to make presentation in MS Power-point or in some linux based soft-wares line Beamer.** • **To prepare a presentation on any of the non-conventional energy sources and its oral presentation**
	UPHYMIN 20002 (Minor)	***Mechanics***	• **Knowledge gain in vectors, ordinary differential equations** • **Understanding of Newton's law of motion**

			• **Knowledge gain in areas in (i) Momentum and energy (ii) Collisions (iii) Rotational Dynamics (iv) Elasticity (v) Gravitation (vi) Oscillations etc.** • **Introduction to Special Theory of Relativity** • **Knowledge gain in performing experiment to determine spring constant, acceleration due to gravity, MI of fly wheel, viscosity of water, rigidity modulus etc.**
	UPHYMDC 10001/10002	***Introduction to Astronomy***	• **Astronomical Distance, Mass and time scales. Parallax, Distance measurement.** • **Distance between Earth and Sun, Astronomical unit such as Light year, Parsec .** • **Pinhole camera for measurement of radius of the sun. Celestial Spheres.** • **Astronomical Coordinate Systems. Construction of Galilean Telescope, other optical Telescopes and magnification power. Celestial objects visible with them.** • **Solar eclipse, Lunar eclipse, Total, annular and partial eclipses.** • **Transient phenomenon : Sun spot, Solar storm, Diamond ring in the Sun and the source of energy in the Sun, Tides** • **Name of constellations, Nebula, Comets, Kuiper belt, Solar system, Planets with habitable conditions, Search for Extra Terrestrial Intelligence (S.E.T.I.).** • **HR diagram, Normal Stars, White dwarf, Neutron star, Black hole** • **Basic structure and properties of the Milky Way.** • **Elliptical, Spiral and Lenticular galaxies, Galactic halo.**

CBCS SYSTEM

Semester	Course Code	*Course Name*	Course Outcomes
SEM-I	**CC1: Mathematical Physics-I**	***Mathematical Physics-I***	• **Basic understanding in areas like (i) Limits (ii) Continuity (iii) Differentiation (iv) Plotting of functions etc.** • **Knowledge gain in areas like (i) Vector Calculus (ii) Curvilinear coordinate systems (iii) Dirac-Delta function** • **It includes introduction to probability** • **Knowledge gain in (i) Computer organization (ii) Basic scientific computing (iii) Plotting graphs with Gnuplot (iv) Programming using Python etc.**
	CC2: Mechanics	***Mechanics***	• **Knowledge gain in Fundamentals of Dynamics such as frame of references, Newton's law of motion, motion of projectile, rocket etc.** • **Knowledge gain in areas in (i) Work and energy (ii) Collisions (iii) Rotational Dynamics (iv) Elasticity (v) Fluid Motion (vi) Gravitation and Central Force Motion (vii) Oscillations (viii) Non-Inertial Systems etc.** • **Introduction to Special Theory of Relativity** • **Knowledge gain in performing experiment to determine spring constant, acceleration due to gravity, MI of fly wheel, viscosity of water, rigidity modulus etc.**
	GE1: Mechanics	***Mechanics***	• **Knowledge gain in vectors, ordinary differential equations** • **Understanding of Newton's law of motion** • **Knowledge gain in areas in (i) Momentum and energy (ii) Collisions (iii) Rotational Dynamics**

			(iv) Elasticity (v) Gravitation (vi) Oscillations etc. • **Introduction to Special Theory of Relativity** • **Knowledge gain in performing experiment to determine spring constant, acceleration due to gravity, MI of fly wheel, viscosity of water, rigidity modulus etc.**
	DSC1: Mechanics	***Mechanics***	• **Knowledge gain in vectors, ordinary differential equations** • **Understanding of Newton's law of motion** • **Knowledge gain in areas in (i) Momentum and energy (ii) Collisions (iii) Rotational Dynamics (iv) Elasticity (v) Gravitation (vi) Oscillations etc.** • **Introduction to Special Theory of Relativity** • **Knowledge gain in performing experiment to determine spring constant, acceleration due to gravity, MI of fly wheel, viscosity of water, rigidity modulus etc.**
SEM-II	**CC3: Electricity and Magnetism**	***Electricity and Magnetism***	• **Develop ideas about electric field, magnetic field and electric potential.** • **Basic understanding of dielectric properties of matter.** • **Knowledge gain in magnetics properties of matter, electromagnetic induction, electrical circuits, network analysis etc.** • **Handling of electrical instruments such as multimeter, capacitor, CRO, resistance, inductor etc.** • **Performing experiments to understand RC circuit, LCR circuit, Anderson's bridge etc.**

	CC4: Waves and Optics	***Waves and Optics***	• **Knowledge gain in areas like (i) Harmonic Oscillations (ii) Wave Motion (iii) Velocity of waves (iv) Superposition of Harmonic Waves** • **Develop ideas about Wave Optics, Holography** • **Knowledge gain in areas like (i) Interference (ii) Diffraction** • **Knowledge gain in handling optical instruments like (i) Prism (ii) Grating (iii) Spherometer (iv) Travelling Microscope etc.** • **Perform experiments to studyLissajous Figures** • **Performexperiments to determine various quantity like (i)angle of prism (ii) refractive index of the Material of a prism (iii) wavelength of sodium source (iv) dispersive power and resolving power of a plane diffraction grating**
	GE2: Electricity and Magnetism	***Electricity and Magnetism***	• **Basic understanding of vector analysis which includes (i) Review of vector algebra (Scalar and Vector product), (ii)gradient, (iii) divergence, (iv) Curl, (v) Vector Integration, (vi) Gauss-divergence theorem (vii) Stoke's theorem of vectors** • **Develop ideas about electric field, magnetic field and electric potential.** • **Knowledge gain in electromagnetic induction** • **Knowledge gain in Maxwell`s equations and Electromagnetic wave propagation** • **Handling of electrical instruments such as multimeter, capacitor, CRO, resistance, inductor etc.** • **Performing experiments to understand RC circuit, LCR circuit, Carey Foster's Bridge etc.**
			• **Basic understanding of vector analysis which**

	DSC2: Electricity and Magnetism	***Electricity and Magnetism***	**includes (i) Review of vector algebra (Scalar and Vector product), (ii)gradient, (iii) divergence, (iv) Curl, (v) Vector Integration, (vi) Gauss-divergence theorem (vii) Stoke's theorem of vectors** • **Develop ideas about electric field, magnetic field and electric potential.** • **Knowledge gain in electromagnetic induction** • **Knowledge gain in Maxwell`s equations and Electromagnetic wave propagation** • **Handling of electrical instruments such as multimeter, capacitor, CRO, resistance, inductor etc.** • **Performing experiments to understand RC circuit, LCR circuit, Carey Foster's Bridge etc.**
SEM-III	**CC5: Mathematical Physics-II**	***Mathematical Physics-II***	• **Knowledge gain in areas (i) Fourier Series (ii) Frobenius Method and Special Functions (iii) Beta and Gamma Functions (iv) Variational calculus in physics (v) Partial Differential Equations and applications** • **Introduction to the Numerical computation using numpy and scipy** • **Knowledge gain in Curve fitting, Least square fit, Goodness of fit, standard deviation** • **Solution of Linear system of equations by Gauss elimination method and Gauss Seidal method. Diagonalization of matrices, Inverse of a matrix, Eigen vectors, eigen values problems are learned** • **Solution of ODE First Order Differential equation Euler, modified Euler and Runge-Kutta second order methods Second order differential equation Fixed difference method**

			using python are learned
	CC6: Thermal Physics	***Thermal Physics***	• **Knowledge gain in Zeroth and First Law of Thermodynamics, Second Law of Thermodynamics, Entropy** • **Thermodynamic Potentials, Maxwell's Thermodynamic Relations, Kinetic Theory of Gases are learned** • **Performing experiments to determine (i) Mechanical Equivalent of Heat (ii) Planck's constant using black body radiation (iii) the coefficient of thermal conductivity (iv) the coefficient of thermal conductivity of a bad conductor (v) the temperature co-efficient of resistance by Platinum resistance thermometer** • **Study of the variation of thermos-emf across two junctions of a thermocouple with temperature**
	CC7: Digital Systems and Applications	***Digital Systems and Applications***	• **Integrated Circuits, Digital Circuits, Boolean algebra, Data processing circuits are learned** • **Knowledge gain in Timers, Shift registers, Counters, Computer Organization** • **Test of a Diode and Transistor using a Multimeter is learned** • **Conversion of Boolean expression into logic circuit and design it using logic gate ICs is learned** • **Verify and design AND, OR, NOT and XOR gates using NAND gates is learned** • **Half Adder, Full Adder and 4-bit binary Adder is learned**
	GE: Mechanics	***Mechanics***	• **Knowledge gain in vectors, ordinary differential equations** • **Understanding of Newton's law of motion**

			• **Knowledge gain in areas in (i) Momentum and energy (ii) Collisions (iii) Rotational Dynamics (iv) Elasticity (v) Gravitation (vi) Oscillations etc.** • **Introduction to Special Theory of Relativity** • **Knowledge gain in performing experiment to determine spring constant, acceleration due to gravity, MI of fly wheel, viscosity of water, rigidity modulus etc.**
	DSC3: THERMAL PHYSICS AND STATISTICAL MECHANICS	***THERMAL PHYSICS AND STATISTICAL MECHANICS***	• **Knowledge gain in areas: (i) Thermodynamic Description of system (ii) Thermodynamic Potentials (iii) Kinetic Theory of Gases (iv) Theory of Radiation (v) Statistical Mechanics** • **Performing experiments to determine (i) Mechanical Equivalent of Heat (ii) Planck's constant using black body radiation (iii) the coefficient of thermal conductivity (iv) the coefficient of thermal conductivity of a bad conductor (v) the temperature co-efficient of resistance by Platinum resistance thermometer** • **Study of the variation of thermos-emf across two junctions of a thermocouple with temperature**
	SEC1:Electrical Circuits andNetworks	***Electrical Circuits andNetworks***	• **Knowledge gain in areas (i) Basic Electricity Principles (ii) Understanding Electrical Circuits (iii) Electrical Drawing and Symbols (iv) Generators and Transformers (v) Electric Motors (vi) Solid-State Devices (vii) Electrical Protection (viii) Electrical Wiring**
SEM-IV	**CC8: Mathematical Physics-III**	***Mathematical Physics-II***	• **Knowledge gain in areas of complex analysis like (i) Complex Numbers and their Graphical Representation (ii) Functions of Complex**

			Variables (iii) analytic functions (iv) Singular functions etc. • **Concepts in matrices, Eigen-values and Eigenvectors problems** • **Knowledge gain in Fourier Transform to solve one dimensional (i) Wave equation (ii) Diffusion/Heat Flow Equation** • **Knowledge gain in python programing to compute (i) Differential equations (ii) Dirac-Delta function (iii) Fourier series (iv) Complex roots etc.**
	CC9: Elements of Modern Physics	***Elements of Modern Physics***	• **Knowledge gain in areas like (i) black body Radiation (ii) Photo-electric effect (iii) Compton scattering (iv) Wave description of particles (v) Group and Phase velocities** • **Knowledge gain in (i) Two slit interference experiment with photons (ii) Schrodinger equation (iii) wave function (iv) probability current densities** • **Knowledge gain in (i) Atomic and nuclear physics (ii) Radioactivity (iii) Fission and fusion (iv) Lasers** • **Perform experiments to determine Planck's constant, work function of material, wavelength of H-alpha emission line, ionization potential of mercury, tunneling effect in tunnel diode, the wavelength of laser source etc.**
	CC10: Analog	***Analog Systems and Applications***	• **Knowledge gain in areas like (i) Semiconductor Diodes (ii) Two-terminal Devices and their Applications (iii) Bipolar Junction transistors (iv) Field Effect transistors (v) Amplifiers** • **Knowledge gain in handling experiments to**

	Systems and Applications		**study (i) V-I characteristics of PN junction diode, (ii) he V-I characteristics of a Zener diode and its use as voltage regulator (iii) V-I and power curves of solar cells (iv) CE transistor amplifier (v) Op-amp**
	DSC4: Waves and Optics	***Waves and Optics***	• **Knowledge gain in areas like (i) Harmonic Oscillations (ii) Wave Motion (iii) Velocity of waves (iv) Superposition of Harmonic Waves (v) Fluids** • **Develop ideas about Wave Optics** • **Knowledge gain in areas like (i) Interference (ii) Diffraction (iii) Polarization (iv) Michelson's Interferometer** • **Knowledge gain in handling optical instruments like (i) Prism (ii) Grating (iii) Spherometer (iv) Travelling Microscope etc.** • **Perform experiments to study Lissajous Figures** • **Perform experiments to determine various quantity like (i) angle of prism (ii) refractive index of the Material of a prism (iii) wavelength of sodium source (iv) dispersive power and resolving power of a plane diffraction grating**
	SEC2: RENEWABLE ENERGY AND ENERGY HARVESTING	***RENEWABLE ENERGY AND ENERGY HARVESTING***	• **Knowledge gain about Fossil fuels and Alternate Sources of energy.** • **Understanding the energy crisis.** • **Understanding importance of renewable energy.** • **Knowledge gain about Solar energy and its usefulness.** • **Knowledge gain about Wind Energy harvesting and its usefulness.** • **Knowledge gain about Ocean Energy.** • **Knowledge gain about Geothermal Energy and Hydro Energy.** • **Knowledge gain about Piezoelectric Energy harvesting.**

