Chaiduar College

Gohpur, Biswanath, Assam 784168

PROGRAMME OUTCOME, PROGRAMME-SPECIFIC OUTCOME, COURSE OUTCOME

Chaiduar College is affiliated with Gauhati University, Guwahati and follows the curricula prescribed by the University. The college has vividly highlighted the Programme Outcome, Programme specific Outcome and Course Outcome.

Programme Outcomes: B.A.

After completing B.A., the students are expected to acquire:

- Acquire knowledge of facts and figures concerned with the subjects such as History, Geography, Economics, Languages, etc.
- Understand the above-mentioned subjects' basic concepts, fundamental principles, and various theories.
- Realize the importance of literature in terms of the aesthetic, mental, moral, and intellectual development of an individual and society.
- Understand how issues in social science get influenced by the literature and how the literature can provide solutions to social issues.
- Gained the analytical ability to analyze the literature and social issues to appreciate the strength and to suggest improvements for better results.
- Appreciate that social issues are no longer permanent and largely depend on political and economic changes.
- Convince himself/herself that the study of literature and social sciences are not only helpful to evolve a better individual and better society but also help in making an individual's life happier and more meaningful.
- Participate in various social and cultural activities voluntarily.
- Written articles, novels, and stories to spread the messages of equality, nationality, social harmony, and other human values.
- Emerge as a multifaceted, self-dependent personality, earning his own bread and butter and creating opportunities to do so.
- Realize that the pursuit of knowledge is a lifelong process and that one can achieve success only with untiring efforts and a positive attitude.
- Develop various communication skills such as reading, listing, speaking, etc., which will be helpful in expressing ideas and views clearly and effectively.

Programme Outcomes: B.Sc.

After completing B.Sc., the students are expected to:

- Acquire knowledge of facts and figures related to various subjects in pure sciences.
- Fathom the basic concepts, fundamental principles, and scientific theories related to various scientific phenomena and their relevancies in day-to-day life.
- Acquire skills in handling scientific instruments, planning and performing laboratory experiments.
- The skills of observations and drawing logical inferences from scientific experiments.
- Analyze the given scientific data critically and systematically and the ability to draw objective conclusions.
- Be able to think creatively to propose novel ideas.

- Apprehend how an interdisciplinary approach helps in providing better solutions and new ideas for sustainable development.
- Fostering a scientific outlook not only concerning science subjects but also in all aspects of life.
- Imbibed ethical, moral, and social values in personal and social life, leading to a highly cultured and civilized personality.
- Develop various communication skills such as reading, listening, speaking, etc., which will help in expressing ideas and views clearly and effectively.
- Comprehend that pursuing knowledge is a lifelong activity and, combined with untiring efforts, a positive attitude, and other necessary qualities, leads to a successful life.
- Develop flair by voluntarily participating in various social and cultural activities to spread knowledge and create awareness about social evils, blind faith, etc.

Programme Outcomes: B. Com.

B. Com degree is structured to provide students with managerial skills in disciplines related to commerce. The course is designed with a wide range of understanding in the subject matter of Accounting, Corporate law, Taxation, Management, insurance etc. B. Com students can easily explore numerous career options after obtaining their degree. They can make a career in banking, Public Limited Companies, Audit firms, Legal firms, Broking firms, Patent firms, Investment Houses, Mutual funds, Marketing & sales, Accountant, Tax consultant and also a career being Chartered or cost accountant or being a master in business Administration or MBA.

Programme Outcomes: B. Voc. (MLT)

The programme will train students in areas such as – phlebotomy, microbiology, biochemistry, blood bank, clinical pathology, haematology, histopathology and cytopathology, research etc. The Programme is focused on providing knowledge, understanding and skill which will incorporate with specific job roles in the healthcare sector and also generate employability to the youths who can be directly absorbed in various private hospitals, Nursing homes, Diagnostic laboratories, model hospitals, paramedical institutions, blood bank, research labs, government hospitals etc.

Department of Assamese PROGRAMME SPECIFIC

OUTCOME (BA Assamese)

The programme specific outcome of the syllabus prescribed for the major students of Assamese is mentioned below:

- □ The syllabus contains different categories of Assamese literature like Romantic literature, Devotional literature, oral literature, etc. The learners can come to know about the various information of Assamese literature at different period of time. Especially through the charyapad the students get the information of the socio-cultural background of Assam.
- □ The advent of Neo-Vaishnavism and the composition of Sankardev, Madhavdev and others incorporated in the syllabus and above all the compositions like the Kirtonghosa, Bargeet, Ankiya Nat etc, not only strengthen the religion but also create awareness among the learners to fight against the social evils likecasteism, superstitious etc.
- □ The old and modern Assamese poems acquaint the learners with the socio-cultural affairs of the society. These also give inspiration to learners to face the challenges of real life.
- □ Through this syllabus the students come to Know Assamese culture, the elements of folk culture, the festivals of Assam and the tradition of sakta, saiva and vaishnava dharma.
- □ The knowledge of philosophy gives the opportunity to the learners to know the linguistic pattern of various languages as well as the journey of the Assamese language through various languages like Pali, Prakrit, Apabhramsa, Magadhi etc.
- □ The technical literature of Assamese contains poetics (Both Indian and western), Metres, Rhetorics, etc, and the lessons on Assamese grammar give a solid foundation for learning Assamese language.
- □ The syllabus of Assamese has incorporated the translation works of the short stories and novels.

COURSE OUTCOME

BA Assamese (Honours And Regular) Syllabus (CBCS)

1st Semester (Honours)

Paper Name: Ashomiya Sahityar Buranji (Charjyapada- Sankari Yug)
Paper Code: ASM-HC-1016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to,	Unit-I : Ashomiya Sahityar Yug Bibhazon	Remember, Understand, Analysis

• Reconstruct the social history of Assam in the light of the rise of Assamese language. • Trace the history of Assamese literary tradition. • Describe the features of Pre-Sankari and Sankari Period Literature.	Unit- II : Udbhav Kalor Ashomiya Sahitya	Remember, Understand, Analysis
	Unit-III : Prag-Sankari Yug	Remember, Understand, Analysis
	Unit-IV : Sankari Yug	Remember, Understand, Analysis

Paper Name: Ashomiya Sahityar Buranji (Uttar-Sankari Yug- Arunodai Yug)
Paper Code: ASM-HC-1026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Trace the phases of Uttar-Sankari, Sankari, Pre-Arunadoi and Arunadoi Period Literature . • Describe the features of Uttar-Sankari, Sankari, Pre-Arunadoi and Arunadoi period literature.	Unit-I : Uttar-Sankari Yug	Remember, Understand, Analysis
	Unit- II : Uttar-Sankari Yugar Sahitya	Remember, Understand, Analysis
	Unit-III : Prag-Arunodai aru Arunodai Yug	Remember, Understand, Analysis
	Unit-IV : Prag-Arunodai aru Arunodai Yugar Sahitya	Remember, Understand, Analysis

1st Semester (Regular)

Paper Name: Assamese Communication (MIL)
Paper Code: ASM-AE-1014

Ability Enhancement Compulsory Course(AECC): ASM-AE-1014 **Assamese Communication (MIL)**	In this text, students will get opportunities to learn to acquire the skill of speaking, use of theAssamese Language in practical field and office and in computer, social media like facebook , internet , twitter etc.

2nd Semester (Honours)

Paper Name: Bhasha Bigyan Parichay
Paper Code: ASM-HC-2016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able	Unit-I : Bhasha Bigyanar Sadharan Parichay	Remember, Understand, Analysis

to, • Describe different varieties of the Assamese Language in the Context of contemporary Linguistics. • Organize geographical and social varieties of Assamese Language.	Unit- II : Bhasha Bigyanar Shakha-prashakha	Remember, Understand, Analysis
	Unit-III : Bhasha Bigyanar Adhyayanar Stor	Remember, Understand, Analysis, Apply
	Unit-IV : Bhasha Samparkiyo Chinta-Chorcha aru Adhyayanar Itihash	Remember, Understand, Analysis, Apply

Paper Name: Sahitya- Shomalochana
Paper Code: ASM-HC-2026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Trace the thought systems of ancient Indian Literary critics. Interpret Literature from Indian point of view. • Design a spectrum of different themes used in Assamese short stories and novels.	Unit-I : Rasa. Dhani, Gun aru Riti	Remember, Understand, Analysis
	Unit- II : Kabiatat Kalponar Sthan, Chitrapalpabad aru Pratikbad	Remember, Understand, Analysis
	Unit-III : Tragedy, Absurd aru Brakhtiyo Natya Dhara	Remember, Understand, Analysis
	Unit-IV : Chutigolpo aru Upanyash	Remember, Understand, Analysis

2nd Semester (Honours and Regular)
Paper Name: Paper Name: Ashomiya Sahityar Buranji (Charjyapada- Sankari Yug)
Paper Code: Generic Elective (GE): ASM-HG-2016/
Core Course (DSC): ASM-RC-2016

ASM-HG-2016/ Core Course(DSC): ASM-RC Generic Elective (GE): -2016 **Asomiya Sahityar Etihas (History of Assamese Literature)**	This course will provide students with an overview of the literature of the Pre Sanskrit, Sanskrit and Post Sanskrit periods. you will get the idea of literary works

3rd Semester (Honours)

Paper Name: Ashomiya sahityar Prabesh
Paper Code: ASM-HC-3016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to,	Unit-I : Shadhukotha, kabita aru Golpo	Remember, Understand, Analysis
• Trace the phases of Romantic and Modern Assamese literature.	Unit- II : Prabandha aru Somalochana	Remember, Understand, Analysis

• Trace the development of the major trends of Assamese short stories. • Describe the emotional effect of reading a few significant Assamese short stories, novels and biography Interpret a short story.	Unit-III : Atmajivani, Jivani aru Upanyash	Remember, Understand, Analysis
	Unit-IV : Bhramon Sahitya aru Byaktigato Rachona	Remember, Understand, Analysis

Paper Name: Ashomiya Kabitar Chaneki
Paper Code: ASM-HC-3026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Trace the phases of Pre-Sankari and Sankari Period of Assamese literature. • Trace the phases of Romantic and Modern Assamese Poetry.	Unit-I : Madhav Kandali aru Durgaborar Kabita	Remember, Understand, Analysis
	Unit- II : Sankardev aru Ram Swarashatir Kabita	Remember, Understand, Analysis
	Unit-III : Chandra Kumar Agarwala, Raghunath Chodhary aru Debokanta Baruar Kabita	Remember, Understand, Analysis
	Unit-IV: Navakanta Baruah, Ajit Baruah aru Nilamoni Fukonar Kabita	Remember, Understand, Analysis