			• **Knowledge gain about Electromagnetic Energy Harvesting**
	GE2: Electricity and Magnetism	***Electricity and Magnetism***	• **Basic understanding of vector analysis which includes (i) Review of vector algebra (Scalar and Vector product), (ii)gradient, (iii) divergence, (iv) Curl, (v) Vector Integration, (vi) Gauss-divergence theorem (vii) Stoke's theorem of vectors** • **Develop ideas about electric field, magnetic field and electric potential.** • **Knowledge gain in electromagnetic induction** • **Knowledge gain in Maxwell`s equations and Electromagnetic wave propagation** • **Handling of electrical instruments such as multimeter, capacitor, CRO, resistance, inductor etc.** • **Performing experiments to understand RC circuit, LCR circuit, Carey Foster's Bridge etc.**
	CC11: Quantum Mechanics	***Quantum Mechanics***	**Knowledge gained on** • **General formalism of Quantum Mechanics, mixed states, wave packets, uncertainty relation, representation in quantum mechanics, picture of quantum mechanics, Eigen value problem, matrix mechanics, angular momentum, Zeeman effect, stark effect,** • **Schrodinger equation, turning points and connection formulae, bound states solution, barrier penetration.** • **Basic knowledge of Quantum Mechanics is acquired.** • **Skills and techniques to use Quantum mechanical principles in simple and complicated systems.** • **The basic knowledge to solve 1 dimensional and thereafter 3-dimensional potential problems.** • **The students after the course are competent enough to use the knowledge of Quantum Mechanics to different Quantum Mechanical systems encountered in different areas of Physics.**

			• **They learn to solve the non-relativistic quantum mechanical problem and can demarcate the problems which are quantum mechanical**
SEM-V	**CC12: Solid State Physics**	***Solid State Physics***	**Knowledge gained 0n** • **Elementary Crystallography, basis, crystal class and Ewald construction.** • **Knowledge gained on lattice vibrations and thermal properties and quantization of lattice vibrations, phonon momentum.** • **Discussion on free electron Fermi gas with Classical free electron theory and Fermi-Dirac probability distribution function is discussed and hence a comprehensive view on Fermi energy is obtained.** • **Understanding the Dielectric Properties of insulators and ferro-electricity.** • **Knowledge gained and Understanding the Magnetic properties of solids, Diamagnetism, paramagnetic susceptibility and ferromagnetism is discussed and a quantum picture of Heisenberg exchange energy is covered.** • **Knowledge gained on Semiconductors and their properties include motion of hole-electron pair-carrier transport equation.** • **Understanding Superconductivity: Properties of superconductors with discussion on Meissner effect. London's equations are covered and discussion on superconducting magnets is carried out.** • **Skills gained in crystallography, knowledge on symmetry operations and classification of lattices gives an understanding to define the structure of a crystal.** **Acquired knowledge on band theory of solid**
	DSE1: Advanced Mathematical	***Advanced Mathematical***	• **Knowledge gained in areas like (i) Laplace (ii)Linear Vector Spaces (iii) Cartesian Tensors and (iv) General Tensors.** • **The students acquire skills to apply different mathematical techniques to solve problems in the areas of heat flow, potential theory, elasticity, fluid mechanics, electromagnetic theory and quantum mechanics and condensed matter physics.** • **The students acquire skills to apply different mathematical techniques to a very wide range**

	Physics I	***Physics I***	**of natural systems from very simple (like an atom) to very complicated (like an astrophysical object), and try to understand the underlying dynamics of each. Most of these techniques are useful in other scientific and/or technology areas too.** • **Students gain competence which will enable them to solve problems in many areas of science and engineering. Students are/should be competent enough to solve problems and apply the above-mentioned techniques in areas like Quantum Mechanics, Quantum Field Theory, Astrophysics and Cosmology. They should be able to apply the mathematical techniques even beyond in Chemical, Biological and Geological systems as well as in technology.**
	DSE2: Atmospheric Physics	***Atmospheric Physics***	• **Knowledge gained on (i) General features of Earth's atmosphere, (ii)Atmospheric Dynamics, (iii)Atmospheric Waves, (iv)Atmospheric Radar and Lidar and (v)Atmospheric Aerosols** • **Understanding the importance different layer of atmosphere.** • **Understanding the Atmospheric Dynamics.** • **Understanding the principle of Atmospheric Radar and Lidar.** • **Understanding the usefulness of Atmospheric Radar and Lidar** • **Understanding the Atmospheric Aerosols. Understanding about pollution.**
	DSE1(P): Elements of Modern Physics	***Elements of Modern Physics***	• **Knowledge gain about photo-electric effect, Compton scattering, matter waves, uncertianty principle, schrodinger equation, radioactivity, nuclear model and laser.** • **Acquired knowledge about quantum nature of light, wave particle dual nature of light.** • **Understanding the uncertainty principle,** • **Understanding the different nuclear reactions and their importance**
	SEC1: Electrical Circuits and Networks	***Electrical Circuits and Networks***	• **Knowledge gained on (i) Basic Electricity Principles, (ii)Electrical Circuits(iii)Electrical Drawing and Symbols (iv)Generators and Transformers Electric Motor Solid-State Devices and (V)Electrical Protection &Electrical Wiring.** • **Understanding Electrical Circuits & Electrical Drawing and Symbols.**

			• **Understanding the working principle electrical motors and generators.** • **Understanding the working principle Electrical Protection &Electrical Wiring and importance electrical protection.**
	CC13: Electromagnetic Theory	***Electromagnetic Theory***	• **Knowledge gain about Maxwell's equations; Gauge transformations Electromagnetic energy, energy density.** • **Develop ideas about EM wave propagation and polarization.** • **Basic understanding about wave guides.** • **Apart from their basic understanding of the subject, the students are efficient enough to solve various unknown problems of electromagnetic theory relevant for competitive examinations**
Sem-VI	**CC14: Statistical Mechanics**	***Statistical Mechanics***	**Knowledge gained about** • **Basic postulates of classical statistical mechanics;** • **concepts of microstates, phase-space, partition function and density function; micro-canonical, canonical and grand canonical ensembles;** • **Maxwell-Boltzmann distribution; connection between statistical mechanics and thermodynamics applications to simple systems.** • **Quantum statistics; density operator, indistinguishable particles;** • **Fermi-Dirac and Bose-Einstein distributions; applications -Degenerate Fermi gas, White dwarf system, Saha's ionization formula,** • **Black-body radiation, Debye's theory of specific heat, Pauli's theory of paramagnetism, Bose-Einstein condensation.** • **Introductory knowledge of Statistical Mechanics is acquired. Skills of using the statistical principles and applying the techniques learnt thereof to simple thermodynamic systems under equilibrium are developed.** • **Students are/should be competent enough to connect the principles of statistics with the laws of mechanics, and apply their knowledge to more complicated thermodynamic systems in and beyond the domains of physics (like in chemical, biological, geological systems and in technology), as well as to systems that are not in equilibrium**
			Knowledge gained in areas like

	DSE3: Advanced Mathematical Physics-II	***Advanced Mathematical Physics-II***	• **Calculus of Variations- Variational principle, Euler-Lagrange Equations of motion, canonical pair of variables, Poisson Brackets.** • **Knowledge gained and understanding the group theory** • **Knowledge gained and understanding the advanced probability theory.** • **The students acquire skills to apply different mathematical techniques to solve problems in the areas of heat flow, potential theory, elasticity, fluid mechanics, electromagnetic theory and quantum mechanics and condensed matter physics.** • **The students acquire skills to apply different mathematical techniques to a very wide range of natural systems from very simple (like an atom) to very complicated (like an astrophysical object), and try to understand the underlying dynamics of each.** • **Most of these techniques are useful in other scientific and/or technology areas too.** • **Students gain competence which will enable them to solve problems in many areas of science and engineering.** • **Students are/should be competent enough to solve problems and apply the above-mentioned techniques in areas like Quantum Mechanics, solid state of physics** • **They should be able to apply the mathematical techniques even beyond in Chemical, Biological and Geological systems as well as in technology**
	DSE4: Nuclear And Particle Physics	***Nuclear And Particle Physics***	**Knowledge gained in** • **Nuclear physics general properties of nuclei, nuclear models.** • **The different nuclear interactions and the corresponding nuclear potentials and its dependence on the couplings are learned.** • **Understanding nuclear reactions, interaction of nuclear radiation with matter.** • **Knowledge acquired detector for nuclear radiations and particle accelerators** • **Knowledge gained in particle physics.** • **The knowledge helps to choose for an Advance course in Nuclear and particle Physics.** • **Understanding of the nucleus at low energy.** • **Develop basics ideas to solve some of the problems of nuclear physics and their limitations in nature.**
			Knowledge gained on

	DSE1(P): Solid State Physics	***Solid State Physics***	• **Elementary Crystallography, basis, crystal class and Ewald construction.** • **Knowledge gained on lattice vibrations and thermal properties and quantization of lattice vibrations, phonon momentum.** • **Discussion on free electron Fermi gas with Classical free electron theory and Fermi-Dirac probability distribution function is discussed and hence a comprehensive view on Fermi energy is obtained.** • **Understanding the Dielectric Properties of insulators and ferro-electricity.** • **Knowledge gained and Understanding the Magnetic properties of solids, Diamagnetism, paramagnetic susceptibility and ferromagnetism is discussed and a quantum picture of Heisenberg exchange energy is covered.** • **Knowledge gained on Semiconductors and their properties include motion of hole-electron pair-carrier transport equation.** • **Understanding Superconductivity: Properties of superconductors with discussion on Meissner effect. London's equations are covered and discussion on superconducting magnets is carried out.** • **Skills gained in crystallography, knowledge on symmetry operations and classification of lattices gives an understanding to define the structure of a crystal.** • **Acquired knowledge on band theory of solid**
	SEC2: RENEWABLE ENERGY AND ENERGY HARVESTING	***RENEWABLE ENERGY AND ENERGY HARVESTING***	• **Knowledge gain about Fossil fuels and Alternate Sources of energy.** • **Understanding the energy crisis.** • **Understanding importance of renewable energy.** • **Knowledge gain about Solar energy and its usefulness.** • **Knowledge gain about Wind Energy harvesting and its usefulness.** • **Knowledge gain about Ocean Energy.** • **Knowledge gain about Geothermal Energy and Hydro Energy.** • **Knowledge gain about Piezoelectric Energy harvesting.** **Knowledge gain about Electromagnetic Energy Harvesting**

DEPARTMENT OF ZOOLOGY

SEM	COURSE	COURSE NAME	COURSE OUTCOME
1st	DSC1	ANIMAL DIVERSITY	• By studying this student can know the various type of animal in the world, their origin and the relationship among them. • At the end of this semester student will be familiar with the major groups of animals, their similarities and differences, and their evolutionary pathways that resulted in the current numbers and varieties of animal species. • Purpose of animal diversity is to motivate and guide student observation of animal and plant similarities, diversity, and appropriateness to live in different environments; to show that stories sometimes give plants and animals attributes that they don't really have.
2nd	DSC2	COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY OF VERTEBRATES	• Comparative anatomy is the study of the anatomy of different species of animals. • Scientists compare the differences and similarities between the body structures and genetic information of the animals in order to study the way the animals have adapted to the environment during the periods of evolution, or, in other words, to examine how they evolved. • Developmental Biology aims to understand the processes that lead from the fertilization of an egg cell (or equivalent) to the formation of a well-structured and functional multicellular organism .

3rd	**DSC3**	**PHYSIOLOGY AND BIOCHEMISTRY**	• Animal physiology is a branch of physiology, which is responsible for studying the biological functioning of different animal species. These analyzes can be performed at the organ level or at the cellular level • Animal physiology is the study of how animals work, and investigates the biological processes that occur for animal life to exist. These processes can be studied at various levels of organization from membranes through to organelles, cells, organs, organ systems, and to the whole animal. • Biochemistry is the study of the chemistry of living things. This includes organic molecules and their chemical reactions.so student can know about the various biomolecules that present in the living organisms and the various biochemical reaction that exist within them.
	SEC1	**APICULTURE**	• Apiculture is the scientific method of rearing bees for nurturing bee colonies and ensuring their livelihood in a safe and secure manner. Apiculture has different purposes, it is used for commercial, educational and reproductive purposes. • By practicing this student can self-dependent in their future.
4th	**DSC4**	**GENETICS AND EVOLUTIONARY BIOLOGY**	• Genetics is a branch of biology concerned with the study of genes, genetic variation, and heredity in organisms. • By studying student can know about genetic research works towards finding the genes that cause disease. Genetic research is the study of human DNA to find out what genes and environmental factors contribute to diseases. • The importance of studying Evolutionary biology is mainly to understand the principles behind the origin and extinction of species.
	SEC2	**SERICULTURE**	• Sericulture plays a significant role in the rural economy of India, is not bound to just worms, but includes all activities related to the silk culture like mulberry cultivation and even post-cocoon technology. Today, India and China are the two main producers, with more than 60% of the world's annual production.