Paper Name: Axomor Sanskriti
Paper Code: ASM-HC-3036

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Reconstruct religious belief of the people of Ancient Assam and compare it with that of the rest of ancient India.	Unit-I : Sanskritir Sangya aru Swarup	Remember, Understand, Analysis
	Unit- II : Samajik Lokachar, Dharmiya Parampora aru Utsav-parbon	Remember, Understand, Analysis
	Unit-III : Ashomiya ParibeshyaKola aru Paramporagato Khel- Dhemali	Remember, Understand, Analysis
	Unit-IV : Axomor Sthapattya, Bhaskajya aru Chitrakola	Remember, Understand, Analysis

3rd Semester (Honours and Regular)

Paper Name: Byaboharik Ashomiya
Paper Code: ASM-SE-3014

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Compare and contrast the genres of creative writing on the basis of imitation and imagination. • Create a piece of literature and justify its quality. • Describe the experience of reading a piece of literature.	Unit-I : Arhi Path: Paddhati aru Koushal	Remember, Understand, Analysis, Evaluate
	Unit- II : Chopa aru Boidyutin Madhyam, Bigyapan	Remember, Understand, Analysis, Apply
	Unit-III : Anubad: Sanbad, Prabandha aru Shakhyatkar	Remember, Understand, Analysis, Apply
	Unit-IV : Chitranatya Nirman: Sahityar Chitrayan	Remember, Understand, Analysis, Apply

3rd Semester (Regular)

Paper Name: Ancient Assamese Literature (MIL)
Paper Code: ASM-CC-3016

Core Course(CC): ASM-CC-3016 **Ancient Assamese Literature (MIL)**	The aim of the study of the paper is to acquire knowledge about the Songs, Rhyme, Poem, Drama and Prose literature of ancient Assameseliterature. They will also be introduced with prominent ancient and medieval Assamese writers like Sankardev, Haribor Bipra, Madhabdev etc.

4th Semester (Honours)

Paper Name: Tulonamulok Bharatiya Sahitya
Paper Code: ASM-HC-4016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Trace the phases of Indian Comparative literature. Illustrate the linguistic and cultural aspects of translation. • State the problems of different kinds of translation. • Justify the quality of different texts of translation.	Unit-I : Tulonamulok Sahityar Parichay	Remember, Understand, Analysis
	Unit- II : Tulonamulok Bharatiya Sahityar Parichay	Remember, Understand, Analysis
	Unit-III : Chutigolpo	Remember, Understand, Analysis, Evaluate
	Unit-IV : Upanyash	Remember, Understand, Analysis, Evaluate

Paper Name: Ashomiya Bhashar Samaharan: Aryan Bhasha aru Aryan-Bhinna Bhasha
Paper Code: ASM-HC-4026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Reconstruct the social history of Assam in the light of the rise of Assamese language. • Justify the relationship between of Aryan and Aryan-bhinna of Assamese language. • Compare and contrast the social history of early Assamese form of language with that of the Modern Assamese language.	Unit-I : Udbhav Kalor Ashomiya Bhasha	Remember, Understand, Analysis
	Unit- II : Bharatiya Arjya Bhashar logot Ashomiya Bhashar Sambandha	Remember, Understand, Analysis
	Unit-III : Arjya-Bhinna Bhashar logot Ashomiya Bhashar Sambandha	Remember, Understand, Analysis, Apply
	Unit-IV : Sampratik Ashomiya Bhashat Arjya-Bhinna aru Arjya-Bhinna Upadhan	Remember, Understand, Analysis, Apply

Paper Name: Ashomiya Godya Sahitya
Paper Code: ASM-HC-4036

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Trace the development of Assamese prose from Sankari to Modern period prose. • Interpret the changes occurring in Assamese prose. • State the present features of Assamese prose.	Unit-I : Sankardev aru Madhavdevar Ankiya Nat	Remember, Understand, Analysis
	Unit- II : Bhattadevar, Gopalcharan Dwij aru Raghunath Mahantor Godhya	Remember, Understand, Analysis
	Unit-III : Kotha Guru Chorit aru Satsari Axom Buranji	Remember, Understand, Analysis
	Unit-IV : Byaboharik Sahitya aru Shilor Foli	Remember, Understand, Analysis, Apply

4th Semester (Honours And Regular)

Paper Name: Srijanimulok Sahitya
Paper Code: ASM-SE-4014

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Compare and contrast the genres of creative writing on the basis of imitation and imagination. • Create a piece of literature and justify its quality. • Describe the experience of reading a piece of literature.	Unit-I : Kalponar Sangya aru Parisar	Remember, Understand, Analysis, Apply
	Unit-II : Adhunik Kabita	Remember, Understand, Analysis,
	Unit-III : Golpor Nirman Saili	Remember, Understand, Analysis, Apply
	Unit-IV : Kabita aru Golpor Arhi Prastuskaran	Remember, Understand, Analysis, Apply

4th Semester (Regular)

Paper Name: Adhunik Asomiya Sahitya (ModernAssamese Literature)

Paper Code: ASM-CC-4016

Core Course: ASM-CC-4016 **Adhunik Asomiya Sahitya (Modern Assamese Literature)**	This lesson will introduce students to selectedpoems, short stories, essays and plays in modern literature.

5th Semester (Honours)

Paper Name: Ashomiya Natok aru Paribeshan Saili
Paper Code: ASM-HC-5016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Reconstruct the history of Assamese drama and performance. • Describe the experience of viewing a play. Enumerate the trends of Assamese Drama	Unit-I: Ashomiya Natokor Chomu Itihash	Remember, Understand, Analysis
	Unit- II: Ankiya Nat aru Paribeshan Saili	Remember, Understand, Analysis, Apply
	Unit-III: Prag-Swadhinata Yugar Ashomiya Natok aru Paribeshan	Remember, Understand, Analysis, Apply
	Unit-IV: Uttar Swadhinata Yugar Ashomiya Natok aru Paribeshan	Remember, Understand, Analysis, Apply

Paper Name: Ashomiya Byayakaron

Paper Code: ASM-HC-5026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Describe different varieties of the Assamese Grammar in the Context of contemporary Linguistics. • Organize geographical and social varieties of Assamese Language.	Unit-I : Ashomiya Byayakaronor Itihash	Remember, Understand, Analysis
	Unit- II : Ashomiya Bhashar Dhanitatta	Remember, Understand, Analysis, Apply
	Unit-III : Ashomiya Bhashar Ruptatta	Remember, Understand, Analysis, Apply
	Unit-IV : Ashomiya Bhashar Bakyatatta	Remember, Understand, Analysis, Apply

Paper Name: Ashomiya Romanyashbadi Kabita

Paper Code: ASM-HE-5026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Trace the phases of Assamese Romantic literature. • Categorise Assamese poetry of	Unit-I: Laxminath Bezbaruah, Chandrakumar Agarwala, Mofizuddin Ahmad Hazarika aru Hemchandra Goswamir Kabita	Remember, Understand, Analysis

Romantic Phases. • Describe experience of reading Romantic Assamese Poetry.	Unit-II: Raghunath Chodhary, Ambikagiri Ray Choudhury, Ratna Kanta Barkakoti aru Jatindra Nath Duwarar Kabita	Remember, Understand, Analysis
	Unit-III: Sailodhar Rajkhowa, Nalinibala Devi aru Jyoti Prashad Agarwalar Kabita	Remember, Understand, Analysis
	Unit-IV: Dimbeswar Neog, Binanda Chandra Baruah aru Atul Chandra Hazarikar Kabita	Remember, Understand, Analysis

5th Semester (Regular)

Paper Name: Sankardev
Paper Code: Generic Elective (GE):ASM-RG-5016

Generic Elective (GE):ASM-RG-5016 **Sankardev**	Through this text, the students will get knowledge of one of the main exponent of Assamese Literature Sankardeva and his literary creations of Ank-Naat, Borgeet, Kirtan Ghosha etc.

6th Semester (Honours)

Paper Name: Ashomiya Chutigolpo aru Upanyash
Paper Code: ASM-HC-6016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Trace the development of the major trends of Assamese short stories and novels. • Categorise the Assamese short stories and novels into different trends. • Explain the effects of the socio-political development on Assamese short stories and novels.	Unit-I : Ashomiya Chutigolpor Dhara	Remember, Understand, Analysis
	Unit- II: Ashomiya Upanyashar Dhara	Remember, Understand, Analysis,
	Unit-III: Laxmidhar Sarma, Jogesh Das aru Purabi Barmudair Chutigolpo	Remember, Understand, Analysis,
	Unit-IV: Mamoni Raysam Goswamir Upanyash	Remember, Understand, Analysis,

Paper Name: Ashomiya Lipir Itihash
Paper Code: ASM-HC-6026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Explain the Manuscript tradition in different part of the world. • Explain mutilated text is restored.	Unit-I: Bharatiya Lipi aru Ashomiya Lipir Parichay	Remember, Understand, Analysis
	Unit- II: Axomor Shila Lipi	Remember, Understand, Analysis, Apply

• Generate interest in preservation and restoration of intellectual heritage of a nation.	Unit-III: Axomor Tamra Lipi	Remember, Understand, Analysis, Apply
	Unit-IV: Ashomiya Hate Likha Puthi Lipi	Remember, Understand, Analysis, Apply

Paper Name: Banikanta Kakati
Paper Code: ASM-HE-6026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
Through this textbook, the students will get acquainted with the critical and thoughtful essays of Banikanta kakati.	Unit-I: Bargeet, Badkaibo,Namghosha	Remember, Understand, Analysis
	Unit- II: Aryavarta and Old Assam, Kobir Oihetu Preeti, Bezboruah	Remember, Understand, Analysis
	Unit-III: Khatha Kabita, Tumi, Nari Hiday	Remember, Understand, Analysis
	Unit-IV: Jatiya Sataina, Nirob Shadhana, Amar Notun Sahitya	Remember, Understand, Analysis

Paper Name: Ashomiya Bhashar Upabhasha
Paper Code: ASM-HE-6046

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Describe different varieties of the Assamese Language in the Contextof contemporary Linguistics. • Organize geographical and social varieties of Assamese Language.	Unit-I: Upabhashar Sangyaaru Swarup	Remember, Understand, Analysis
	Unit-II: Ashomiya Bhashar Bhinnata	Remember, Understand, Analysis
	Unit-III: Ashomiya Bhashar Anchalik Upabhasha	Remember, Understand, Analysis, Apply
	Unit-IV: Ashomiya Sahityat Upabhashar Prayog	Remember, Understand, Analysis, Apply

Paper Name: Laxminath Bezboruah

Paper Code: ASM-HE-6016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, • Trace the phases of 'Jonaki' Period of Assamese literature. • Trace the phases of Laxminath Bezbaruah's Romantic Assamese Poetry, Short stories, Biographyetc. • Describe the emotional effect of reading a few significant Laxminath's Poetry, short stories and biography. • Interpret a short story.	Unit-I: Laxminath Bezboruar Kabita	Remember, Understand, Analysis
	Unit- II: Laxminath Bezboruar Chutigolpo	Remember, Understand, Analysis
	Unit-III: Laxminath Bezboruar Atmajivani	Remember, Understand, Analysis
	Unit-IV: Laxminath Bezboruar Tatta Kotha	Remember, Understand, Analysis

6th Semester (Regular)

Paper Name: Chanda aru Alangkar (Rhyme andRhetoric)

Paper Code: ASM-RE-6016/ ASM-RG-6016

Discipline Specific Elective (DSC): ASM-RE-6016/ Generic Elective (GE): ASM-RG-6016 Chanda aru Alangkar (Rhyme andRhetoric)	This course will attempt to give students the theoretical knowledge of rhyme and rhetoric used in Assamese.