			• By studying this student has immense scope on research and development in this field, where one can obtain a Ph.D. or even a post-doctoral.
5th	**DSE1**	**AQUATIC BIOLOGY**	• By studying this student can pursue their careers in the conservation of marine and other resources, gain employment with fisheries, and undertake work in areas such as aquaculture and water quality control
	SEC3	**APICULTURE**	• Apiculture is the scientific method of rearing bees for nurturing bee colonies and ensuring their livelihood in a safe and secure manner. Apiculture has different purposes, it is used for commercial, educational and reproductive purposes. By practicing this student can self-dependent in their future. • By practicing this student can self-dependent in their future.
6th	**DSE2**	**REPRODUCTIVE BIOLOGY**	• Student gain knowledge about reproductive health. Reproductive health implies that people are able to have a responsible, satisfying, healthy reproductive system and safer sex life and that they have the capability to reproduce and the freedom to decide if, when, and how often to do so. • A good education on reproduction helps to prevent some sexually transmitted diseases like HIV, Genital herpes, gonorrhea, chlamydia, etc.
	SEC4	**SERICULTURE**	• Sericulture plays a significant role in the rural economy of India, is not bound to just worms, but includes all activities related to the silk culture like mulberry cultivation and even post-cocoon technology. Today, India and China are the two main producers, with more than 60% of the world's annual production. • By studying this student has immense scope on research and development in this field, where one can obtain a Ph.D. or even a post-doctoral.

DEPARTMENT OF BOTANY

SEMISTER	COURSE	COURSE NAME	COURSE OUTCOMES
1st	DSC 1	Biodiversity	One aspects of biodiversity are instinctively widely valued by people but the more we study biodiversity the more we see that all of it is important - even bugs and bacteria that we can't see or may not like the look of. There are lots of ways that humans depend upon biodiversity and it is vital for us to conserve it. Pollinators such as birds, bees and other insects are estimated to be responsible for a third of the world's crop production. Without pollinators we would not have apples, cherries, blueberries, almonds and many other foods we eat. Agriculture is also reliant upon invertebrates - they help to maintain the health of the soil crops grow in. Soil is teeming with microbes that are vital for liberating nutrients that plants need to grow, which are then also passed to us when we eat them. Life from the oceans provides the main source of animal protein for many people.
2nd	DSC 2	Plant ecology and plant taxonomy	Global biodiversity is being lost at an unprecedented rate as a result of human activities, and decisions must be taken now to combat this trend. But how do decisionmakers decide where to establish protected areas if they don't know what is being protected? How can regulators identify and combat harmful invasive species if they cannot distinguish them from native species? How do developing countries ensure that they reap the benefits of the use of their biological diversity, if they don't know the biological diversity that is being used? Taxonomy provides basic understanding about the components of biodiversity which is necessary for effective decision making about conservation and sustainable use.
3th	DSC 3	Plant anatomy and embrology.	Plant anatomy can provide valuable characteristics in phylogenetic analyses, but these are less frequently acquired today than in the past. However, anatomical features, whether used directly to generate a cladogram or merely traced on an existing cladogram, can give insight into major adaptive shifts.
4th	DSC 4	Plant physiology	

DEPARTMENT OF MATHEMATICS

COURSE OUTCOME

COURSEOUTCOME (HONOURS)

MAJOR-1: Classical and linear algebra (Semester1 under FYUGP)

- Students will be able to calculate nth roots of unity and apply D'Moivre's theorem.
- Students will acquire knowledge on the theory of equations and its applications.
- Students will be able to solve various inequalitie sand apply them to different problems.
- Studentswillbeabletodeterminetherankofamatrixanditsapplicationonsolving systems of linear equations.
- Students will acquire knowledge on eigen values and eigen vectors.

SEC-1: Logic, Integers & Boolean Algebra (Semester1 under FYUGP)

- Students will learn the introductory concepts of logic.
- Students will have a clear concept on well ordering principle, mathematical induction, congruence relation and they will able to solve linear congruence equations and applications of Chinese remainder theorem.
- Students will able to learn the introductory part of Boolean algebra, method of Quinn-McCluskey, Karnaugh diagram, logic gates, switching circuits and its applications.

MTMH-CC-3 (Semester2 under CBCS)

- Students will gather an elaborate knowledge on real number systems with special emphasis on completeness property of R, Archimedean property, density of rational numbers in R, Bolzano-Weierstrass theorem, Heine-Borel theorem.
- Students will be able to understand the sequence of real numbers and its different properties.
- Skillofdeterminingconvergenceofinfiniteseriesofrealnumberswillbe developed.

MTMH-CC-4 (Semester2 under CBCS)

- Students will acquire knowledge on solving linear homogeneous and non-homogeneous equations of higher order with constant co-efficient, Wronskian, method of undetermined co-efficient, method of variation of parameters.
- Students will learn basic theory of linear systems in normal form, two equations in two unknown functions.
- Students will be able to learn about Lipschitz condition, Picard's Theorem, Autonomous System, Equilibrium points and phase plane.

- Students will gather knowledge on how to apply vector triple product, vector calculus and vector integration.

MTMH-CC-5(Semester 3 under CBCS)

- Students will learn the concepts of limit and continuity of real functions.
- Students will acquire knowledge on differentiability of functions in R and application of Rolle's theorem, Mean value theorem, Intermediate value property of derivatives, Darboux theorem.
- Students will be able to derive Taylor's series and Maclaurin's series expansion of some functions.
- Students will be able to explore concepts of metric spaces.

MTMH-CC-6(Semester 3 under CBCS)

- Students will be able to define group and can give examples of groups, especially permutation group, symmetries of a square, dihedral group, quaternion group.
- Students will also learn different elementary properties of group theory.
- Students will be able to describe subgroup, cyclic group, cosets, normal subgroup, quotient group and homomorphism of groups with special emphasis on first, second and third isomorphism theorems.

MTMH-CC-7(Semester3 under CBCS)

- Students will acquire a very clear knowledge on Riemann Integrations
- Students will be able to solve different types of improper integrals and their convergences.
- Students will learn sequence and series of functions.
- Students will be able to solve different Fourier series and Power series.

SEC-1 LOGICANDSETS (Semester3 under CBCS)

- Students will gather a very clear concept of set theory and its various properties.
- Students will learn different logical approaches.

MTMH-CC-8(Semester4 under CBCS)

- Students will be able to solve problems on calculus of several variables.
- Students will be able to calculate double and triple integrals.
- Students will gather knowledge on vector analysis and its various applications.

MTMH-CC-9(Semester 4 under CBCS)

- Students will acquire knowledge on ring theory.
- Students will have a clear knowledge on vector spaces and its applications.
- Students will be able to calculate problems on linear transformations.

MTMH-CC-10(Semester 4 under CBCS)

- Students will have deeper knowledge on metric spaces, especially on continuous mapping, compactness, connectedness, homeomorphism and its applications.
- Students will learn complex analysis and its applications.

SECII (Semester4 under CBCS under CBCS)

- Students will acquire knowledge about the history of computer and basic ideas of C-programming.
- Students will able to learn characters, constants and variables data-types, expressions, statements, declarations and different operators.
- Students will able to learn various loop control statements.
- Students will acquire knowledge about the use of different dimensional arrays.
- Students will acquire knowledge about the use of different functions.

MTMH-CC-11(Semester 5 under CBCS)

- Students will be eligible to explain automorphism of groups and solve related problems.
- Students will know about Characteristic subgroups, Commutator subgroups and their properties.
- Students will know about the direct product of groups and can solve related problems.
- Students will acquire knowledge on group action and can apply it to solve various problems on group theory.
- Students will be eligible to write class equations of various groups.
- Students will be eligible to explain and solve problems on Sylow Theorems.

MTMH-CC-12(Semester5 under CBCS)

- Students will be eligible to write algorithms, can calculate convergence and different types of errors of a given function.
- StudentswillbeeligibletosolveTranscendentalandpolynomialequationsbydifferent methods.
- Students will be able to solve systems of linear algebraic equations by different methods.
- Students will be capable of solving problems by applying Lagrange's and Newton's interpolation formula, Finite difference operator, Numerical differentiation based on interpolation methods and finite difference methods.
- Students will be eligible in solving numerical integration by various rules.
- Students will be able to solve ordinary differential equations by method of successive approximation, Euler's method, Runge - Kutta methods of orders two and four.

MTMHDSE-I: Probability and Statistics (Semester5 under CBCS)

- Students will be able to define the definition of probability using the concepts o

frandom experiment, sample space and can solve related problems.

- Students will be able to define one- and two-dimensional distribution functions, density functions using random variables and can solve various related problems.
- Students will be able to define one and two expectations, moment generating function, correlation coefficients, joint density functions, calculation of covariance, linear regression using joint random variables and can solve various related problems.
- Students will be able to gather knowledge about Chebyshev's inequality, weak and strong law of large number, central limit theorem and can solve various related problems.
- Students will able to learn different type of sampling distribution, Estimation of parameters and Testing of hypothesis.

MTMHDSE-II: Number Theory (Semester5 under CBCS)

- Students will have concepts on Gaussian integers, Euclidean algorithm, various concepts on gcd, consequences of unique prime factorization and can able to solve Diophantine equations.
- Students will be able to solve problems on congruence arithmetic and learn related theorems.
- Students will be able to learn about Primitive roots, Quadratic residues, Quadratic reciprocity law, Pythagorean triples, Fermat's Two square theorem.

MTMH-CC-13(Semester6 under CBCS)

- Students will gather knowledge on polynomial ring, prime ideal, maximal ideal, principle ideal, irreducible and prime elements, Eisenstein criterion, unique factorization domains, Euclidean domains, Divisibility in integral domains and can solve related problems.
- Students will be able to solve problems on dual space, dual basis, double dual, transpose of a linear transformation and its inverse matrix in the dual basis.
- Students will be capable of solving problems on annihilators, eigen space of linear operator, the minimal polynomial for a linear operator, Diagonalizability, invariant subspaces, Cayley-Hamilton theorem, canonical forms.
- Students will gather knowledge on inner product spaces and its various results and applications.
- Students will be eligible in explaining Self-adjoint operator, Normal operator, Orthogonal projections and Spectral theorem.

MTMH-CC-14(Semester6 under CBCS)

- Students will be able to explain what are partial differential equations, construct it, solve it and give geometrical interpretation of first order equations.
- Students will be able to derive heat equation, wave equation, wave equation, Laplace equation; can classify second order linear equation as hyperbolic, parabolic or elliptic; can reduce second order linear equation to canonical form.
- Students will be able to solve Cauchy problem of an infinite string, Initial boundary

value problem, semi- infinite string with a fixed end as well as with a free end, equations non homogeneous boundary conditions, vibrating string problem, heat conduction problem.

- Students will be eligible in solving problems on central force, constrained motion, varying mass, tangent and normal components of acceleration, modeling ballistic and planetary motion: Kepler's second law.

MATHDSE-III: Boolean algebra and Automata theory (Semester 6 under CBCS)

- Students will able to learn basic concepts of lattice.
- Students will able to learn the introductory part of Boolean algebra, method of Quinn-McCluskey, Karnaugh diagram, logic gates, switching circuits and its applications.
- Students will able to learn the basic concepts of Automata theory, context free grammas and push-down automata and Turing machines.

MATHDSE –IV: Theory of Equations (Semester6 under CBCS)

- Students will be able to represent polynomials graphically, calculate maximum and minimum values of a polynomial, find the nature of roots by applying Descarte's rule of signs, solve problems on relation between roots and coefficients of equations.
- Students will be eligible in solving problems on symmetric functions of roots, Transformation of equations, solution of reciprocal and binomial equations, algebraic solution of the cubic and biquadratic equations.
- Students will be capable of applying Sturm's theorem, Newton's theorem.