Department of English

PROGRAMME SPECIFIC OUTCOME (BA English)

After successful completion of the Programme, BA in English, students are expected to achieve the following outcomes:

- Students will understand and have knowledge about the Indian Classical and European Classical traditions through their reading of a selection of translated texts across genres such as poetry and drama. Their knowledge will encourage them to think about world literatures and the possibility of cultural exchanges.
- They will have the knowledge of the historical development of Indian Writing in English and the challenges faced by the early authors. They will also have knowledge about the partition of India and thus will be able to visualize the past through a revisit to the partition literature.
- The texts and ideas included in the papers covering Modern and Post-Modern English Literature will help the students know and understand the issues and ideas prevailing in the contemporary society. This will help them develop an international outlook.
- Students will acquire knowledge about diverse societies and cultures, political and literary movements as the prescribed texts are contextualized in different socio-cultural events and movements.
- Students will understand and develop knowledge about the interrelation of life with literature through their study of a wide variety of texts and genres of literature.
- Students will develop a broader outlook as they study literatures of India, America and Africa, and some European nations.
- Students will have knowledge about the ideas and themes dealt by the authors, which will encourage them to explore more and more new ideas and motivate them to undertake a comparative study.
- They will acquire knowledge and understanding to go for higher studies.

COURSE OUTCOME

BA English (Honours) Syllabus (CBCS)

1st Semester (Honours)

Paper Name : Indian Classical Literature
Paper Code: ENG-HC-1016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will have knowledge and understanding of Classical Literatures of India in English translation across genres like drama, poetry, the epic narrative as well as short fictional fables. • Students will think about literatures of the world, and the possibility of cultural exchange. • They will be able to evaluate human values	Kalidasa: *Abhijnana Shakuntalam*	Remember, understand, evaluate
	Vyasa: 'The Dicing' and 'The Sequel to Dicing, 'The Book of the Assembly Hall', 'The Temptation of Karna'	Remember, understand, metacognitive
	Sudraka: *Mrcchakatika*	Remember, understand
	Ilango Adigal: 'The Book of Banci', in *Cilappatikaram*	Remember, understand, metacognitive

Paper Name : European Classical Literature
Paper Code: ENG-HC-1026

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students will achieve the following learning outcomes: • Students will have knowledge and understanding of EuropeanClassical Literatures through representative texts across genres like drama, poetry, and the epic narrative as well. • Students will develop a Critical mind about literatures of the world, and the possibility of cultural exchangeStudents will enrich their metacognitive knowledge with their understanding of the Classical Theatre • They will be able to evaluate human values and culture	Homer: *The Odyssey*	Remember, understand, evaluate
	Sophocles: *Oedipus the King*	Remember, understand, metacognitive
	Plautus: *Pot of Gold*	Remember, understand
	Ovid: *Metamorphoses*	Remember, understand, metacognitive
	Horace: *Satires and Epistles and Persius:* Satires I: 4	

2nd Semester (Honours)

Paper Name: Indian Writing in English
Paper Code: ENG-HC-2016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will have knowledge and understanding of gender, politics of language, nationalism and modernity pertaining to pre and post-Independence India. • Students will learn the place of English Writing in India in the larger field of English Literature. • It enables the students to discuss critically the use of literary forms of the novel, poetry and drama by Indian English writers in distinctive ways against Indian historical and cultural contexts. • They will be able to evaluate human values.	H.L.V. Derozio: 'Freedom to the Slave'; 'The Orphan Girl	Remember, understand, evaluate
	Kamala Das: 'Introduction'; 'My Grandmother's House'	Remember, understand, evaluate
	Nissim Ezekiel: 'Enterprise'; 'Night of the Scorpion', 'Very Indian Poem in English'	Remember, understand
	Robin S. Ngangom: 'The Strange Affair of Robin S. Ngangom'; 'A Poem for Mother'	Remember, understand, metacognitive
	Mulk Raj Anand: 'Two Lady Rams'	Remember, evaluate
	Anita Desai: In Custody	Remember, understand, evaluate
	Shashi Despande: 'The Intrusion'	Understand
	Manjula Padmanabhan: Lights Out	Remember, understand, evaluate
	Mahesh Dattani: Tara	Remember, understand

Paper Name: British Poetry and Drama: 14th to 17th Centuries
Paper Code: ENG-HC-2026

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students will achieve the following learning outcomes: • Students will have the knowledge and understanding of the two major forms in British literature from the 14th to the 17th centuries – poetry and drama. • They will learn the larger contexts of the Renaissance, the nature of the Elizabethan Age and its predilections	Geoffrey Chaucer: The Wife of Bath's Prologue	Remember, understand, evaluate
	Edmund Spenser: Selections from *Amoretti*	Remember, understand, evaluate
	John Donne: 'The Sunne Rising'; 'Batter My Heart'; 'Valediction: Forbidding Mourning'	Remember, understand
	Christopher Marlowe: *Doctor Faustus*	Remember, understand, metacognitive

for certain kinds of literary activities, and the implications of the emergence of new trends. • They will also have the knowledge and understanding of the seminal issues and preoccupations of the writers with their ages as reflected in the prescribed texts.	William Shakespeare: *Macbeth*	Remember, evaluate, metacognitive
	William Shakespeare: *Twelfth Night*	Remember, understand, evaluate

3rd Semester (Honours)

Paper Name: History of English Literature and Forms
Paper Code: ENG-HC-3016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will have knowledge of the development of English Literature and understanding of the different forms of English Literature. • They will gain understanding of the contexts in which literary forms and individual texts emerge. • They will learn to analyze texts as representative of broad generic explorations.	Poetry from Chaucer to the Present	Remember, understand, evaluate
	Drama from Everyman to the Present	Remember, understand, evaluate
	Fiction from 17th Century to Present	Remember, understand
	Non Fictional Prose (Life Writing, Essays, Philoso-phical and Historical Prose, Satire)	Remember, understand

Paper Name: American Literature
Paper Code: ENG-HC-3026

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will have knowledge and understanding of the main currents of American literature in its social and cultural contexts. • They will understand the historical reflection of the growth of American society and of the way the literary imagination has grappled with such growth and change.	Tennessee Williams: *The Glass Menagerie*	Remember, understand, evaluate
	Mark Twain: *The Adventures of Huckleberry Finn*	Remember, understand, evaluate
	Edgar Allan Poe: *The Purloined Letter*	Remember, understand
	F. Scott Fitzgerald: 'The Crack-up'	Remember, understand, metacognitive
	Anne Bradstreet: 'The Prologue'	Remember, evaluate
	Emily Dickinson: 'A Bird Came Down the Walk';	Remember, understand, evaluate

• They will be able to evaluate human values • They will also have knowledge of the American society from the beginnings of modernism to the present as well as with exciting generic innovations and developments that have tried to keep pace with social changes.	'Because I Could not Stop for Death'	
	Walt Whitman: Selections from Leaves of Grass: 'O Captain, My Captain'; 'Passage to India' (lines 1–68)	Remember, understand, evaluate
	Langston Hughes: 'I too'	Remember, understand
	Robert Frost: 'Mending Wall'	Remember, understand
	Sherman Alexie: 'Crow Testament'; 'Evolution'	Remember, evaluate, metacognitive

Paper Name: British Poetry & Drama: 17th &18th Centuries
Paper Code: ENG-HC-3036

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will have knowledge and understanding of the diverse kinds of writings that developed in the 17th & 18th Century. • They will have the knowledge of economic, political and social changes in (primarily) Britain during this period, such as the shifts from the Puritan Age to the Restoration and Neoclassical periods. • They will also understand the larger contexts that generated such literatures as well as the possible impacts of the literature on society.	John Milton: *Paradise Lost: Book I*	Remember, understand, metacognitive
	• John Webster: *The Duchess of Malfi*	Remember, understand, evaluate
	• Aphra Behn: *The Rover*	Remember, understand
	• John Dryden: *Mac Flecknoe*	Remember, understand
	• Alexander Pope: *The Rape of the Lock*	Remember, understand, evaluate

4th Semester (Honours)

Paper Name: British Literature: The 18th Century
Paper Code: ENG-HC-4016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will have knowledge and understanding of how reason and	• Jonathan Swift: *Gulliver's Travels* (Books III and IV)	Remember, understand, evaluate
	• Samuel Johnson: 'London'	Remember, understand, evaluate

rationality dominated the socio political life in the 18th C England. • They will have the knowledge about the emergence of the English Novel and development of satire as dominant form of poetry. • They will also acquire theknowledge of different kinds of drama namely sentimental comedy.	• Thomas Gray: 'Elegy Written in a Country Churchyard'	Remember, understand, evaluate
	• Daniel Defoe: *Moll Flanders*	Remember, understand, evaluate
	• Joseph Addison: "Pleasures of the Imagination", *The Spectator,* 411	Remember, evaluate
	• Oliver Goldsmith: *She Stoops to Conquer*	Remember, understand, evaluate

Paper Name: British Romantic Literature
Paper Code: ENG-HC-4026

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will gain knowledge about the Romantic movement in English through a reading of the poetry of Blake, Burns, Wordsworth, Coleridge, Shelley, and Keats. • They will understand the role of imagination in the poetry of the age and the role of the poet in society. • They will understand therelationship between man and nature.	William Blake: 'The Lamb', 'The Chimney Sweeper', 'The Tyger', 'Introduction' to The Songs of Innocence	Remember, understand, evaluate
	• Robert Burns: 'A Bard's Epitaph'; 'Scots Wha Hae'	Remember, understand, evaluate
	• William Wordsworth: 'Tintern Abbey'; 'Upon Westminster Bridge'	Remember, understand
	• Samuel Taylor Coleridge: 'Kubla Khan'; 'Dejection: An Ode'	Remember, understand
	• Percy Bysshe Shelley: 'Ode to the West Wind'; 'Hymn to Intellectual Beauty'; The Cenci	Remember, understand, evaluate
	• John Keats: 'Ode to a Nightingale'; 'To Autumn'; 'On First Looking into Chapman's Homer'	Remember, understand
	• Mary Shelley: *Frankenstein*	Remember, understand, analyse