2.6.1: COURSE OUTCOMES (2023-2024 SESSION- July to December)

Name of the Program	Year of Introduction	Status of Implementation	Program Outcome	Course Outcome
Geography Major (1st Semester)	**2023-24**	**FYUGP**	Develop skills in questioning, reasoning, and drawing logical conclusions based on evidence and scientific principles of various theories and concepts related to geotectonic. Enable students to interpret and visually communicate data effectively.	**GEOTECTONIC :UGEOMAJ11001** ➢ Concept of geotectonic and earth's interior. ➢ Theories of mountain building. ➢ Continental drift, plate movements and vulcanicity.
			Develop a comprehensive understanding of hazards and disasters, enabling them to recognize and assess potential risks and vulnerabilities in different contexts. Equip with the knowledge and skills necessary to contribute to the development of effective disaster¬ management plans and strategies. Enhance critical thinking abilities by examining the causes, impacts and management strategies¬ associated with hazards and disasters.	**DISASTER MANAGEMENT : UGEOSEC11001** ➢ Definition, concept and classification of hazards and disasters. ➢ Economic, social and environmental impacts of disasters. ➢ Concept and strategies of disaster management.
U.GEOGRPHY HONOURS COURSE (3rdt Semester)	**2021-22**	**CBCS**	Develop Knowledge about the different aspects of the atmosphere around us. Enable the students to the different kinds of atmospheric moisture as well as the winds and cyclones	**CLIMATOLOGY :GEOH-CCHL-301** ➢ Atmospheric composition and structure ➢ Atmospheric pressure and winds ➢ Atmospheric moisture& Tropical cyclones
			Develop skills to analyze and interpret data. Enables deep understanding of the data relationship in real world situation	**STATISTICAL METHODS IN GEOGRAPHY:GEOH-CCHL-302** ➢ Significance of statistics &Use of data in Geography ➢ Concepts of Correlation analysis and Regression analysis & Determination
			Encourages deep understanding about the physical constituents of our country Enables the students to unfold the various resources ;economic, social, their distribution and	**GEOGRAPHY OF INDIA:: GEOH-CCHL-303** ➢ Physiographic divisions(classification and distribution) of India ➢ Economic resources: production, distribution, and utilization

			regionalization	➢ Social distribution of population, Regionalization of India
			Enables the students to understand about the new technology based subject with profound details. Skills the students for new horizons in the commercial field	**GEOH-SECT-305: REMOTE SENSING** ➢ Definition and development of Remote Sensing ➢ Satellite Remote Sensing & Visual Satellite Image Interpretation ➢ Application of Remote Sensing in Land use/Land cover mapping
U.GEOGRPHY HONOURS COURSE (5th Semester)			Make the students aware about the different aspects of soil, their conservation Helps students gain knowledge about the different details about the concept of ecosystem and their relation to human beings in general	**BIOGEOGRAPHY &PEDOLOGY:GEOH-CCHL-501** ➢ Pedology: Factors& processes of soil formation ➢ Soil Fertility, ➢ classification ,erosion & conservation of soil ➢ Ecosystem: Concept, structure and functions
			Enables the students to understand about the new technology based subject with profound details. Skills the students for new horizons in the commercial field	**REMOTE SENSING AND GIS:GEOH-CCHL-502** ➢ Definition and components of Remote Sensing and GIS ➢ Aerial Photography and Satellite Remote Sensing ➢ GIS Data Structures: application of Remote Sensing and GIS
				POPULATION GEOGRAPHY: GEOH-DE1L-503 ➢ Nature and scope; sources of data: Population, Determinants and patterns; Theories ➢ Population dynamics: composition and characteristics
				URBAN GEOGRAPHY: GEOH-DE2L-504 ➢ Urban geography: nature and scope, Patterns of urbanization ➢ Functional

				classification of cities ➢ Urban Issues: problems civic amenities
Geography MINOR (1st Semester)	**2023-24**	**FYUGP**	Students will develop critical thinking skills by analyzing and evaluating complex geological and atmospheric processes. Students will develop an understanding of the earth's natural systems and the impact of human activities on the environment. They will learn to interpret and analyse scientific data, including maps, charts and graphs, to draw conclusions and make informed decisions. Students will develop the ability to adapt to changes in the earth's systems and understand the dynamic nature of the planet.	**PHYSICALGEOGRAPHY: UGEOMIN10001** ➢ Interior of the earth; Continental Drift Theory by Wegener; Plate tectonics; ➢ Composition and structure of atmosphere; Temperature, pressure& precipitation, cyclones ➢ Temperature and salinity of ocean water; Ocean currents- Causes, types, Coral reefs
GEOGRAPHY PROGRAMME COURSE(3rd Semester)				**REGIONAL DEVELOPMENT: GEOP-DSCL-306** ➢ Definition, types of Regional planning, Regional Imbalances ➢ Strategies for Regional problems, Regional Plans
GEOGRAPHY PROGRAMME COURSE SKILL ENHANCEMENT COURSE				**REMOTE SENSING: GEOP-SECT-307** ➢ Definition and development; platforms and types of Remote Sensing ➢ Satellite Remote Sensing &Visual Satellite Image Interpretation; ➢ Application of Remote Sensing
GEOGRAPHY PROGRAMME COURSE(5th Semester)				**DISASTER MANAGEMENT:GEOP-DE1L-505** ➢ Disasters: definition and concepts, classification ➢ Disasters in India,) flood,; landslide, drought, earthquake and tsunami ➢ Response and mitigation to disasters
SKILL ENHANCEMENT COURSE				**REMOTE SENSING: GEOP-SECT-507** ➢ Definition and development; platforms and types of Remote Sensing

				➢ Satellite Remote Sensing &Visual Satellite Image Interpretation; ➢ Application of Remote Sensing
GEOGRAPHY PROGRAMME COURSE GENERIC ELECTIVE(5th Semester				**PHYSICAL GEOGRAPHY:GEOP-GE1L-506** ➢ Geotectonic: Origin and evolution of the earth, Interior structure, Theories, ➢ Rocks: types, characteristics ➢ Geomorphic processes: river, glacier and wind

2.6.1: COURSE OUTCOMES (2023-2024 SESSION- January to June)

Name of the Program	Year of Introduction	Status of Implementation	Program Outcome	Course Outcome
Geography Major (2nd Semester)	**2023-24**	**FYUGP**	Analyzing the suitability of different locations for settlements and understand the factors that contribute to their success or decline. Understanding the morphological patterns will enable students to identify and analyse the characteristics of different settlement. Students will develop competency in constructing diagonal and vernier scales and equip with practical skills in map reading, interpretation, and cartographic analysis.	**SETTLEMENT GEOGRAPHY:UGEOMAJ12002** ➢ Concept of site and situation, origin and growth of rural and urban settlements, as well as the types, patterns and distribution of rural settlements. ➢ Physical layout, structure, and form of rural and urban settlements. ➢ Theories of the origin of towns and urban land use and morphology.
			Develop the ability to analyze complex sustainability issues critically, evaluate different perspectives and propose informed solutions. Foster a sense of responsibility and awareness among students towards environmental conservation and protection. Students will cultivate a sense of global citizenship and understand the interconnectedness of various regions and societies.	**SUSTAINABLE DEVELOPMENT: : UGEOSEC12002** ➢ Definition, concept and elements of sustainable development. Global challenges such as deforestation and soil erosion, their causes, impacts, and potential solutions. ➢ Key global initiatives and agreements aimed at promoting sustainable development. ➢ India's progress in achieving millennium development goals. Challenges and obstacles faced in implementing sustainable development strategies.
GEOGRAPHY HONOURS COURSE(4th Semester)	**2021-22**	**CBCS**		**ECONOMIC GEOGRAPHY: GEOH-CCHL-401** ➢ Concept& factors of economic activity; theories) ➢ Primary, Secondary& Tertiary activities

				REGIONAL PLANNING AND DEVELOPMENT: GEOH-CCHL-402 ➢ Region, evolution and types of regional planning, regional imbalances ➢ Choice of a region for planning, delineation of planning region ➢ Theories and Models for regional planning, Measuring development: Indicators
				FIELD WORK AND RESEARCH METHODOLOGY: GEOH-CCHL-403 ➢ Research Components, objectives, types and stages& Field work in geographical studies ➢ Field techniques: merits, demerits and selection of the appropriate technique ➢ Defining research problems; research design and hypothesis
				GEOGRAPHICAL INFORMATION SYSTEM: : GEOH-SECT-405 ➢ Definition and Component of (GIS); Data Structures:&Types, Analysis, Application ➢ Global Positioning System (GPS): Principles and uses
GEOGRAPHY HONOURS GENERIC ELECTIVE				**GEOGRAPHY OF INDIA: GEOH-GE4L-404** ➢ Physiography, Intensive farming, plantation farming ➢ Industrial location, Factors, classification, distribution ➢ Population, Growth, distribution, characteristics
GEOGRAPHY HONOURS COURSE(6th Semester)				**EVOLUTION OF GEOGRAPHICAL THOUGHTS: GEOH-CCHL-601** ➢ Evolution of geographical ideas: e ancient period, medieval period, Modern evolution of geographical thinking ➢ Environmental Determinism and Possibilism, Systematic and Regional&other Trends

				DISASTER MANAGEMENT: GEOH-CCHL-602 ➢ Disasters: definition and concepts, classification ➢ Disasters in India,flood; landslide, cloudburst, a biological hazard earthquake ➢ Response and mitigation to disasters ,National Disaster Management Act
				ADVANCED CARTOGRAPHY: GEOH-DE3L-603 ➢ Fundamentals of cartography, Levelling, Dumpy Level, Theodolite ➢ Map Projection: Properties, advantages, limitations and derivation ➢ Concept, principles and components of Remote sensing, Techniques of digital image processing, Application of GIS
				HYDROLOGY AND OCEANOGRAPHY: : GEOH-DE4L- ➢ Hydrological Cycle: Systems approach in hydrology, Characteristics of river basins ➢ Ocean characteristics(determinants and distribution Coral Reefs,
Geography MINOR (2nd Semester)	**2023-24**	**FYUGP**	Students will develop critical thinking skills by analyzing and evaluating complex geological and atmospheric processes. Students will develop an understanding of the earth's natural systems and the impact of human¬ activities on the environment. They will learn to interpret and analyse scientific data, including maps, charts and graphs, to draw¬ conclusions and make informed decisions. Students will develop the ability to	**PHYSICAL GEOGRAPHY: UGEOMIN10001** ➢ Analyse geological processes, atmospheric phenomena and oceanic systems. interpret maps, diagrams and data related to earth science . ➢ They will develop the ability to observe and identify geological and climatic features.¬

			adapt to changes in the earth's systems and understand the¬ dynamic nature of the planet	
GEOGRAPHY PROGRAM COURSE(4th Semester)	**2021-22**	**CBCS**		**SPATIAL INFORMATION TECHNOLOGY : GEOP-DSCL-406** ➢ Introduction: definitions, concept and historical development ➢ Spatial Information/Data: Web data sources, Functions, Application
SKILL ENHANCEMENT COURSE				**GEOGRAPHICAL INFORMATION SYSTEM: GEOH-SECT-405** ➢ Definition and Component of (GIS); Data Structures:&Types, Analysis, Application ➢ Global Positioning System (GPS): Principles and uses
GEOGRAPHY PROGRAM COURSE(6th Semester)	**2021-22**	**CBCS**		**CLIMATE CHANGE: VULNERABILITY AND ADAPTATION: : GEOP-DE2L-605** ➢ Climate change: concepts and implications; Climate change and vulnerability ➢ Impact of Climate Change, Adaptation and mitigation
GENERIC ELECTIVE				**GEOGRAPHY OF INDIA: GEOP-GE2L-606:** ➢ Physiography, Intensive farming, plantation farming ➢ Industrial location, Factors, classification, distribution ➢ Population, Growth, distribution, characteristics
SKILL ENHANCEMENT COURSE				**GEOGRAPHICAL INFORMATION SYSTEM: : GEOP-SECL-607** ➢ Definition and Component of (GIS); Data Structures:&Types, Analysis, Application ➢ Global Positioning System (GPS): Principles and uses

Department of Computer Science

Sukanta Mahavidyalaya

Dhupguri, Jalpaiguri

Programme Outcomes, Programme Specific Outcomes and Course Outcomes for UG Programme

Programme Name: ***B.Sc Computer Science program***

Number of Semesters: 6

Programme Outcomes

The Computer Science Department's Bachelor of Computer Science Program course must enable students to attain, by the time of graduation:

- With the B.Sc. Computer Science, students will be able to apply for a range of computational and mathematical jobs in the creative industries, business, finance, education, medicine, engineering and science.
- An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computational systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
- Provide students with knowledge, general competence, and analytical skills in Computer Science on an advanced level.
- Prepare them for academics, industry, and research.
- Provide hands-on experience to apply computing skills in all other fields of study like Mathematics, Geography, Bio Sciences, Physics, Chemistry, Linguistics, Music, Medical Sciences etc.

Programme Specific Outcomes

Students will:

- Become technology-oriented with the knowledge and ability to develop creative solutions, and better understand the effects of future developments of computer systems and technology on people and society as a whole.
- Acquire some development experience within a specific field of Computer Science, through project work.
- Gain ability to apply knowledge of Computer Science to the real-world issues.
- Get familiar with current research trends in various fields of Computer Science.
- Use creativity, critical thinking, analyses and research skills.
- Get prepared for placement by developing personality and soft skills.
- Gain ability to communicate scientific information in a clear and concise manner.
- Build up programming, analytical and logical thinking abilities.
- Know the recent developments in IT, future possibilities and limitations, and understand the value of lifelong learning.
- Get an ability to participate in debates, discussions in the society constructively.

Course Outcomes

SEMESTER—I		
Course Code	**Course Name**	**Course Outcomes**
CC 1	**Computer System Architecture**	Knowledge gained: • Understand the theory and architecture of hardwired and microprogram controlled central processing units

		• Learn the concepts of parallel processing, pipelining and inter-processorcommunication. • Define different number systems, binary addition and subtraction, 2'scomplement representation and operations Skills gained: • Analyze some of the design issues in terms of speed, technology, cost,performance • Design a simple CPU with applying the theoretical concepts • Understand the architecture and functionality of central processing unit Competency developed: • Use appropriate tools to design verify and test the CPU architecture. • Exemplify in a better way the I/O and memory organization.