Paper Name: British Literature: The 19th Century
Paper Code: ENG-HC-4036

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will have knowledge and understanding of how the novel comes into its own through a	• Jane Austen: *Pride and Prejudice*	Remember, understand, evaluate
	• Charlotte Bronte: *Jane Eyre*	Remember, understand, evaluate
	• Charles Dickens: *The Pickwick Papers* (Chapters: 1, 2, 23, 56, 57)	Remember, understand

reading of the representative texts of Jane Austen and Charles Dickens. • They will also have knowledge of the ground-breaking efforts of the poets as well as the fiction writers who manage to consolidate and refine upon the achievements of the novelists of the previous era. • They will be able to evaluate human values.	• Thomas Hardy: *The Three Strangers*	Remember, understand, metacognitive
	• Alfred Tennyson: 'The Defence of Lucknow'	Remember, understand, evaluate
	• Robert Browning: 'Love among the Ruins'	Remember, understand
	• Christina Rossetti: 'Goblin Market'	Remember, understand, evaluate

5th Semester (Honours)

Paper Name: British Literature: The 20th Century
Paper Code: ENG-HC-5016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will have knowledge and understanding of modernism and modernity in English Literature. • They will have knowledge about and familiarity with modern novelists and poets. • They will also gain knowledge about the ethos of postmodernism through a reading of recent poetic and fictional works. • They will be able to evaluate human values and culture.	• Joseph Conrad: *Heart of Darkness*	Remember, understand, evaluate
	• Virginia Woolf: Mrs Dalloway	Remember, understand, evaluate
	• W.B. Yeats: 'The Second Coming'; 'Sailing to Byzantium'	Remember, understand
	• T.S. Eliot: 'The Love Song of J. Alfred Prufrock'; 'Journey of the Magi'	Remember, understand, metacognitive
	• W.H. Auden: 'In Memory of W.B. Yeats'	Remember, understand, evaluate
	• Hanif Kureshi: My Beautiful Launderette	Remember, understand
	• Phillip Larkin: 'Church Going'	Remember, understand, analyse
	• Ted Hughes: 'Hawk Roosting'	Remember, understand, evaluate
	• Seamus Heaney: 'Casualty	Remember, understand

Paper Name: Women's Writing
Paper Code: ENG-HC-5026

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to	• Mary Wollstonecraft: *A Vindication of the Rights of Woman*	Remember, understand, evaluate

achieve the following learning outcomes: • Students will acquire knowledge and ability to analyse nineteenth and twentieth century writings by women living in different geographical and socio cultural settings. • Students will get acquainted with the distinct and variedexperiences of women articulatedin a variety of genres-poetry, novels, short stories, and autobiography. • Students will understand the contexts from which the texts emerged. • They will also develop the ability to analyse the women writers' handling of the different genres to articulate their women-centric experiences.	• Rassundari Debi: Excerpts from Amar Jiban in Susie Tharu and K. Lalita, eds., *Women's Writing in India,* vol. 1	Remember, understand, evaluate
	• Katherine Mansfield: 'Bliss'	Remember, understand
	• Sylvia Plath: 'Daddy'; 'Lady Lazarus'	Remember, understand, metacognitive
	• Alice Walker: *The Color Purple*	Remember, understand, evaluate
	• Mahashweta Devi: *Draupadi*, tr. Gayatri Chakravorty Spivak	Remember, understand
	• Nirupama Bargohain: 'Celebration'	Remember, understand, analyse
	• Adrienne Rich: 'Orion'	Remember, understand, evaluate
	• Eunice De Souza: 'Advice to Women'; 'Bequest'	Remember, understand

Paper Name: Literature of the Indian Diaspora
Paper Code: ENG-HE-5036

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will have knowledge and understanding of the concepts such as transnationalism, exile, migration and displacement through a reading of texts representing diasporic experience with particular reference to Indian diasporic writers. • They will be able to evaluate human values and culture.	• M. G. Vassanji: *The Book of Secrets* (Penguin, India)	Remember, understand, evaluate
	• Rohinton Mistry: *A Fine Balance* (Alfred A Knopf)	Remember, understand, evaluate
	• Meera Syal: *Anita and Me* (Harper Collins)	Remember, understand
	• Jhumpa Lahiri: *The Namesake* (Houghton Mifflin Harcourt)	Understand, evaluate

Paper Name: Literary Criticism and Literary Theory
Paper Code: ENG-HE-5056

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will develop theoretical/practical know-ledge for analysing literary textsthrough a reading of texts beginning from William Wordsworth's Preface to such Modern and Post-Modern texts asDerrida's "Structure, Sign and Play in the Discourse of the Human Science" and Fanon's Black Skin, White Masks • Students will have knowledge of different Literary Theories suchas Marxism and Feminism.	William Wordsworth: Preface to the Lyrical Ballads (1802)	Remember, understand, evaluate
	S.T. Coleridge: Biographia Literaria. Chapters IV, XIII, XIV	Remember, understand, evaluate
	Virginia Woolf: Modern Fiction	Remember, understand
	T.S. Eliot: "Tradition and the Individual Talent" (1919)	Remember, understand,
	I.A. Richards: Principles of Literary Criticism Chapters 1,2 and 34.	Remember, understand, evaluate
	Cleanth Brooks: "The Language of Paradox" in The Well-Wrought Urn: Studies in the Structure of Poetry (1947)	Remember, understand
	Terry Eagleton: Introduction to Marxism and Literary Criticism	Remember, understand, analyse
	Elaine Showalter: 'Twenty Years on: A Literature of Their Own Revisited'	Remember, understand, evaluate
	Toril Moi: "Introduction" in Sexual/Textual Politics	Remember, understand
	Jacques Derrida: "Structure, Sign and Play in the Discourse of the Human Science"	Remember, understand, metacognitive
	Michel Foucault: 'Truth and Power'	Remember, understand,
	Mahatma Gandhi: 'Passive Resistance' and 'Education', in Hind Swaraj and Other Writings	Remember, understand, evaluate
	Edward Said: 'The Scope of Orientalism' in Orientalism	Remember, understand
	Frantz Fanon: Black Skin, White Masks (Chapter 4 "The So-Called Dependency Complex of Colonized Peoples")	Remember, understand, analyse

6th Semester

Paper Name: Modern European Drama
Paper Code: ENG-HC-6016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will gain knowledge of the innovative dramatic works of playwrights from differentlocations in Europe –knowledge about European realistic drama and the Theatre of the Absurd. • They will understand and analyse the contemporary social condition and the innovative experiments carried out in the stage. • They will understand and analyse the trends and dramatic devices and techniques. • They will be able to evaluatehuman values	• Henrik Ibsen: *Ghosts*	Remember, understand, evaluate
	• Anton Chekhov: *The Cherry Orchard*	Remember, understand, evaluate
	• Bertolt Brecht: *The Caucasian Chalk Circle*	Remember, understand
	• Samuel Beckett: *Waiting for Godot*	Remember, understand, analyse

Paper Name: Postcolonial Studies
Paper Code: ENG-HC-6026

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will understand and analyse colonization and decolonization and identity politics through a reading ofselect novels, short stories and poems. • They will gain knowledge about the effects of colonisation on society and culture. • They will understand how the postcolonial writers treat race and gender in their texts.	• Chinua Achebe: *Things Fall Apart*	Remember, understand, evaluate
	• Gabriel Garcia Marquez: *Chronicle of a Death Foretold*	Remember, understand, evaluate
	• Bessie Head: 'The Collector of Treasures' Ama Ata Aidoo: 'The Girl who can'	Remember, understand
	• Grace Ogot: 'The Green Leaves'	Remember, understand,
	• Shyam Selvadurai: *Funny Boy*	Remember, understand, evaluate
	• Pablo Neruda: 'Tonight I can Write'; 'The Way Spain Was'	Remember, understand
	• Derek Walcott: 'A Far Cry from Africa'; 'Names'	Remember, understand, analyse
	• David Malouf: 'Revolving Days'; 'Wild Lemons'	Remember, understand, evaluate

	• Easterine Kire: *When the River Sleeps*	Remember, understand

Paper Name: Partition Literature
Paper Code: ENG-HE-6036

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will understand people's traumas and sufferings resulting from the partition of the Indian Subcontinent. • They will be able to analyse and evaluate how the writers treated the theme of partition across literary genres. • They will understand and evaluate human values of universal significance.	• Intizar Husain: *Basti*, tr. Frances W. Pritchett	Remember, understand, evaluate
	• Amitav Ghosh: *The Shadow Lines.*	Remember, understand, evaluate
	• Dibyendu Palit: 'Alam's Own House', tr. Sarika Chaudhuri, Bengal Partition Stories: *An Unclosed Chapter*	Remember, understand
	• Manik Bandhopadhya: 'The Final Solution', tr. Rani Ray, *Mapmaking: Partition Stories from Two Bengals*	Remember, understand,
	• Sa'adat Hasan Manto: 'Toba Tek Singh', *Black Margins: Manto*, tr. M. Asaduddin	Remember, understand, evaluate
	• Lalithambika Antharajanam: 'A Leaf in the Storm', tr. K. Narayana Chandran, in *Stories about the Partition of India*	Remember, understand
	• Faiz Ahmad Faiz: 'For Your Lanes, My Country', in In *English: Faiz Ahmad Faiz, A Renowned Urdu Poet*, tr. and ed. Riz Rahim	Remember, understand, analyse
	• Jibananda Das: 'I Shall Return to This Bengal', tr. Sukanta Chaudhuri, in *Modern Indian Literature*	Remember, understand, evaluate
	• Gulzar: 'Toba Tek Singh', tr. Anisur Rahman, in *Translating Partition*, ed. Ravikant and Tarun K. Saint	

Paper Name: Life Writing
Paper Code: ENG-HE-6056

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will develop the ability to analyse autobiography as a literary genre and the role of memory in writing autobiography. • Students will understand and evaluate how autobiography writers use it as a form of resistance and as a form of rewriting history. • Students will remember and understand the relation between self and society and how society influences life.	•Jean-Jacques Rousseau: Confessions, Part One, Book One, pp. 5-43	Remember, understand, evaluate
	• Maya Angelou: I Know Why the Caged Bird Sings, Chapter 6	Remember, understand, evaluate
	• M. K. Gandhi: *Autobiography* or the Story of *My Experiments with Truth*, Part I Chapters II-IX, pp.5-26	Remember, understand
	• Ismat Chugtai, *A Life in Words: Memoirs*, Chapter 1	Remember, understand,
	• Binodini Dasi: *My Story and Life as an Actress*, pp. 61-83	Remember, understand, evaluate
	• Revathi: Truth About Me: A Hijra Life Story, Chapters One to Four	Remember, understand
	• Richard Wright: Black Boy, Chapter 1, pp. 9-44	Remember, understand, analyse
	• Sharankumar Limbale: The Outcaste, Translated by Santosh Bhoomkar, pp. 1-39	Remember, understand, evaluate

Department of Bodo

PROGRAMME SPECIFIC OUTCOME (BA Bodo)

After successful completion of the Programme of BA in Bodo, it has been assumed that the students will comes to know about the followings:

- Students will understand and have knowledge about the history and development of bodo language and literature through their reading of a selection of translated texts across genres such as poetry anddrama. Their knowledge will encourage them to think about origin of Bodo literatures and the possibilityof cultural exchanges.
- They will have the knowledge of the historical development of Bodo literature and thechallenges faced by the early authors. They will also have knowledge about the.
- The texts and ideas included in the papers covering Modern and Post-Modern Bodo and other Indian Literature whichwill help the students to know and understand the issues and ideas prevailing in the contemporary society. This will help them develop an national outlook.
- Students will acquire knowledge about diverse societies and cultures, political and literary movements as the prescribed texts are contextualized in different socio-cultural events and movements of Bodos.
- Students will understand and develop knowledge about the interrelation of life with literature through their study of a wide variety of texts and genres of literature.
- Students will have knowledge about the ideas and themes dealt by the authors, which will encourage them to explore more and more new ideas and motivate them to undertake a comparative study.
- They will acquire knowledge and understanding to go for higher studies.

COURSE OUTCOME

BA Bodo (Honours) Syllabus (CBCS)

1st Semester (Honours)

Paper Name: Literary Criticism (Western)

Paper Code: BOD-HC-1016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will have knowledge and understanding of deferent genres of literature like drama, poetry, the epic narrative as well as short fictional fables. • Come to know about the concept of literary criticism.	Theory and concept of literary criticim	Remember, understand, evaluate
	Poetry and Drama	Remember, understand, metacognitive
	Novel and short stories	Remember, understand
	New-litary theory	Remember, understand, metacognitive

Paper Name: History of Bodo Literature (Early Period)

Paper Code: BOD-HC-1026

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students will achieve the following learning outcomes: • Students will have knowledge and understanding about the contributions of Missioneries to Bodo literature and native speakesrs • Students will develop a Critical mind about literatures of the world, and the possibility of cultural exchangeStudents will enrich their metacognitive knowledge with their understanding of the Classical literature. • They will be able to evaluate human values and culture.	Missionary contribution in Bodo literature	Remember, understand, evaluate
	Bodo Literature (post Missionary to pre-Bibar)	Remember, understand, metacognitive
	Writings in Bibar magazine	Remember, understand
	Writings in Hathorkhi-Hala and Olongbar	Remember, understand, metacognitive

2nd Semester (Honours)

Paper Name: History of Bodo Literature (Modern Period, 1952 to 2015)

Paper Code: BOD-HC-2016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students will have knowledge and understanding of gender, politics of bodo language, nationalism to pre and post-Independence India. • Students will come to know about the beginning of modern period of Bodo literature. • It enables the students to discuss critically the use of literary forms of the novel, poetry and drama by bodo writers in distinctive ways New trends and developments in Bodo literature.	An introductory note on historical development of modern Bodo literature	Remember, understand, evaluate
	Bodo Poetry	Remember, understand, evaluate
	Bodo Novel and short story	Remember, understand
	Bodo Drama	Remember, understand, metacognitive

Paper Name: Literary Criticism (Eastern)

Paper Code: BOD-HC-2026

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students will achieve the following learning outcomes: • Come to know about theory and concept of eastern literary criticism. • Come to know about the uses of Rasa, Chanda and Alankara with special reference to Bodo literature	History and development of eastern literary criticism	Remember, understand, evaluate
	Rasa	Remember, understand, evaluate
	Chanda	Remember, understand
	Alankara	Remember, understand, metacognitive

3rd Semester (Honours)Paper

Name: Introduction to Language and Linguistics

Paper Code: BOD-HC-3016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Can gather general idea about language and linguistics. • Can learn about different levels of linguistic analysis.	Language: Definition of Language, Characteristics of Language, Why study Language?	Remember, understand, evaluate
	Linguistics: Definition, Linguistics as a Science, Branches of Linguistics, Scope of Linguistics, Levels of Linguistic analysis	Remember, understand, evaluate
	Introduction to Phonetics, Phonology and Morphology	Remember, understand
	Introduction to Syntax, Semantics and Vocabulary	Remember, understand

Paper Name: Bodo Poetry (Early period)
Paper Code: BOD-HC-3026

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about the trend of old Bodo poetry. • About mystic and romantic poems composed during the period. • About the poems composed to bring social awareness among the mass.	Trend of Bodo Poetry (from inception to 1952)	Remember, understand, evaluate
	a. Angni Khwina- Rupnath Brahma	Remember, understand, evaluate
	b. Khathi Gasa from Bibar Megazine- Khitish Bhusan Brahma	Remember, understand
	c. Dani Boro Phisa- Madaram Brahma	Remember, understand
	d. Mwdwi- Ishan Moshahary	Remember, understand
	a.Thwinay –Pramod Ch. Brahma	Remember, understand
	b. Baidi Mwzang Khwurang- Kali Kumar Lahary	Remember, understand
	c. Habilas-Nileswar Brahma	Remember, understand
	d. Bathu Baraya Makhu Khurzidung- Prasanna Kumar Boro Khakhl	Remember, understand
	a. Eroino Din Thanga-Ratiram Brahma	Remember, understand
	b. Sikhangdo- Surendra Nath Brahma	Remember, understand

Paper Name: Introduction to Culture

Paper Code: BOD-HC-3036

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about the general concept of culture • The relation between folklore and society. • About diffusion, acculturation and assimilation of culture.	Definition of Culture, Characteristics of Culture, Society and Culture, Culture and Civilization, Language and Culture	Remember, understand, metacognitive
	Folklore and Folk-society, Folklore and its sub-genres.	Remember, understand, evaluate
	Folk religion, folk beliefs and superstition (analysis may be done from the folkloristic point of view)	Remember, understand
	Process of cultural diffusion, acculturation and assimilation	Remember, understand

4th Semester (Honours)

Paper Name: Modern Bodo Poetry (From 1952 to 2015)

Paper Code: BOD-HC-4016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about the trend of modern Bodo poetry. • About new symbols and techniques used by the poets.	Trends of Modern Bodo Poetry	Remember, understand, evaluate
	• a. Mahabuddhani Toposhya- Samar Brahma Choudhury • b. Zibraltarni Onthai- Prasenjit Brahma • c. Sangrema- Brajendra Kr. Brahma • d. Jiu Swinai- Surath Narzary	Remember, understand, evaluate
	a. Gufur Dauthua Dabw Gabw-Anju b. Sangrema jiu-Bishnujyoti Kochary c. Amen- Bikram d. Sase Badari Mwntham Saogari-Aurobinda Uzir	Remember, understand, evaluate
	a. Bishnu Rabhanw- Anil Boro b. Halua-Nandeswar Boro c. No- Badal Basumatary d. Ang da Daina- Jwngsar Narzary	Remember, understand, evaluate

Paper Name: Bodo Language

Paper Code: Bod-HC-4026

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about origin, concentration and development of the Bodo language • Present status of Bodo language.	The term Bodo, origin and development of the Bodo language, demographic composition and concentration of the Bodos	Remember, understand, evaluate
	• Characteristics and present status of Bodo language	Remember, understand, evaluate
	• Linguistic impact of other languages on Bodo in case of phonology, morphology, syntax and vocabulary	Remember, understand
	• Language variation (in this unit topics like idiolect, dialect, difference between dialect and idiolect, standard language, process of standardization are to be included)	Remember, understand

Paper Name: Bodo Culture

Paper Code: BOD-HC-4036

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about Bodo society and culture. • About cultural elements of the Bodos.	• The Bodo society and trait of Bodo Folk-culture, its traditionalism and prospect of continuity.	Remember, understand, evaluate
	• Food habits of the Bodos	Remember, understand, evaluate
	• Material Culture	Remember, understand
	• Social folk-customs, fairs and festivals of the Bodos	Remember, understand, metacognitive

5th Semester (Honours)

Paper Name: Manoranjan Lahary

Paper Code: BOD-HC-5016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about life and literary works of Manoranjan Lahary.	Life and works of Manoranjan Lahary	Remember, understand, evaluate
	Poems and essays of Manoranjan Lahary	Remember, understand, evaluate
	Fictions of Manoranjan Lahary	Remember, understand
	Dramas of Manoranjan Lahary	Remember, understand, metacognitive

Paper Name: Structure of Bodo Language

Paper Code: BOD-HC-5026

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about phonology of Bodo language. • Come to know about the structure of morphology, syntax and vocabulary of Bodo language.	• Phonological analysis (Phoneme and its description, distribution of phonemes, use of Tone and syllable)	Remember, understand, evaluate
	• II Morphological analysis (with special reference to system of number, gender, numeral classifiers, use of personal pronouns, case marker, structure of verbs, application of tense and tense-marker)	Remember, understand, evaluate
	• Syntactic analysis (Types of sentences, IC analysis of Bodo sentences, Word order)	Remember, understand, evaluate
	• Vocabulary (Introduction to Bodo Vocabulary, Mutual Impact of Lexis between the Bodo and other languages, basic features of Bodo words)	Remember, understand, evaluate

Paper Name: Bodo Folk-Literature

Paper Code: BOD-HE-5016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about Bodo folk-literature and its sub-division. • Come to know about different genres of Bodo folk-literature.	Orality of Bodo Folk Literature and Sub-division of Bodo folk literature	Remember, understand, evaluate
	Folk Songs	Remember, understand, evaluate
	Folk Tales	Remember, understand
	Charms and Incantations	Understand, evaluate

Paper Name: Dialects of Bodo Language

Paper Code: BOD-HE-5026

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to gather a general idea on dialect and dialectology of Bodo language • About Bodo dialects and its uses in literature.	What is Dialect, Importance of Dialect and Dialectology	Remember, understand, evaluate
	Regional dialect, social dialect and diglossia	Remember, understand, evaluate
	Linguistic variations of Bodo dialects	Remember, understand
	Dialects used in Bodo Literature a. Bathu Nam Bwikhaguni Gidu-Prasanna Lal Boro Khakhluary b. Jwngthi-Dhireswar Boro Narzee c. Gwkha, Gwdwi arw Gwbab-Bidyut Basumatary	Remember, understand,

6th Semester

Paper Name: Cognate Languages of the Bodo

Paper Code: BOD-HC-6016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve thefollowing learning outcomes: • Come to know about women writings in Bodo. • Contribution of women writers in different genres of literature.	What is women literature, why of women literature	Remember, understand, evaluate
	Women contribution in Bodo poetry	Remember, understand, evaluate
	Women contribution in Bodo short story	Remember, understand
	• Women contribution in Bodo novel	Remember, understand, analyse