Semester II		
Course Code	**Course Name**	**Course Outcomes**
CC 2	**Programming Fundamentals using C**	Knowledge gained: • 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. Skills gained: • Logical thinking • C Programming Competency developed: • Ability to write programs of moderate complexity in C Programming • Developing real world application using C Programming
CC 2L	**Programming Fundamentals using C Lab**	Knowledge gained: • This lab work provides hands-on experience for C Programming. • Read, understand and trace the execution of programs written in C language. • Write the C code for a given algorithm. • Implement Programs with pointers and arrays, perform pointer arithmetic, and use the pre-processor. • Write programs that perform operations using derived data types Skills gained: • Programming in C Competency developed: Developing application to solve real world problem using C

Semester III		
Course Code	**Course Name**	**Course Outcomes**
CC 3	**Computer Networks**	Knowledge gained: • Basic networking concepts, types of networks, various topologies andapplication of networks • types of addresses, data communication. • wired and wireless networks, its types, functionality of layer • importance of network security and cryptography • concept of networking models, protocols, functionality of each layer Skills gained: • Learn basic networking hardware and tools. • Create hybrid topologies using the existing topologies, and checkefficiency. • Apply different encoding and decoding mechanisms involved in different types of transmission media and to measure the transmission impairments. Competency developed: • Create a new protocol and test its efficiency. • Design various categories of networks and test thetransmission rate.
SEC 1	**Office Automation Tools**	Knowledge gained: • 0ffice Automation tools course would enable the students in crafting professional word documents, excel spread sheets, power point presentations using the Microsoft suite of office tools. • To familiarize the students in preparation of documents and presentations with office automation tools. Skills gained: • to perform documentation • to perform accounting operations • to perform presentation skills
Semester IV		
Course Code	**Course Name**	**Course Outcomes**
CC 4	**Data Structures**	Knowledge gained: • Describe how arrays, records, linked structures, stacks, queues, trees, andgraphs are represented in memory and used by algorithms • Describe common applications for arrays, records, linked structures,stacks, queues, trees, and graphs • Write programs that use arrays, records, linked structures, stacks, queues,trees, and graphs • Demonstrate different methods for traversing trees • Illustrate various technique to for searching, Sorting and hashing • Describe the concept of recursion, give examples of its use, describe

		howit can be implemented using a stack • Discuss the computational efficiency of the principal algorithms forsorting, searching, and hashing. • Summarize different categories of data Structures Skills gained: • Compare alternative implementations of data structures with respect toperformance • Compare and contrast the benefits of dynamic and static data structuresimplementations • Explain the significance of dynamic memory management Techniques • Identify different parameters to analyze the performance of an algorithm. Competency developed: • Choose appropriate data structures to solve real world problemsefficiently. • Design and implement an appropriate hashing function for an application • Design algorithms to perform operations with Linear and Nonlinear data structures
CC 4L	**Data Structures Lab**	Knowledge gained: • Write programs using structures, unions, dynamic memory allocation functions and command line arguments • Implement code for linear data structures like stacks, queues, linked listsusing static and dynamic allocation and their applications • Implement program for binary search tree using nonlinear data structure. • Write programs using arrays, strings, dynamic memory allocation functions • Implement program for binary search tree and Graphs using nonlinear data structure. Skills gained: • Programming real life application in C/C++ Competency developed: • Understand and choose the appropriate data structure for solving real world problems.
SEC 2	**HTML Programming**	Knowledge gained: • To introduce the fundamentals of Internet, and the principles of web design. • To construct basic websites using HTML and Cascading Style Sheets. • To build dynamic web pages with validation using Java Script objects and by applying different event handling mechanisms. • To develop modern interactive web applications using PHP, XML and MySQL Competency developed: • To learn HTML tags and JavaScript Language programming concepts and techniques.

		• To develop the ability to logically plan and develop web pages. • To learn to write, test, and debug web pages using HTML and JavaScript.
Semester V		
Course Code	**CourseCode**	**CourseCode**
DSE 1A	**Data Base Management Systems**	Knowledge gained: • Types of databases • Detailed architecture, define objects, load data, query data andperformance tune databases. • Writing SQL queries for the given problem statement Skills gained: • Establish a basic understanding of the process of Database • Develop ER diagram for representing conceptual data model • Convert ER diagram into a set of relations representing logical data model Competency developed: • Gain ability to handle large volumes of structured, semi-structured, andunstructured data using database technologies. • Appreciate the need for DB approach and understand the components androles of DBMS • Apply DB system development life cycle to business problems • Implement a set of relations in the chosen DBMS • Development and Administration using MySQL. • Analyze and Select storage and recovery techniques of database system. Competency developed: • Design a commercial relational database system (Oracle, MySQL) by writing SQL using the system.
	Operating Systems	Knowledge gained: • To understand Complexity of Operating system as a software • To understand design issues related to process management and variousrelated algorithms • To understand design issues related to memory management and variousrelated algorithms • To understand design issues related to File management and variousrelated algorithms • Allocate Main Memory based on various memory managementtechniques • Compare Memory allocation using Best fit, Worst fit, and first fit policies • Apply page replacement policies for dynamic memory management • Schedule CPU time using scheduling algorithm for processors • Compare various device scheduling algorithms Skills gained: • To evaluate, and compare OS components through instrumentation forperformance analysis. • To analyze the various device and resource management techniques fortimesharing and distributed systems

		Competency developed: • To design and understand the following OS components: System calls, Schedulers, Memory management systems, Virtual Memory and Pagingsystems. • To develop and analyze simple concurrent programs using transactionalmemory and message passing, and to understand the trade-offs and implementation decisions
SEC 3	**Visual Basic Programming**	Knowledge gained: • This course provides the skills and knowledge required to use essential features and capabilities of Visual BASIC, a programming system used to produce Graphical User Interfaces and applications in a Windows environment. • It includes basic programming concepts, problem solving, programming logic, and the design of event-driven programming. Competency developed: • The student will demonstrate knowledge of visual programming • The student will demonstrate knowledge of program design • The student will apply and synthesize knowledge of user interface design • The student will demonstrate understanding and application of a modern Integrated Development Environment (IDE) • The student will demonstrate the ability to synthesize knowledge of fundamental computer programming • The student will demonstrate the ability to analyze program development and maintenance
Semester VI		
Course Code	**CourseCode**	**CourseCode**
DSE 1B	**Project Work**	Knowledge gained: • Identify and define the problem statement • Define and justify scope of the proposed problem • Gather and analyze system requirements • Propose an optimized solution among the existing solutions • Practice software analysis and design techniques • Develop a functional application based on the software design • Apply coding, debugging and testing tools to enhance the quality ofthe software • Construct new software system based on the theory and practice gained through this exercise • Prepare the proper documentation of software projects following the standard guidelines • Develop technical report writing and oral presentation Skills gained: • Software Project Development

		Competency developed: • Professional Software Developer
SEC 4	**My SQL**	Knowledge gained: • Understand basic concepts of how a database stores information via tables. • Understand SQL syntax used with MySQL. • Learn how to retrieve and manipulate data from one or more tables. • Learn how to filter data based upon multiple conditions. • Update and insert data into the existing tables. • Understand how the relationships between tables will affect the SQL. • Understand the advantages of stored procedures along with storing data using variables and functions. • Boost ability through innovative and independent learning. • Get a certificate on successful completion of the course. Competency developed: • Gain familiarity with the MySQL development environment • Understand basic concepts of database development: SQL, Database design, Administration, and Security • Design and code a database solution

Department of Computer Science

Sukanta Mahavidyalaya

Dhupguri, Jalpaiguri

Programme Outcomes, Programme Specific Outcomes and Course Outcomes for UG Programme

Programme Name: ***B.Sc Computer Science Honours***

Number of Semesters: 6

Programme Outcomes

The Computer Science Department's Bachelor of Computer Science Honours course must enable students to attain, by the time of graduation:

- With the B.Sc. Computer Science, students will be able to apply for a range of computational and mathematical jobs in the creative industries, business, finance, education, medicine, engineering and science.
- An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computational systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
- Provide students with knowledge, general competence, and analytical skills in Computer Science on an advanced level.
- Prepare them for academics, industry, and research.
- Provide hands-on experience to apply computing skills in all other fields of study like Mathematics, Geography, Bio Sciences, Physics, Chemistry, Linguistics, Music, Medical Sciences etc.

Programme Specific Outcomes

Students will:

- Become technology-oriented with the knowledge and ability to develop creative solutions, and better understand the effects of future developments of computer systems and technology on people and society as a whole.
- Acquire some development experience within a specific field of Computer Science, through project work.
- Gain ability to apply knowledge of Computer Science to the real-world issues.
- Get familiar with current research trends in various fields of Computer Science.
- Use creativity, critical thinking, analyses and research skills.
- Get prepared for placement by developing personality and soft skills.
- Gain ability to communicate scientific information in a clear and concise manner.
- Build up programming, analytical and logical thinking abilities.
- Know the recent developments in IT, future possibilities and limitations, and understand the value of lifelong learning.
- Get an ability to participate in debates, discussions in the society constructively.

Course Outcomes

SEMESTER—I		
Course Code	**Course Name**	**Course Outcomes**
CC 12	**Programming Fundamentals using C**	Knowledge gained: • 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.

		Skills gained: • Logical thinking • C Programming Competency developed: • Ability to write programs of moderate complexity in C Programming • Developing real world application using C Programming
CC 13	**Computer System Architecture**	Knowledge gained: • Understand the theory and architecture of hardwired and microprogram controlled central processing units
		• Learn the concepts of parallel processing, pipelining and inter-processor communication. • Define different number systems, binary addition and subtraction, 2's complement representation and operations Skills gained: • Analyze some of the design issues in terms of speed, technology, cost, performance • Design a simple CPU with applying the theoretical concepts • Understand the architecture and functionality of central processing unit Competency developed: • Use appropriate tools to design verify and test the CPU architecture. • Exemplify in a better way the I/O and memory organization.
CC 12L	**Programming Fundamentals using C Lab**	Knowledge gained: • This lab work provides hands-on experience for C Programming. • Read, understand and trace the execution of programs written in C language. • Write the C code for a given algorithm. • Implement Programs with pointers and arrays, perform pointer arithmetic, and use the pre-processor. • Write programs that perform operations using derived data types Skills gained: • Programming in C Competency developed: • Developing application to solve real world problem using C
CC 13L	**Computer System Architecture Lab**	Knowledge gained: • Analyze the behaviour of logic gates • Understanding the behavior of Logic Gates, Adders, Decoders, Multiplexers, Demultiplexer, Encoder, Decoder and Flip-Flops. • Design combinational circuits for basic components of computer system and applications. • Analyze the operational behaviour and implement various flip-flop, registers, Counters.

Semester II		
Course Code	**Course Name**	**Course Outcomes**
CC 22	**Programming in JAVA**	Knowledge gained: • This lab work provides hands-on for Java. • Java Programming assignments based on class, inheritance, abstraction, encapsulation, dynamic binding, polymorphism, I/O systems, exception handling Skills gained: • Programming in Java Competency developed: • Developing application to solve real world problem using Java • Implement core Java programs to solve simple problems • Implement Client and Server end Java programs Knowledge gained
CC 23	**Discrete Structures**	Knowledge gained: • basics of Combinations and Permutations • relations matrices and graphs. Skills gained: • Mathematical and logical thinking towards a real world problem solving • Mathematical modelling of real world problems • Demonstrate the working of Grammars and Languages Competency developed: • Comprehend and evaluate mathematical arguments revolving around computation • Apply the knowledge on Graphs and Trees to real world applications.
CC 22L	**Programming in JAVA Lab**	Knowledge gained: • This lab work provides hands-on for Java. • Java Programming assignments based on class, inheritance, abstraction, encapsulation, dynamic binding, polymorphism, I/O systems, exception handling

		Skills gained: • Programming in Java Competency developed: • Developing application to solve real world problem using Java • Implement core Java programs to solve simple problems Implement Client and Server end Java programs Knowledge gained.
Semester III		
Course Code	**Course Name**	**Course Outcomes**
CC 31	**Data Structures**	Knowledge gained: • Describe how arrays, records, linked structures, stacks, queues, trees, andgraphs are represented in memory and used by algorithms • Describe common applications for arrays, records, linked structures,stacks, queues, trees, and graphs • Write programs that use arrays, records, linked structures, stacks, queues,trees, and graphs • Demonstrate different methods for traversing trees • Illustrate various technique to for searching, Sorting and hashing • Describe the concept of recursion, give examples of its use, describe howit can be implemented using a stack • Discuss the computational efficiency of the principal algorithms forsorting, searching, and hashing. • Summarize different categories of data Structures Skills gained: • Compare alternative implementations of data structures with respect toperformance • Compare and contrast the benefits of dynamic and static data structuresimplementations • Explain the significance of dynamic memory management Techniques • Identify different parameters to analyze the performance of an algorithm. Competency developed: • Choose appropriate data structures to solve real world problems efficiently. • Design and implement an appropriate hashing function for an application • Design algorithms to perform operations with Linear and Nonlinear data structures
CC 32	**Operating Systems**	Knowledge gained: • To understand Complexity of Operating system as a software • To understand design issues related to process management and various related algorithms • To understand design issues related to memory management and various related algorithms • To understand design issues related to File management and various related algorithms • Allocate Main Memory based on various memory management techniques • Compare Memory allocation using Best fit, Worst fit, and first fit policies • Apply page replacement policies for dynamic memory management

		• Schedule CPU time using scheduling algorithm for processors • Compare various device scheduling algorithms Skills gained: • To evaluate, and compare OS components through instrumentation for performance analysis. • To analyze the various device and resource management techniques for timesharing and distributed systems Competency developed: • To design and understand the following OS components: System calls, Schedulers, Memory management systems, Virtual Memory and Paging systems. • To develop and analyze simple concurrent programs using transactional memory and message passing, and to understand the trade-offs and implementation decisions
CC 33	**Computer Networks**	Knowledge gained: • Basic networking concepts, types of networks, various topologies andapplication of networks • types of addresses, data communication. • wired and wireless networks, its types, functionality of layer • importance of network security and cryptography • concept of networking models, protocols, functionality of each layer Skills gained: • Learn basic networking hardware and tools. • Create hybrid topologies using the existing topologies, and checkefficiency. • Apply different encoding and decoding mechanisms involved in different types of transmission media and to measure the transmission impairments. Competency developed: • Create a new protocol and test its efficiency. • Design various categories of networks and test thetransmission rate.
CC 31L	**Data Structures Lab**	Knowledge gained: • Write programs using structures, unions, dynamic memory allocation functions and command line arguments • Implement code for linear data structures like stacks, queues, linked listsusing static and dynamic allocation and their applications • Implement program for binary search tree using nonlinear data structure. • Write programs using arrays, strings, dynamic memory allocation functions • Implement program for binary search tree and Graphs using nonlinear data structure. Skills gained: • Programming real life application in C/C++ Competency developed: Understand and choose the appropriate data structure for solving realworld problems.

CC 32L	**Operating Systems Lab**	• Understand basic commands of Linux operating system and use them in Linux environment (ubuntu, fedora etc.) • Understand commands related to process control and apply them to manage processes. • Understand the concepts of control structure, loops, case and functions in shell programming and apply them to create shell scripts. • Associate the concepts of arrays with Linux and apply them to create, compile and execute shell script in Linux terminal • Compare different editors (vi, gedit, nano) and use them to create shell script for given problem • To understand the inner workings of UNIX-like operating systems.
CC 33L	**Computer Networks Lab**	• Understand the practical approach to network communication protocols. • Understand network layers, structure/format and role of each network layer. • Able to design and implement various network application such as data transmission between client and server, file transfer, real-time multimedia transmission. • Understand the various Routing Protocols/Algorithms and Internetworking.
SEC 35TL	**E1: Digital Electronics and System Maintenance**	• An ability to understand theory of Digital Design and Computer Organization to provide an insight of how basic computer components are specified. • An ability to understand the functions of various hardware components and their building blocks. • An ability to understand and appreciate Boolean algebraic expressions to digital design • An in depth understanding of realization of different combinational/sequential circuits • An in depth understanding of how different hardware components are related and work in coordination • An ability to understand computer buses and input/output peripherals
	E2: Website Design with HTML and PHP	Knowledge gained: • Learn Core-PHP, Server Side Scripting Language • Learn PHP-Database handling. • Learn different technologies used at client Side Scripting Language • Learn XML, CSS and XML parsers. • One PHP framework for effective design of web application. • Learn JavaScript to program the behavior of web pages. Skills gained: • Design and Develop Web Applications using HTML,CSS, JavaScript, XML, PHP. Competency developed: • Developing application to solve real world problems

	E3: Python Programming	Knowledge gained: • To understand why Python is a useful scripting language for developers. • To learn how to use lists, tuples, and dictionaries in Python programs. • To learn how to identify Python object types. • To learn how to use indexing and slicing to access data in Pythonprograms. • To define the structure and components of a Python program. • To learn how to write loops and decision statements in Python. • To learn how to write functions and pass arguments in Python. • To learn how to build and package Python modules for reusability. • To learn how to read and write files in Python. • To acquire programming skills in core Python. Skills gained: • Learn how to design and program Python applications. Competency developed: • To develop the ability to write database applications in Python • To develop the skill of designing Graphical user Interfaces in Python
Semester IV		
Course Code	**Course Name**	**Course Outcomes**
CC 41	**Design and Analysis of Algorithms**	Knowledge gained: • Analyze the running time and space complexity of algorithms. • Describe, apply and analyze the complexity of divide and conquer strategy. • Describe, apply and analyze the complexity of greedy strategy. • Describe, apply and analyze the complexity of dynamic programming strategy. • Explain and apply backtracking, branch and bound and string matching techniques to deal with some hard problems. • Describe the classes P, NP, and NP Complete and be able to prove that acertain problem is NP-Complete. • Describe analysis techniques for algorithms. • Identify appropriate data structure and design techniques for differentproblems • Identify appropriate algorithm to be applied for the various application likegeometric modeling, robotics, networking, etc. • Appreciate the role of probability and randomization in the analysis ofalgorithm • Differentiate polynomial and non-deterministic polynomial algorithms. Skills gained: • To provide mathematical approach for Analysis of Algorithms • To solve problems using various strategies • To provide mathematical approach for Analysis of Algorithms.

		• To teach advanced data structures. • To solve complex problems in real life applications. Competency developed: • To analyze strategies for solving problems not solvable in polynomial time Analyze various algorithms.
CC 42	**Software Engineering**	Knowledge gained: • Learn the phases of software development • Develop process models and process system models • Gather, understand, analyze and specify requirements • Elicit, analyze and model requirements • Schedule projects, identify risk strategies and manage risks. • Understanding importance of Object Orientation in Software engineering • Understand the components of Unified Modeling Language • Develop architectural diagram, and implement by following coding principles • Estimate software scope feasibility and resources • Identify and apply SQA tasks, goals, and metrics Skills gained: • To develop strategies to calculate risk factors involved in IT projects • To use project management software to control the design, implementation, closure, and evaluation of IT projects • To estimate, plan, calculate, and adjust project variables. Competency developed: • Apply project management practices to launch new programs, initiatives, products, services, and events relative to the needs of stakeholders. • Apply Agile process model for Software Development Apply testing strategies and handle software product maintenanceissues
CC 43	**Database Management Systems**	Knowledge gained: • Types of databases • Detailed architecture, define objects, load data, query data and performance tune databases. • Writing SQL queries for the given problem statement Skills gained: • Establish a basic understanding of the process of Database • Develop ER diagram for representing conceptual data model • Convert ER diagram into a set of relations representing logical data model Competency developed: • Gain ability to handle large volumes of structured, semi-structured, and unstructured data using database technologies. • Appreciate the need for DB approach and understand the components and roles of DBMS • Apply DB system development life cycle to business problems • Implement a set of relations in the chosen DBMS • Development and Administration using MySQL.

		• Analyze and Select storage and recovery techniques of database system. Competency developed: • Design a commercial relational database system (Oracle, MySQL) by writing SQL using the system.
SEC 45TL	**E1: Android Programming**	Knowledge gained: • Pass data between fragments • To gain knowledge of installing Android Studio and Cross Platform Integrated Development Environment. • An ability to use the techniques, skills, and modern technology. Skills gained: • Debug android apps and create UI fragments • Create database and communicate with mobile apps Competency developed: • Design apps with audio play back. • To develop the different applications that mobile computing offers to people, employees, and businesses To develop high levels of technical competence in the field of mobiletechnology
	E2: Programming in MATLAB	Knowledge gained: • Able to implement loops, branching, control instruction and functions in MATLAB programming environment. • Able to program curve fitting, numerical differentiation and integration, solution of linear equations in MATLAB and solve electrical engineering problems. • Able to understand implementation of ODE using ode 45 and execute Solutions of nonlinear equations and DFT in MATLAB. • Able to simulate MATLAB Simulink examples Skill gained: • Apply a top-down, modular, and systematic approach to design, write, test, and debug sequential MATLAB programs to achieve computational objectives. • Design and document computer programs and analyses in a careful and complete manner so as to effectively communicate results, to facilitate evaluation and debugging by another programmer, and to anticipate and resolve user errors. Competency developed: • Fundamentals of MATLAB tool. • Program curve fitting & solve Linear and Nonlinear Equations. • Demonstrate understanding and use of fundamental data structures (classes). • Create and control simple plot and user-interface graphics objects in MATLAB.
	E3: VB.NET Programming	Knowledge gained: • Understand .NET Framework and describe some of the major enhancements to the new version of Visual Basic. • Describe the basic structure of a Visual Basic.NET project and use main features of the integrated development environment (IDE) • Create applications using Microsoft Windows Forms • Create applications that use ADO. NET

		Skill developed: • Create a rich GUI for web-based application using a rich set of controls • Create secure (authentication and authorization) web applications • Create asynchronous web applications using ASP.NET • Create and use web services • Deploy web applications Competency developed: • Analyze program requirements • Design/develop programs with GUI interfaces • Code programs and develop interface using Visual Basic .Net • Perform tests, resolve defects and revise existing code
Semester V		
Course Code	**CourseCode**	**CourseCode**
CC 51	**Internet Technologies**	Knowledge gained: • Learn Core-PHP, Server Side Scripting Language • Learn PHP-Database handling. • Learn different technologies used at client Side Scripting Language • Learn XML,CSS and XML parsers. • One PHP framework for effective design of web application. • Learn JavaScript to program the behavior of web pages. • Learn AJAX to make our application more dynamic. Skills gained: • Design and Develop Web Applications using Node.js, Express.js,AngularJS • Create and connect MongoDB to web application • Connect Mongoose to MongoDB • Create a MEAN CRUD Module for web application Competency developed: Developing application to solve real world problems
CC 52	**Theory of Computation**	Knowledge gained: • To have an understanding of finite state and pushdown automata. • To have a knowledge of regular languages and context free languages. • Recognize to which class in the Chomsky hierarchy the language described (by a grammar or machine) belongs Skills gained: • Define the various categories of languages and grammars in the Chomsky hierarchy • Define various categories of automata (deterministic and nondeterministic finite state automata, and variants of Turing machines) • Define the notions of computability and decidability • Recognize problems reducible to/from well-known decidable/undecidable problems • Reduce a problem to another (when possible), to develop proofs of decidability/undecidability; • Apply Rice's theorem, when appropriate

		Competency developed: • Derive an appropriate machine description from a grammar, and vice versa; • Design a Turing machine that accomplishes a specific task, using macros when appropriate. • A Infer properties of a language from a grammar or machine description; Infer the equivalence of languages described using different grammars or machines.
DSE 53	**E1: Microprocessor**	Knowledge gained: • Understand the architecture of 8085 and 8086. • Impart the knowledge about the instruction set. • Understand the basic idea about the data transfer schemes and its applications. • Develop skill in simple program writing for 8085 & 8086 and applications. Skill gained: • Develop skill in simple program writing for INTEL 8085 and INTEL 8086. • become familiar with the architecture and the instruction set of Intel microprocessors/ microcontrollers. Competency developed: • Describe the Intel 8085/8086 architecture with explanation of internal organization of some popular microprocessors/microcontrollers. • Construction of a maintainable assembly language program for an algorithm. • Conclude the Intel 8085/8086 real mode memory addressing. • Describe the functioning of different peripheral ICs analyze • Designing of microprocessors/microcontrollers-based systems.
	E2: Information Security	Knowledge gained: • Exhibit knowledge to secure corrupted systems, protect personaldata, and secure computer networks in an Organization. Practice with an expertise in academics to design and implement security solutions. • Understand key terms and concepts in Cryptography, Governanceand Compliance. • Develop cyber security strategies and policies • Understand principles of web security and to guarantee a secure network by monitoring and analyzing the nature of attacks throughcyber/computer forensics software/tools. Skills gained: • Analyze and evaluate the cyber security needs of an organization. • Determine and analyze software vulnerabilities and security solutions to reduce the risk of exploitation. • Measure the performance and troubleshoot cyber security systems. Competency developed: • Implement cyber security solutions and use of cyber security, information assurance, and cyber/computer forensics software/tools. • Comprehend and execute risk management processes, risk treatment

		methods, and key risk and performance indicators • Design and develop security architecture for an organization. • Design operational and strategic cyber security strategies andpolicies.
	E3: Modelling and Simulation	Knowledge gained: • Understand the techniques of modeling in the context of hierarchy of knowledge about a system and develop the capability to apply the same to study systems through available software. • Learn different types of simulation techniques. • Learn to simulate the models for the purpose of optimum control by using software Skills gained: • Grasp modeling concepts with emphasis on performance analysis. • Build simulation models and their parameterization. • Analyze simulation output data to evaluate performance criteria Competency developed: • Grasping modeling concepts using mean value analysis with some information technology applications. • Grasping how to build appropriate simulation models together with their parameterization and the analysis of simulator output data.
DSE 54	**E1: Operational Research for Computer Science**	Knowledge gained: • Identify and develop operational research models from the verbal description of the real system. • Understand the mathematical tools that are needed to solve optimization problems. • Use mathematical software to solve the proposed models. • Develop a report that describes the model and the solving technique, analyze the results and propose recommendations in language understandable to the decision-making processes in computer science. Skills gained: • Building capabilities in the students for analyzing different situations in the industrial/ business scenario involving limited resources and finding the optimal solution within constraints. Competency developed: • Enabled the student to understand and analyze managerial and engineering problems to equip him to use the resources such as capitals, materials, productions, controlling, directing, staffing, and machines more effectively.
	E2: Combinatorial Optimization	Knowledge gained: • The student knows the theory of combinatorial optimization problems Skills gained: • The student can formualate a combinatorial optimization problem efficiently model industrial planing problems in terms of combinatorial optimization