Paper Name: Postcolonial Studies

Paper Code: BOD-HC-6026

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about Bodo group of languages and their common characteristics. • Come to know about phonology, morphology and vocabulary of Bodo group of languages.	• Bodo group of Languages, Common characteristics and concentration of this group of peoples	Remember, understand, evaluate
	Comparative Phonology of Bodo, Garo, Dimasa, Rabha, Kokborok and Tiwa with special reference to Vowel, Consonant and use of Syllable and Tone (Glottal stop, where tone is not available) (In this Unit students are suggested to compare the phonology of any two languages with the phonology of the Bodo Language)	Remember, understand, evaluate
	Comparative Morphology of Boro, Garo, Dimasa, Rabha, Kokborok and Tiwa with special reference to Structure of Noun, Pronoun, Number, Gender, Verb, Tense and Adjective (In this Unit students are suggested to compare the morphology of any two languages with the morphology of the Bodo Language)	Remember, understand
	• Comparative Vocabulary of Bodo, Garo, Dimasa, Rabha, Kokborok and Tiwa Language with introduction to the structure of Basic vocabulary and the loan words available in these languages (In this Unit students are suggested to compare the Vocabulary of any two languages with the Vocabulary of the Bodo Language)	Remember, understand,

Paper Name: Life Writing in Bodo
Paper Code: BOD-HE-6016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about life writing and its types. • Come to know about biography and travel works in Bodo.	Introduction to Life Writings (Definition of life writings, Growth and development of first person narrator, Expression of Voice, Structure and Style)	Remember, understand, evaluate
	Types of Life Writings (Autobiography, Biography, Nature writings, personal writings, Literary Journalism, Travel writing, Letter writing, Diary etc.).	Remember, understand, evaluate
	Biography Swrangni Lamajwng – Bidyasagar Narzary	Remember, understand
	Travel Works: Sina Nihao arw Chiye Chiye – Jogesh Deory	Remember, understand,

Paper Name: Dissertation Writing

Paper Code: BOD-HE-6026

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • The students will learn how to write dissertation, data collection, project writing, and interview to people.	(In this paper, students are suggested to prepare a dissertation at least of 50 pages on the topic assigned by the departmental teachers using research methodology. Examiners will examine this dissertation. Dissertation will carry 80 marks and viva-voce carry 20 marks. Viva –voce will be held in the department in presence of at least one external).	Remember, understand, evaluate.

SEMESTER I

Paper Name: Textual Analysis on Bodo Drama (Early period)

Paper Code: BOD-RC-1016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about the background of Bodo drama. • Come to know about old period Bodo drama.	Origin and development of old Bodo drama	Remember, understand, evaluate
	Dwrswn Jwhwlao-Satish Chandra Basumatary	Remember, understand, evaluate
	Obongni Phao- Bhaben Phwrwnggiri	Remember, understand
	Dukhashri-Upendra Narzary	Understand, evaluate

Paper Name: Communicative Bodo

Paper Code: BOD-AE-1014

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: ● Come to know about application of Bodo language in different perspectives ➢ Come to know about spelling system used in writing Bodo language.	Spelling System in Bodo	Remember,understand, evaluate
	Applied Grammar (Use of Case and Case ending, Tone, Tense and Tense Markers, Synonyms, Antonyms.	Remember, understand, evaluate
	Commercial Advertisement (Use of Bodo Language in Print and Electronic Media, Administrative terminology)	Remember, understand
	Essay writing (Current Issues, commercial and literary pursuits)	Understand, evaluate

SEMESTER II

Paper Name: Non-fictional prose in Bodo

Paper Code: BOD-RC-2016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about development of non-fictional prose in early and modern period • Can acquire knowledge about few prose pieces in Bodo	Spelling System in Bodo	Remember,understand, evaluate
	Development of non-fictional prose in Bodo (early period).	Remember, understand, evaluate
	Development of non-fictional prose in Bodo (modern period)	Remember, understand
	Critical review on prose pieces-	Understand, evaluate

SEMESTER III

Paper Name: Kamal Kumar Brahma

Paper Code: BOD-CC-3016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about life and works of litterateur Kamal Kumar Brahma • Come to know about linguistic and literary contribution of Kamal Kumar Brahma	Life and works of Kamal Kr. Brahma	Remember,understand, evaluate
	Gwnang Raokhanthi	Remember, understand, evaluate
	Social Dramas of Kamal Kr. Brahma	Remember, understand
	Essays of Kamal Kr. Brahma	Understand, evaluate

SEMESTER III

Paper Name: Bodo Drama

Paper Code: BOD-RC-3016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Students can learn about different types of drama in Bodo literature • About influence of Assamese and Bangla drama in Bodo literature	Origin and development of Bodo drama	Remember,understand, evaluate
	Influence of Assamese and Bangla drama in old Bodo drama	Remember, understand, evaluate
	Horbadi Khwmsi-Kamal Kr. Brahma	Remember, understand
	Onlaynaya Zewaribadi Gwtharmwn- Dr. Premananda Moshahary	Understand, evaluate

SEMESTER III

Paper Name: Translation Studies

Paper Code: BOD-SE-3014

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about types of translation and about translation from different aspects in Bodo. • Review of translated literature in Bodo.	Types of Translation	Remember,understand, evaluate
	Translation of Advertisement from Print and Electronic Media into Bodo	Remember, understand, evaluate
	Translation: News Item, Essay and Interview	Remember, understand
	Review on Suitability and Acceptability of the translated Book "Wings of Fire" By Dr. A P J Abdul Kalam	Understand, evaluate

SEMESTER IV

Paper Name: Nilkamal Brahma

Paper Code: BOD-CC-4016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about life and works of litterateur Nilkamal Brahma. • Come to know about literary contributions of Nilkamal Brahma in different genres of literature.	Life and works of Nilkamal Brahma	Remember,understand, evaluate
	Review of the Books (Hagra Guduni Mwi, Silingkhar)	Remember, understand, evaluate
	Review on the Novel Maoriya	Remember, understand
	Translated works by Nilkamal Brahma.	Understand, evaluate

SEMESTER IV

Paper Name: Bodo Fiction

Paper Code: BOD-RC-4016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come of know about Bodo novels. • Come to know about Bodo short stories.	Zuzaini Or- Chittaranjan Muchahary	Remember,understand, evaluate
	Bwrai Phagladiyani Gwdan Dara-Nabin Malla Boro	Remember, understand, evaluate

SEMESTER IV

Paper Name: Manuscript Preparation

Paper Code: BOD-SE-4014

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about manuscript preparation and use of punctuations and symbols. • About benefits of editing and taking into MS word & PageMaker.	Types of Manuscript: Use of Punctuation, Sign and Symbols	Remember,understand, evaluate
	Importance of Editing and Proof Reading; Symbols used in Proof reading, Proof reader, Proof reading process	Remember, understand, evaluate
	Process, Purpose and benefits of Editing	Remember, understand
	Taking Manuscripts in MS Word Format and Page Maker etc.	Understand, evaluate

SEMESTER V

Paper Name: Costume and Textile Design of the Bodos

Paper Code: BOD-SE-5014.

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Can come to know about costume and textile design of the Bodos. • Can come to know about changing trend of costume and textile design from tradition to modernity.	Traditional costumes, Changes and Continuity- its Importance, Bodo garments	Remember,understand, evaluate
	Weaving Designing, adaptation of emerging designing technology in the global perspective	Remember, understand, evaluate
	Traditional Bodo ornaments, body adornment and decoration, scope and validation in the	Remember, understand

	changing needs of the modern prospective	
	Racial identity and cultural value of traditional costume, scope of marketing, Bodo textile: employment opportunity.	Understand, evaluate

SEMESTER V

Paper Name: Bodo Folk-Literature

Paper Code: BOD-RE-5016.

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of thiscourse students are expected to achieve the following learning outcomes: • Come to know about Bodo folk-literature and its sub-division. • Come to know about different genres of Bodo folk-literature.	Orality of Bodo Folk Literature and Sub-division of Bodo folk literature	Remember,understand, evaluate
	Folk Songs	Remember, understand, evaluate
	Folk Tales	Remember, understand
	Charms and Incantations.	Understand, evaluate

SEMESTER V

Paper Name: Children Literature

Paper Code: BOD-RG-5016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about development of children literature in Bodo. • Review of few children literature in Bodo.	Development of Children literature in Bodo	Remember,understand, evaluate
	Translated Children Literature in Bodo (From Assamese to Bodo)	Remember, understand, evaluate
	Review of Gothosa Fwrni Rao by Kauchalya Brahma	Remember, understand
	Review of Bokhali by Tiren Boro.	Understand, evaluate

SEMESTER VI

Paper Name: Food processing system of the Bodos: Tradition to Modernity

Paper Code: BOD-SE-6014

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about the food processing system of the Bodos from past to present.	An Introduction to the food processing system: methods and types	Remember,understand, evaluate
	Fundamentals of food technology: Food hygiene, sanitation, optimization techniques in food technology	Remember, understand, evaluate
	Food preservation system of the Bodos; Past, present and Future prospect	Remember, understand
	Impact of modern food processing system on food habits of the Bodos (Impact of other indigenous food processing system, Modern food processing system and Change and continuity of Bodo food processing)	Understand, evaluate

SEMESTER VI

Paper Name: Life Writing in Bodo

Paper Code: BOD-RE-6016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • Come to know about life writing and its types.	Introduction to Life Writings (Definition of life writings, Growth and development of first person narrator, Expression of Voice, Structure and Style)	Remember,understand, evaluate

• Come to know about biography and travel works in Bodo	Types of Life Writings (Autobiography, Biography, Nature writings, personal writings, Literary Journalism, Travel writing, Letter writing, Diary etc.)	Remember, understand, evaluate

SEMESTER VI

Paper Name: Dissertation Writing

Paper Code: BOD-RG-6016

Course Outcome	Unit/ Topics	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: • The students will learn how to write dissertation, data collection, project writing, and interview to people.	(In this paper, students are suggested to prepare a dissertation at least of 50 pages on the topic assigned by the departmental teachers using research methodology. Examiners will examine this dissertation. Dissertation will carry 80 marks and viva-voce carry 20 marks. Viva –voce will be held in the department in presence of at least one external).	Remember, understand, evaluate.

Department of Economics

PROGRAMME SPECIFIC OUTCOME (BA/B.Sc Economics)

Specific outcome of studying the syllabus prescribed for the students of Economics honours classes may be cited below:

- □ The students will understand the economic behavior of individual economic unit.
- □ The students will be able to know the macro-economic structure of an economy.
- □ The students will be able to know how prices are set under different market structure.
- □ The students will be able to learn the role of money and monetary policy in an economy.
- □ The students will be able to learn calculus and mathematics in Economics.
- □ The students will be able to learn the concept of economic development and growth.
- □ The students will be able to learn the principles of public finance.
- □ The students will be able to learn different statistical techniques used in Economics.
- □ The students will be able to learn principles of econometrics.
- □ The students will be to learn the impact of economic activity on environment.
- □ The students will be able to learn history of Economic thought.