		Competency developed: • The student can explain how fast a combinatorial optimization problem can be solved explain the mathematical theory underlying algorithms for combinatorial optimization
	E3: Numerical Methods	Knowledge gained: • Adequate exposure to learn alternative methods and analyze mathematical problems to determine the suitable numerical techniques. • Use the concepts of interpolation, eigen value problem techniques for mathematical problems arising in various fields. • Demonstrate elementary programming language, implementation of algorithms and computer programs to solve mathematical problems. Skills gained: • Solve initial value and boundary value problems which have great significance in engineering practice using ordinary and partial differential equations. Competency developed: • It is used for solving a system of equations • It has application in all branches of engineering. • To know how to find the roots of transcendental equations. • To learn how to interpolate the given set of values • To understand the curve fitting for various polynomials • To learn numerical solution of differential equations
Semester VI		
Course Code	**CourseCode**	**CourseCode**
CC 61	**Artificial Intelligence**	Knowledge gained: • Understand concept of knowledge representation and predicatelogic and transform the real life information in different representation. • Understand state space and its searching strategies. • Understand machine learning concepts and range of problems thatcan be handled by machine learning. • Understand the numerous applications and huge possibilities in thefield of AI

		Skills gained: • To analyze and formalize the problem as a state space, graph,design heuristics • Ability to represent solutions for various real-life problem domainsusing logicbased techniques • Understand the various searching techniques, constraint satisfaction problem and example problems- game playing techniques • Apply these techniques in applications which involve perception, reasoning and learning • Use different machine learning techniques to design AI machineand enveloping applications for real world problems. • Develop knowledge of decision making and learning methods. Competency developed: • Analyze and design a real world problem for implementation and understand the dynamic behavior of a system • Ability to express the ideas in AI research and programming language related to emerging technology. Apply the machine learning concepts in real life problems.
CC 62	**Computer Graphics**	Knowledge gained: • Learn the concepts of projections, viewing and graphics pipeline Skills gained: • Develop line and circle generation algorithms Competency developed: • Apply 2D and 3D transformations Develop clipping algorithms for point, line and polygons
DSE 63	**E1: Digital Image Processing**	Knowledge gained: • Analyze general terminology of digital image processing. • Describe and explain basic principles of digital image processing. • To study the image fundamentals and mathematical transforms necessary for image processing. • Examine various types of images, intensity transformations andspatial filtering. • Understand the need for image compression and to learn the spatial and frequency domain techniques of image compression. • Evaluate the methodologies for image segmentation, restoration etc. • Learn the signal processing algorithms and techniques in image enhancement and image restoration, and image compression procedures. • Implement image process and analysis algorithms. • Understand the rapid advances in Machine vision. • Learn different causes for image degradation and overview of image restoration techniques. • Learn different feature extraction techniques for image analysis and recognition • Understand and analyze image processing problems • Understand the role of alternative color spaces, and the design requirements leading to choices of color space. Skills gained: • Get broad exposure to and understanding of various applications ofimage processing in industry, medicine, and defence. • Design algorithms to solve image processing problems and meetdesign

		specifications. • Be able to conduct independent study and analysis of image processing problems and techniques. • Apply image processing algorithms in practical applications. • Review the fundamental concepts of a digital image processing system. Competency developed: • Acquire an appreciation for the image processing issues and techniques and be able to apply these techniques to real world problems. • Design and implement algorithms that perform basic image processing and image analysis • Assess the performance of image processing algorithms and systems. • Interpret Image compression standards, image segmentation and representation techniques.
	E2: Introduction to Data Sciences	Knowledge gained: • Develop in depth understanding of the key technologies in datascience and business analytics: data mining, machine learning, visualization techniques, predictive modelling, and statistics. • Practice problem analysis and decision-making. • Gain practical, hands-on experience with statistics programming languages and big data tools through coursework and applied research experiences. Skills gained: • Recognize and analyze ethical issues in business related to intellectual property, data security, integrity, and privacy. • Apply ethical practices in everyday business activities and makewell-reasoned ethical business and data management decisions. • Apply principles of Data Science to the analysis of business problems. • Employ cutting edge tools and technologies to analyze Big Data. • Apply algorithms to build machine intelligence. Competency developed: • Apply quantitative modelling and data analysis techniques to the solution of real world business problems, communicate findings, and effectively present results using data visualization techniques. • Demonstrate knowledge of statistical data analysis techniquesutilized in business decision making.
	E3: Data Mining	Knowledge gained: • Develop in depth understanding of the key technologies in datascience and business analytics: data mining, machine learning, visualization techniques, predictive modelling, and statistics. • Practice problem analysis and decision-making. • Gain practical, hands-on experience with statistics programming languages and big data tools through coursework and applied research experiences. Skills gained: • Recognize and analyze ethical issues in business related to intellectual property, data security, integrity, and privacy. • Apply ethical practices in everyday business activities and makewell-reasoned ethical business and data management decisions.

		• Apply principles of Data Science to the analysis of business problems. • Employ cutting edge tools and technologies to analyze Big Data. • Apply algorithms to build machine intelligence. Competency developed: • Apply quantitative modelling and data analysis techniques to the solution of real world business problems, communicate findings, and effectively present results using data visualization techniques. • Demonstrate knowledge of statistical data analysis techniquesutilized in business decision making. • Use data mining software to solve real-world problems.
CC 61L	**Artificial Intelligence Lab**	• Apply various pre-processing techniques on different datasets. • Construct Machine learning programs for Supervised, Unsupervised and Semi supervised learning models. • Develop Deep learning programs for Supervised & Unsupervised learning models. • Identify and Apply Artificial Intelligence concepts to solve real world problems.
CC 62L	**Computer Graphics Lab**	• Programming User-interface issues • Concepts of 2D & 3D object representation • Implementation of various scan & clipping algorithms • 2D modeling • Implementation of illumination model for rendering 3D objects. • Visibility detection & 3D viewing • Implementation of a project based on learned concepts.
DSE 63L	**E1: Digital Image Processing Lab**	Knowledge gained: • To implement basic and advanced image processing algorithms • To learn about compression and coding schemes. Skills gained: • Programming for different operations on image Competency developed: Programming related to image operations
	E2: Introduction to Data Sciences Lab	• Students will develop relevant programming abilities. • Students will demonstrate proficiency with statistical analysis of data. • Students will develop the ability to build and assess data-based models. • Students will execute statistical analyses with professional statistical software. • Students will demonstrate skill in data management. • Students will apply data science concepts and methods to solve problems in real-world contexts and will communicate these solutions effectively
	E3: Data Mining Lab	Knowledge gained: • Practical exposure on implementation of well known data mining tasks. • Exposure to real life data sets for analysis and prediction. • Learning performance evaluation of data mining algorithms in a supervised and an unsupervised setting. • Handling a small data mining project for a given practical domain Skills gained: • The data mining process and important issues around data cleaning, pre-processing and integration. Competency developed: • The principle algorithms and techniques used in data mining, such as clustering, association

		mining, classification and prediction.
DSE 64	**E1: Machine Learning**	Knowledge gained: • To understand the basic theory underlying machine learning. • To be able to formulate machine learning problems corresponding to different applications. • To understand a range of machine learning algorithms along with their strengths and weaknesses. • To be able to apply machine learning algorithms to solve problems of moderate complexity. • To apply the algorithms to a real-world problem, optimize the models learned and report on the expected accuracy that can be achieved by applying the models. Competency developed: • Appreciate the importance of visualization in the data analytics solution • Apply structured thinking to unstructured problems • Understand a very broad collection of machine learning algorithms and problems • Learn algorithmic topics of machine learning and mathematically deep enough to introduce the required theory • Develop an appreciation for what is involved in learning from data.
	E2: System Programming	Knowledge gained: • Interpret the mathematical results in physical and other forms. • Identify, formulate and solve the Linear Differential Equations. • Classify and solve the contour integration of complex functions. Competency developed: • To understand the basics of system programs like editors, compiler, assembler, linker, loader, interpreter and debugger. • Describe the various concepts of assemblers and macro-processors. To understand the various phases of compiler and compare its working with assembler. • To understand how linker and loader create an executable program from an object module created by assembler and compiler. • To know various editors and debugging techniques.
	E3: Cloud Computing	Knowledge gained: • the fundamental ideas behind Cloud Computing, the evolution of the paradigm, its applicability; benefits, as well as current and future challenges; • The basic ideas and principles in data center design; cloud management techniques and cloud software deployment considerations; • Different CPU, memory and I/O virtualization techniques that serve in offering software, computation and storage services on the cloud; Software

		Defined Networks (SDN) and Software Defined Storage (SDS); • Cloud storage technologies and relevant distributed file systems, NoSQL databases and object storage; • The variety of programming models and develop working experience in several of them. Skills gained: • Apply fundamental concepts in cloud infrastructures to understand the tradeoffs in power, efficiency and cost, and then study how to leverage and manage single and multiple datacenters to build and deploy cloud applications that are resilient, elastic and cost-efficient.
DSE 64L	**E1: Machine Learning Lab**	• Develop an appreciation for what is involved in Learning models from data • Understand a wide variety of learning algorithms • Understand how to evaluate models generated from data • Apply the algorithms to a real problem, optimize the models learned and report on the expected accuracy that can be achieved by applying the models
	E2: System Programming Lab	• Build low level system programs using the OS kernel functions, APIs, C programming languages, and utility tools. • Practice basic knowledge of writing device, file system and filter drivers
	E3: Cloud Computing Lab	• Use the grid and cloud tool kits. • Design and implement applications on the Grid. • Design and Implement applications on the Cloud • To understand the basic concepts Cloud Computing & its Services • To understand the taxonomy and types of Cloud Computing • To understand different hypervisors of Clouds for the Virtualization • To understand how to secure the Cloud & how to Demystify the Cloud
	DSE 64P : Project	Knowledge gained: • Identify and define the problem statement • Define and justify scope of the proposed problem • Gather and analyze system requirements • Propose an optimized solution among the existing solutions • Practice software analysis and design techniques • Develop a functional application based on the software design • Apply coding, debugging and testing tools to enhance the quality ofthe software • Construct new software system based on the theory and practicegained through this exercise • Prepare the proper documentation of software projects following the standard guidelines • Develop technical report writing and oral presentation Skills gained: • Software Project Development Competency developed: • Professional Software Developer

COURSE OUTCOME
B. B. A. [CBCS] PROGRAMME

HONOURS COURSE

COURSE No	COURSES OFFERED	NAME OF THE PAPER	SEMESTER	CREDIT	FULL MARKS	COURSE OUTCOME
101	AECC-I	Environmental Studies	1ST	2	100	To acquaint the students with the fundamentals of environmental issues.
102	CC-I	Principles of Management & Organization Behaviour	1ST	6	75	To acquaint the students with the fundamentals of managing business and to understand individual and group behavior at work place so as to improve the effectiveness of an organization. The course will use and focus on Indian experiences, approaches and cases.
103	CC-II	Business Regulatory Framework	1ST	6	75	To gain knowledge of the branches of law which relate to business transactions, certain corporate bodies and related matters. Also, to understand the applications of these laws to practical commercial situations.
104	GC-I	Managerial Economics	1ST	6	75	To apply micro economic concepts and techniques in evaluating business decisions taken by firms. The emphasis is on explaining how tools of standard price theory can be employed to formulate a decision problem, evaluate alternative courses of action and finally choose among alternatives.
201	AECC-II	English Communication [MIL]	2ND	2	50	Common Syllabus notified by the Board of Studies in English/ MIL subject.
202	CC-III	Business Mathematics	2ND	6	75	The objective of this course is to familiarize students with the applications of mathematics and statistical techniques in business decision-making.
203	CC-IV	Financial Accounting for Managers	2ND	6	75	To familiarize students with the mechanics of preparation of financial statements, understanding corporate financial statements, their analysis and interpretation.
204	GC-II	Business Environment	2ND	6	75	To acquaint students with the contemporary issues regarding the environment of business to facilitate a better insight into that environment.

301	CC-V	Income Tax/Laws & Practice	3RD	6	75	To provide basic knowledge and equip students with application of principles and provisions of Income-tax Act, 1961 and the relevant Rules.
302	CC-VI	Cost & Management Accounting	3RD	6	75	To acquaint the students with basic concepts used in cost accounting, various methods involved in cost ascertainment and cost accounting book keeping systems.
303	CC-VII	Financial Management	3RD	6	75	To acquaint students with the techniques of financial management and their applications for business decision making.
304	GC-III	Quantitative Techniques	3RD	6	75	To acquaint students with the construction of mathematical models for managerial decision situations and to use computer software packages to obtain a solution wherever applicable. The emphasis is on understanding the concepts, formulation and interpretation.
305	SEC-I	E-Commerce	3RD	2	75	To enable the student to become familiar with the mechanism for conducting business transactions through electronic means.
401	CC-VIII	Human Resource Management	4TH	6	75	The objective of this course is to help the students to develop an understanding of the concept & techniques of essential functions of human resource management. The course will use and focus on Indian experiences, approaches and cases.
402	CC-IX	Marketing Management	4TH	6	75	This course aims to familiarize students with the marketing function in organizations. It will equip the students with understanding of the Marketing Mix elements and sensitize them to certain emerging issues in Marketing. The course will use and focus on Indian experiences, approaches and cases.
403	CC-X	Production Management	4TH	6	75	This course aims to familiarize students with the production function in organizations. It will equip the students with understanding of the Production process and sensitize them to certain emerging issues in Production. The course will use and focus on Indian experiences, approaches and cases.
404	GC-IV	Entrepreneurship Development	4TH	6	75	The purpose of the paper is to orient the learner toward entrepreneurship as a career option and creative thinking and behavior.
405	SEC-II	GST & Customs Duty	4TH	2	75	This course aims to familiarize students with the GST & Customs Duty.

501	CC-XI	Business Statistics	5th	6	75	To familiarize the students with various Statistical Data Analysis tools that can be used for effective decision making. Emphasis will be on the application of the concepts learnt.
502	CC-XII	Strategic Management	5th	6	75	To familiarize the students with strategic management principles that can be used for effective decision making. Emphasis will be on the application of the concepts learnt.
5FA	DSE-I & DSE-II	Corporate Accounting	5th	6	75	To enable the students to acquire the basic knowledge of the corporate accounting and to learn the techniques of preparing the financial statements.
5FB	DSE-I & DSE-II	Financial Markets & Institutions	5th	6	75	To provide the student a basic knowledge of financial markets and institutions and to familiarise them with major financial services.
5FC	DSE-I & DSE-II	Microfinance & Financial Inclusion	5th	6	75	To enable the students to acquire the basic knowledge of the micro-finance and to learn the techniques of such financing .
5MA	DSE-I & DSE-II	Marketing of Services	5th	6	75	To enable the students to acquire the basic knowledge of marketing of Services and to learn the techniques of such marketing.
5MB	DSE-I & DSE-II	Consumer Behaviour	5th	6	75	The objective of this course is to provide basic knowledge of concepts, dimensions and issues of consumer behavior and the skills of understanding and analyzing consumer behavior to develop marketing strategies.
5MC	DSE-I & DSE-II	Product & Brand Management	5th	6	75	The objective of this course is to provide basic knowledge of concepts, dimensions and issues of product and brand management and developing branding strategies.
5HA	DSE-I & DSE-II	Labour Legislation	5th	6	75	To familiarize the students with the concept of various labour legislations in the modern organizational setting.
5HB	DSE-I & DSE-II	Human Resource Development	5th	6	75	To explore the concepts and techniques of the essential elements of HRM and to enable the students to recognise its critical issues .The course aims to understand HRM concerns.
5HC	DSE-I & DSE-II	Organisational Development	5th	6	75	The course gives an overview of the need for OD and OD practices which can develop and improve an Organization's systems and strategies leading to an optimal HRD climate.
601	CC-XIII	Computer Application in Business	6TH	6	75	To provide computer skills and knowledge for commerce students and to enhance the student understands of usefulness of

						information technology tools for business operations.
602	CC-XIV	Report on Project Work	6TH	6	75	This course aims at providing the general understanding of business research and the methods of business research. The course will impart learning about how to collect, analyze, present and interpret data.
6FA	DSE-III & DSE-IV	Financial Statement Analysis	6TH	6	75	The aim of this course is to provide a conceptual framework for analysis of the financial statements of a Company.
6FB	DSE-III & DSE-IV	Investment Banking & Financial Services	6TH	6	75	The objective of this paper is to know the different aspects of Investment banking, mergers and acquisition and the detailed SEBI guidelines on issue management.
6FC	DSE-III & DSE-IV	Security Analysis and Portfolio Management	6TH	6	75	The aim of this course is to provide a conceptual framework for analysis for man investor's perspective of maximizing return on investment – a sound theoretical base with examples and references related to the Indian financial system.
6MA	DSE-III & DSE-IV	Advertising and Sales Promotion	6TH	6	75	The objective of this course is to provide basic knowledge of concepts, issues, tools and techniques of advertising and sales promotion.
6MB	DSE-III & DSE-IV	Distribution and Retail Management	6TH	6	75	The objective of the course is to develop an understanding about the role of Marketing channels, distribution and retailing. The course is also designed to prepare students for positions in the retail sector or positions in the retail divisions of consulting companies.
6MC	DSE-III & DSE-IV	International Marketing	6TH	6	75	The objective of the course is to develop an understanding about the role of international Marketing.
6HA	DSE-III & DSE-IV	Training and Development	6TH	6	75	To familiarize the students with the concept and practice of training and development in the modern organizational setting.
6HB	DSE-III & DSE-IV	Human Resource Development 6HB Discipline and Grievance Management	6TH	6	75	To acquaint students with concepts of Industrial Relations and various legislations related to Labour Welfare and Industrial Relations.
6HC	DSE-III & DSE-IV	6HC Labour Welfare and Compensation	6TH	6	75	To familiarize students about concepts of performance and compensation management and how to use them to face the challenges of attracting, retaining and motivating employees to high performance.

COURSE OUTCOME
B. B. A. [FYUGP] PROGRAMME

HONOURS COURSE

COURSE No	COURSES OFFERED	NAME OF THE PAPER	SEMESTER	CREDIT	FULL MARKS	COURSE OUTCOME
1	CC	Fundamental of Management	1ST	4	75	On successful completion of the course, students will demonstrate. The ability to understand concepts of business management, principles, and functions of management. The ability to explain the process of planning and decision-making. The ability to develop organizational structures based on authority, tasks, and responsibilities. The ability to explain the principles of directing and methods of controlling.
2	CC	Business Environment	1ST	4	75	To familiarize students with the knowledge of the different components of the business environment so that they can assess the effect of the different components of the business environment on the operation of business and industry of the country.
3	CC	Business Communication	1ST	4	75	To inculcate in students of BBA the skill of writing business communications in a professional style so that they can handle business reports, letters, quotations, and tenders independently. The objective of this paper is, also, to train them in handling electronic media and computers in preparing presentations and reports.
4	VAC	Environmental Education	1ST	4	75	To enable the students to acquire the basic knowledge of the corporate accounting and to learn the techniques of preparing the financial statements of action and finally choose among alternatives.
5	SEC	Modern Office Management-SEC List	1ST	3	75	To acquaint students with the contemporary issues regarding the environment of modern office to facilitate a better insight into that environment.
6	CC	Marketing Management	2ND	4	75	This course aims to familiarize students with the marketing function in

						organizations. It will equip the students with an understanding of the Marketing Mix elements and sensitize them to certain emerging issues in Marketing.
7	CC	Business Statistics	2ND	4	75	To familiarize the students with various Statistical Data Analysis tools that can be used for effective decision making. Emphasis will be on the application of the concepts learnt.
8	CC	E-Commerce	2ND	4	75	To enable the student to become familiar with the mechanism for conducting business transactions through electronic means. They can learn the art of web-designing for marketing various types of consumers' goods and services.
9	AEC	Modern Indian Language- Bengali/Hindi etc.	2ND	4	75	To provide basic knowledge and equip students with application of principles and provisions of Income-tax Act, 1961 and the relevant Rules.
10	IDC	Basic accounting- as per IDC List	2ND	3	75	To acquaint the students with basic concepts used in cost accounting, various methods involved in cost ascertainment and cost accounting book keeping systems.
11	SEC	Digital Marketing	2ND	3	75	To acquaint students with the techniques of financial management and their applications for business decision making.
12	CC	Financial accounting	3RD	4	75	Course Outcome: Students will learn the basic concepts and methods of preparing accounts of firms, their annual financial statements, and final accounts. Students will also learn to maintain accounts for various types of businesses like consignments, hire purchase, instalment payments, and partnerships along with accounts needed at the time of admission of a partner and dissolutions of a firm.
13	CC	Corporate Governance	3RD	4	75	Course Outcome: Students will learn the basic concepts and methods of corporate governance. They will also acquire the knowledge about the rules regarding incorporation of a company, formation of the board of directors and governance of a company.
14	CC	Business Mathematics with Calculus	3RD	4	75	The course is to help the students to develop an understanding of the concept & techniques of essential functions of human resource management. The course

						will use and focus on Indian experiences, approaches and cases. This course is to inculcate analytical skills and enhance the skill of practical problem-solving. After successful completion of this course, students will understand how mathematics can be used in finding solutions to business problems.
15	AEC	English - Compulsory.	3RD	4	75	By familiarizing students with the socio-cultural ambience and the discursive frameworks of various ages, the course helps the students to develop a nuanced appreciation of the literary stalwarts of those times. 5. The students are also offered an in-depth understanding on the growth of the English language under the influence of various other languages including Latin and French, besides being mentored in the structural nitty-gritties of the language.
16	IDC	Human Resource Management-as per IDC List	3RD	3	75	To explore the concepts and techniques of the essential elements of HRM and to enable the students to recognise its critical issues .The course aims to understand HRM concerns.
17	SEC	Entrepreneurship Development& Start up (list)	3RD	3	75	The purpose of the paper is to orient the learner toward entrepreneurship as a career option and creative thinking and behavior.
18	CC	Cost & Management Accounting	4th	4	75	Students will learn the basic concepts and methods of cost ascertainment and cost control. They will also acquire the expertise of using Cost Accounting and Management Accounting methods in managerial decision-making, budgeting and planning.
19	CC	Business Regulatory Framework	4th	4	75	To gain knowledge of the branches of law related to business transactions, certain corporate bodies and related matters. Also, to understand the applications of these laws to practical commercial situations.
20	CC	Income Tax Law & Practice	4th	4	75	Students will gather basic knowledge about the application of principles and provisions of the Income-tax Act, 1961. They will be competent in assessing the income tax of individuals and firms.

21	VAC	Environmental Education-NBU List	4th	4	75	Understand key concepts from economic, political, and social analysis as they pertain to the design and evaluation of environmental policies and institutions. Appreciate concepts and methods from ecological and physical sciences and their application in environmental problem solving. Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems. Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world.
22	IDC	Business Operations of MSMEs-IDC list	4th	3	75	To provide the student a basic knowledge of financial markets and institutions and to familiarise them with major financial services.
		Vacation Internship	4th	2	75	After completion of the internship students will be able: 1. To learn the application of knowledge in real world problems. 2. To get exposure to team-work and leadership quality. 3. To deal with industry-professionals and ethical issues in the work environment.
23	CC	Organizational Behaviors	5th	4	75	Upon successful completion of the requirements for this course, students will be able to define, explain and illustrate a range of organisational behaviour theories. Analyse the behaviour of individuals and groups in organisations in terms of organisational behaviour theories, models and concepts. Demonstrate an understanding of various management models and frameworks, their relevant foundations, strengths and weaknesses; Understand the principles and practices of management, and specifically the nature of management functions, roles and skills;
24	CC	Computer Application in Business with Tally	5th	4	75	Students will understand the usefulness of information technology tools for business operations. They will be able to make use of computers for preparing annual accounts, making data analysis, writing programmes for solving decision problems, etc. They

						will be able to create and design web pages for the company, where they are expected to work and look after electronic transactions and e-commerce.
25	CC	Strategic management	5th	4	75	The objective of this course is to provide basic knowledge of concepts, dimensions and issues of product and brand management and developing branding strategies.
26	CC	Managerial Economics	5th	4	75	Apply the knowledge of the mechanics of supply and demand to explain working of markets Describe how changes in demand and supply affect markets Understand the choices made by a rational consumer Explain relationships between production and costs Define key characteristics and consequences of different forms of markets.
27	CC	GST & Custom Duty	5th	4	75	This course aims to familiarize students with the GST & Customs Duty.
28	CC	Production Management	6th	4	75	Understand the role of operations management in achieving organizational competitiveness. Appreciate the concepts of lean production and maintenance management in operations. Comprehend key decision areas of operations and analyze data for effective decision making in operations management.
29	CC	Financial Management	6th	4	75	To enable the students to acquire the basic knowledge of the corporate accounting and to learn the techniques of preparing the financial statements of action and finally choose among alternatives.
30	CC	Management Information System	6th	4	75	Understand types of MIS applications in organizations. Discuss the development of management information systems in organizations. Select and design MIS systems appropriate to meet management requ. Irements, Critically evaluate MIS contributions to the strategic management of organizations
31	CC	Indian Financial system	6th	4	75	To understand the fundamentals of Indian financial system. To examine impact factors of Money Market and Capital Market and financial instruments. To appreciate the Need and Working of Financial Intermediaries. To recognize the importance and various functions of

						Market Regulation To Analyze and choose the financial service as per requirements
32	CC	Managerial Economics	6th	4	75	To apply microeconomic concepts and techniques in evaluating business decisions taken by firms. The emphasis is on explaining how tools of standard price theory can be employed to formulate a decision problem, evaluate alternative courses of action, and finally choose the best one.
33	CC	Macroeconomics	6th	4	75	Student would be able discuss scope and importance of Macroeconomics, Circular flow of aggregate income and expenditure, the measurement of national product, short run economic fluctuations and The Keynesian Principle of Effective Demand. Students would recall and discuss the concept of Money supply, demand for money, Quantity theory of money - Fisher's equation of exchange - Cambridge cash balance approach Nature of inflation in a developing economy and Monetary policy. Students would realize the role of a government to provide public goods, Fiscal Policy, Instruments of Fiscal policy and Union budget structure. Students would be able to recognize the basis of International Trade Foreign Portfolio Investment, Foreign Direct Investment Role of Multinational Corporations, Balance of Payments, Foreign Exchange and Foreign Exchange Market.