COURSE OUTCOME

BA/B.Sc Economics (Honours) Syllabus (CBCS

Semester – I

Course Name: Introductory Microeconomics
Course Code: ECO-HC-1016

Course Outcome	Course Outline	Bloom's Taxonomy Level
• Through this course students are able to understand what is economics is all about and how economy operates along with consumer behaviour i.e. rationality of the consumer along with producers rationality. • Students are able understand Why to study economics, its importance, scope and method of economics; the economic problem: scarcity and choice; the question of what to produce, how to produce and how to distribute output; science of economics; the basic competitive model; prices, property rights and profits; incentives and information; rationing; opportunity sets; economic systems; reading and working with graphs.	**Unit-1**: Exploring The subject matter of Economics	Remember, Understand
	Unit–2: Supply and Demand : How markets Work, Markets and Welfare	Remember, Understand
	Unit–3: The Households	Remember, Understand, Analyse, Apply
	Unit–4: The Firm and Perfect Market Structure	Remember, Understand, Analyse
	Unit–5: Imperfect Market Structure	Remember, Understand, Analyse
	Unit–6: Input Markets	Understand, Analyse

Course Name: Mathematical Methods In Economics-I
Course Code: ECO-HC-1026

Course Outcome	Course Outline	Bloom's Taxonomy Level
• The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macro-economic theory, statistics and econometrics set out in this syllabus. • Through this course, students are able to understand particular economic models are not the ends, but the means	**Unit – 1 :** Preliminaries	Remember, Understand
	Unit – 2 : Functions of one real variables	Remember, Understand
	Unit – 3 : Differential Calculus	Remember, Understand, Analyse, Apply
	Unit – 4 : Single variable optimization	Remember, Understand, Analyse

for illustrating the method of applying mathematical techniques to economic theory in general.		
	Unit – 5 : Integration of functions	Remember, Understand, Analyse

Semester- III

Course Name: Introductoy Macroeconomics
Course Code: ECO-HC-2016

Course Outcome	Course Outline	Bloom's Taxonomy Level
• This course aims to introduce the students to the basic concepts of Macroeconomics. • Now with this course students are able to understand how Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP, money, inflation, and the balance of payments.	**Unit – 1 :** Introduction to Macroeconomics and National Income Accounting	Remember, Understand
	Unit – 2 : Money	Remember, Understand
	Unit – 3 : Inflation	Remember, Understand, Analyse, Apply
	Unit – 4 : The closed Economy in the short- run	Remember, Understand, Analyse

Course Name: Mathematical Methods In Economics - II
Course Code: ECO-HC-2026

Course Outcome	Course Outline	Bloom's Taxonomy Level
• The objective of this sequence is to provide knowledge to the students about various mathematical concepts, whom they can apply to find solution to various economic problems i.e. through applying mathematics into economic concepts. • This course is much more illustrated version from the previous course (semester I) which will provide in-depth knowledge to the students about various economic applications.	**Unit – 1** : Linear algebra	Remember, Understand, Analyze, Apply
	Unit – 2 : Functions of several real variables	Remember, Understand, Analyze
	Unit – 3 : Multi-variable optimization	Remember, Understand, Analyse, Apply
	Unit – 4 : Differential Equation	Remember, Understand, Analyse, Apply

Semester – III

Course Name: Intermediate Micro-Economics - I
Course Code: ECO-HC-3016

Course Outcome	Course Outline	Bloom's Taxonomy Level
• The course is designed to provide a sound training in microeconomic theory to formally analyze the behavior of individual agents. • Since students are already familiar with the quantitative techniques in the previous semesters, mathematical tools are used to facilitate understanding of the basic concepts, here students are able to understand the behaviour of the consumer and the producer and also covers the behaviour of a competitive firm (more illustrated than the previous semester)	**Unit – 1 :** Consumer Theory	Remember, Understand
	Unit – 2: Production, Costs and Perfect Competition	Remember, Understand

Course Name: Intermediate Macroeconomics - I
Course Code: ECO-HC-3026

Course Outcome	Course Outline	Bloom's Taxonomy Level
• This course introduces the students to formal modeling of a macro-economy in terms of analytical tools. It discusses various alternative theories of output and employment determination in a closed economy in the short run as well as medium run, and the role of policy in this context. • It also introduces the students to various theoretical issues related to an open economy.	**Unit – 1 :** Aggregate Demand and Aggregate Supply Curve	Remember, Understand
	Unit – 2 : Inflation, Unemployment and Expectations	Remember, Understand
	Unit – 3 : Open Economy Models	Remember, Understand

Course Name: Statistical Methods for Economics
Course Code: ECO-HC-3036

Course Outcome	Course Outline	Bloom's Taxonomy Level
• This is a course on statistical methods for economics. It begins with some basic concepts and terminology that are fundamental to statistical analysis and inference. It then develops the notion of probability, followed by probability distributions of discrete and continuous random variables and of joint distributions. This is followed by a discussion on sampling techniques used to collect survey data. • The course introduces the notion of sampling distributions that act as a bridge between probability theory and statistical inference. The semester concludes with some topics in statistical inference that include point and interval estimation.	**Unit – 1 :** Introduction and overview	Remember, Understand
	Unit – 2 : Elementary probability Theory	Remember, Understand
	Unit – 3 : Random Variables and Probability Distribution	Remember, Understand
	Unit – 4 : Random Sampling and Jointly Distributed random Variables	Remember, Understand
	Unit – 5 : Sampling	Remember, Understand

Semester – IV

Course Name: Intermediate Microeconomics - II
Course Code: ECO-HC-4016

Course Outcome	Course Outline	Bloom's Taxonomy Level
• Here the emphasis will be on giving conceptual clarity to the student coupled with the use of mathematical tools and reasoning. • Moreover it covers general equilibrium and welfare, imperfect markets and topics under information economics	**Unit – 1** : General Equilibrium, Efficiency and Welfare	Remember, Understand
	Unit - 2 : Market Structure and Game Theory	Remember, Understand
	Unit - 3 : Market with Asymmetric Information	Remember, Understand

Course Name: Intermediate Macroeconomics - II
Course Code: ECO-HC-4026

Course Outcome	Course Outline	Bloom's Taxonomy Level
• In this course, the students are introduced to the long run dynamic issues like growth and technical progress. It also provides the micro-foundations to the various aggregative concepts used in the previous course	**Unit - 1** : Economics Growth	Remember, Understand
	Unit- 2 : Microeconomics Foundations	Remember, Understand
	Unit - 3 : Fiscal and Monetary policy	Remember, Understand
	Unit - 4 : Schools of Macro - Economic thoughts	Remember, Understand

Course Name: Introductory Econometrics
Course Code: ECO-HC-4036

Course Outcome	Course Outline	Bloom's Taxonomy Level
• It covers statistical concepts of hypothesis testing, estimation and diagnostic testing of simple and multiple regression models. • The course also covers the consequences of and tests for misspecification of regression models	**Unit - 1** : Statistical Background	Remember, Understand
	Unit - 2 : Simple linear regression model : Two – Variable case	Remember, Understand
	Unit - 3 : Multiple linear regression model	Remember, Understand
	Unit - 4 : Violations of Classical Assumptions : Consequences, detection and remedies	Remember, Understand
	Unit - 5 : Specification Analysis	Remember, Understand

Semester – V

Course Name: Indian Economy – 1
Course Code: ECO-HC-5016

Course Outcome	Course Outline	Bloom's Taxonomy Level
• Using appropriate analytical frameworks, this course reviews major trends in the economy and	**Unit - 1** : Economic development since independence	Remember, Understand

policy debates in India in the post-Independence period, with particular emphasis on paradigm shifts and turning points. • Through this course students are able to understand about various economic indicators and even the comparison of such indicators at international level. • Moreover, with this course students are able to understand the economy of India in a more illustrated way.	**Unit - 2** : Population and Human Development	Remember, Understand
	Unit - 3 : Growth and distribution	Remember, Understand
	Unit - 4 : International Comparison	Remember, Understand

Course Name: Development Economics-I
Course Code: ECO-HC-5026

Course Outcome	Course Outline	Bloom's Taxonomy Level
• This is the first part of a two-part course on economic development. The course begins with a discussion of alternative conceptions of development and their justification. It then proceeds to aggregate models of growth and cross-national comparisons of the growth experience that can help evaluate these models. The axiomatic basis for inequality measurement is used to develop measures of inequality and connections between growth and inequality are explored. • The course ends by linking political institutions to growth and inequality by discussing the role of the state in economic development and the informational and incentive problems that affect state governance.	**Unit - 1**: Conceptions of development empirics	Remember, Understand
	Unit - 2: Growth models	Remember, Understand
	Unit - 3: Poverty and inequality: definitions, measures and mechanisms	Remember, Understand
	Unit - 4: Political institutions and the functioning of the state	Remember, Understand

Course Name: Economics of health and economics
Course Code: ECO-HE-5016

Course Outcome	Course Outline	Bloom's Taxonomy Level
• This is the first paper of discipline specific electives. The course begins with a discussion of meaning and significance of health and education in day to day life.	**Unit-1**: Role of health and education	Remember, Understand
• It then proceeds to the models and framework concerning demand for and supply of health and education services.	**Unit-2:** Micro economic foundation of health economics	Remember, Understand
• The next part of the course pertains with evaluation of various cost-benefits measures related to investment on health and education.	**Unit-3**: Evaluation of health programmes	Remember, Understand
	Unit-4: Overview of health sector in India	Remember, Understand
	Unit-5: Investment on education as formation of human capital	Remember, Understand
• The course ends with different parameters regarding measurement of health and education status of a region, state or country	**Unit-6**: Overview on education sector in India	Remember, Understand

Course Name: Money and Financial Markets
Course Code: ECO-HE-5026

Course Outcome	Course Outline	Bloom's Taxonomy Level
• This course exposes students to the theory and functioning of the monetary and financial sectors of the economy. It highlights the organization, structure and role of financial markets and institutions. • It also discusses interest rates, monetary management and instruments of monetary control. Financial and banking sector reforms and monetary policy with special reference to India are also covered	**Unit - 1** : Money	Remember, Understand, Analyze and Apply
	Unit - 2 : Financial institutions, Markets, Instruments and Financial Innovations	Remember, Understand, Analyze and Apply
	Unit - 3 : Interest Rates	Remember, Understand, Analyze
	Unit - 4 : Banking System	Remember, Understand, Analyze
	Unit - 5 : Central banking and Monetary policy	Remember, Understand, Analyze

Course Name: Public Finance
Course Code: ECO-HE-5036

Course Outcome	Course Outline	Bloom's Taxonomy Level
• This course is a non-technical overview of government finances with special reference to India. The course does not require any prior knowledge of economics. It will look into the efficiency and equity aspects of taxation of the center, states and the local governments and the issues of fiscal federalism and decentralization in India. • The course will be useful for students aiming towards careers in the government sector, policy analysis, business and journalism	**Unit -1** : Theory	Remember, Understand
	Unit-2 : Issues from Indian Public Finance	Remember, Understand

<u>Semester – VI</u>

Course Name: **Indian Economy-II**
Course Code: ECO-HC-6016

Course Outcome	Course Outline	Bloom's Taxonomy Level
• This course examines sector-specific polices and their impact in shaping trends in key economic indicators in India. It highlights major policy	**Unit-1**: Macroeconomic policies and their impact	Remember, Understand, Analyze
	Unit -2 : Policies and performance in Agriculture	Remember, Understand, Analyze

debates and evaluates the Indian empirical evidence.	**Unit-3** : Policies and performance in Industry	Remember, Understand, Analyze
	Unit-4 : Trends and performance in services	Remember, Understand, Analyze

Course Name: Development Economics-II
Course Code:-ECO-HC-6016

Course Outcome	Course Outline	Bloom's Taxonomy Level
• This is the second module of the economic development sequence. It begins with basic demographic concepts and their evolution during the process of development. The structure of markets and contracts is linked to the particular problems of enforcement experienced in poor countries. The governance of communities and organizations is studied and this is then linked to questions of sustainable growth. • The course ends with reflections on the role of globalization and increased international dependence on the process of development.	**Unit - 1** : Demography and Development	Remember, Understand, Analyze
	Unit - 2 : Land, Labor and Credit markets	Remember, Understand
	Unit - 3 : Individuals, communities and collective outcomes	Remember, Understand, Analyze
	Unit - 4 : Environment and sustainable development	Remember, Understand, Analyze, Apply
	Unit-5 : Globalization	Remember, Understand

Course Name: **Environmental Economics**
Course Code: ECO-HE-6016

Course Outcome	Course Outline	Bloom's Taxonomy Level
• This course focuses on economic causes of environmental problems. In particular, economic principles are applied to environmental questions and their management through various economic institutions, economic incentives and other instruments and policies. • Economic implications of environmental policy are also addressed	**Unit - 1** : Introduction	Remember, Understand
	Unit - 2 : The theory of externalities	Remember, Understand, Analyze
	Unit - 3 : The design and implementation of environ-mental policy	Remember, Understand, Analyze and Apply

as well as valuation of environmental quality, quantify-cation of environmental damages, tools for evaluation of environmental projects such as cost-benefit analysis and environmental impact assessments. Selected topics on international environmental problems are also discussed.	**Unit - 4** : International environmental problems	Remember, Understand, Analyze
	Unit - 5 : Measuring the benefits of environmental improvements	Remember, Understand, analyze
	Unit - 6 : Sustainable development	Remember, Understand, Analyze, Apply

Course Name: International Economics
Course Code:- ECO-HE-6026

Course Outcome	Course Outline	Bloom's Taxonomy Level
• This course develops a systematic exposition of models that try to explain the composition, direction and consequences of international trade, and the determinants and effects of trade policy. It then builds on the models of open economy macroeconomics developed in courses 08 and 12, focusing on national policies as well as international monetary systems. • It concludes with an analytical account of the causes and consequences of the rapid expansion of international financial flows in recent years. Although the course is based on abstract theoretical models, students will also be exposed to real-world examples and case studies.	**Unit - 1** : Introduction	Remember, Understand
	Unit-2 : Theories of international trade	Remember, Understand, Analyze
	Unit -3 : Trade policy	Remember, Understand, Analyze
	Unit-4: International macroeconomic policy	Remember, Understand, Analyze

Department of Economics

PROGRAMME SPECIFIC OUTCOME (BA/B.Sc Economics)

Specific outcome of studying the syllabus prescribed for the students of Economics regular/generic classes may becited below:

□ The students will understand the economic behavior of individual economic unit.
□ The students will be able to know the macro-economic structure of an economy.
□ The students will be able to know how prices are set under different market structure.
□ The students will be able to learn the role of money and monetary policy in an economy.
□ The students will be able to learn the concept of economic development and growth□
□ The students will be able to learn the principles of public finance.
□ The students will be able to learn history and concepts of various schools of economics

COURSE OUTCOME

BA/B.Sc Economics (Regular) Syllabus (CBCS)

Semester – I

Course name: Principles of Microeconomics–I
Course code: ECO-HG/RC-1016

Course outcome	Course outline	Bloom's Taxonomy Level
• This is the first honours generic and	Unit-1: Introduction, concepts on problems, choice, efficiency, demand	Remember, understand

regular paper of the entire three year degree course. The course begins with an overview on economics. It also provides an in-depth knowledge about demand, supply, elasticity and efficiency. • It then proceeds to the utility maximizing and profit maximizing behavior of consumers and producers. It sums up how budget or outlay acts as a constraint while maximizing own interest. • The course ends with behavior of consumers and producers under perfect competition.	and supply, market.	
	Unit-2: Consumer theory: How consumers maximise their utility with indifference curve under budget constraint.	Remember, understand
	Unit-3: Production and cost: How firms behaves to maximise profit, various concepts of cost and revenue.	Remember, understand
	Unit-4: Perfect competition: How individuals and firms behave under perfect competition; demand, supply, cost, revenue under perfect comeptition.	Remember, understand

Semester- II

Course name: Principles of Microeconomics–II

Course code: ECO-HG/RC-2016

Course outcome	Course outline	Bloom's Taxonomy Level
• This is the second paper on microeconomics of the three year degree course for regular students. The course begins with concepts of monopoly and its underlying characteristics. It	Unit-1: Market structure: Assumption and working of monopoly and other forms of imperfectly competitive market.	Remember, understand
	Unit-2: Factor pricing: Demand for and supply of input under perfect competition and monopsony. Market.	Remember, understand

extends its reach to other forms of imperfect structure of market and their respective features • Then it proceeds to the factor pricing mechanism. It studies how equilibrium factor price is determined under various forms of market. • The course ends with meaning and causes of market failure and externality in the economy. It also analyze how externality can be internalized and market can be corrected.	Unit-3: Market failure: Causes of market failure, meaning and types of externality, causes of information asymmetry.	Remember, understand

Semester- III

Course name: Principles of Macroeconomics–I

Course code: ECO-HG/RC-3016

Course outcome	Course outline	Bloom's Taxonomy Level
• This is the first paper on macroeconomics of the three year degree course for regular students. The course begins with the very concept of macroeconomics and its role on an economy. • The next three chapters	Unit-1: Introduction: Meaning and role of macroeconomics	Remember, understand
	Unit-2: National Income Accounting: GDP and NDP, measuring national income	Remember, understand
	Unit-3: Determination of GDP: Consumption and investment function, MPC, MPS, APC, APS, multiplier	Remember, understand

are about GDP, National Income, their underlying concepts and methods of measurement. It also reaches concepts like consumption function, MPC, MPS, APC and APS. • The course ends definition, types and role of money in an economy. Theory on demand for money and monetary policy are other integral parts of the course.	Unit-4: Govt. intervention and foreign trade: Meaning, objectives and impact of fiscal policies on the economy	Remember, understand
	Unit-5: Money: Meaning and types of money, theory on demand for and supply of money, monetary policy.	Remember, understand

Semester- IV

Course name: Principles of macroeconomics-II

Course code: ECO-HG/RC-4016

Course outcome	Course outline	Bloom's Taxonomy Level
• This is the first paper on macroeconomics of the three year degree course for regular students. The course begins with the very concept of macroeconomics and its role on an economy. • The next three chapters are about GDP, National Income, their underlying concepts and methods of	Unit-1: Introduction: Meaning and role of macroeconomics	Remember, understand
	Unit-2: National Income Accounting: GDP and NDP, measuring national income	Remember, understand
	Unit-3: Determination of GDP: Consumption and investment function, MPC, MPS, APC, APS, multiplier	Remember, understand
	Unit-4: Govt. intervention and foreign trade: Meaning, objectives and impact of fiscal policies on the economy	Remember, understand

measurement. It also reaches concepts like consumption function, MPC, MPS, APC and APS. • The course ends definition, types and role of money in an economy. Theory on demand for money and monetary policy are other integral parts of the course.	Unit-5: Money: Meaning and types of money, theory on demand for and supply of money, monetary policy.	Remember, understand

Semester- V

Course name: Economic development and Policy in India –I
Course code: ECO-RE-5016

Course outcome	Course outline	Bloom's Taxonomy Level
• This is the first part of first paper of Discipline Specific Elective. It begins with various issues related to growth and development. • The next chapter is about role capital accumulation, technology and institution. • The next part	Unit-1: Issues in growth, development and sustainability.	Remember, understand
	Unit-2: Factors in development: Capital formation, technology and institution.	Remember, understand
	Unit-3: Population, economic development and urbanisation in India.	Remember, understand
	Unit-4: Unemployment: Types, causes and remedies.	Remember, understand

analyses about the link between population and economic growth. It extends its reach to the occupational structure of India. • The course ends with a comparative study regarding issues like poverty, inequality, unemployment, saving and investment between pre and post reform period	Unit-5: Pre and post reform era: Poverty, inequality, unemployment, saving, investment, capital accumulation.	Remember, understand

Semester- V

Course name: Money and Banking
Course code: ECO-RE-5026

Course outcome	Course outline	Bloom's Taxonomy Level
• This is the second Discipline Specific Elective paper. It begins with the concepts and theories on money and money supply. • The next chapter is about role of financial institutions in market. Types and problems of Indian financial institutions are other major parts of this course.	Unit-1: Money: Concepts, measurement, determination of money supply.	Remember, understand
	Unit-2: Market and financial institutions: Role of financial institutions, money market, capital market, adverse selection and moral hazard.	Remember, understand
	Unit-3: Interest rate: Determinants, sources, theories on interest rate.	Remember, understand
	Unit-4: Banking system: Balance sheet and portfolio management, Indian banking system and its role.	Remember, understand

• The next part analyses about structure and working of interest rate and banking system in India. • The course ends with the meaning, functions, targets, instruments and monetary policies of central bank in India.	Unit-5: Central banking and monetary policy: Function, targets, objectives, instruments to control money supply, current monetary policy.	Remember, understand

Semester- VI

Course name: Economic development and Policy in India –II

Course code: ECO-RE-6016

Course outcome	Course outline	Bloom's Taxonomy Level
• This is the second part of the first paper of Discipline Specific Elective paper of three year degree course for regular students. It starts with the growth and trend in production and productivity of the agriculture sector in India. Various credit and labour policies were other integral part of the course. • The next chapter is about growth, trend and role of industry	Unit-1: Agriculture sector: Production and productivity, land reform, regional inequality, agricultural finance, labour.	Remember, understand
	Unit-2: Industry sector: Growth and trend, Small Scale Industry (SSI), public sector, FDI and FII.	Remember, understand

sector, Small Scale Industry (SSI), public sector and foreign investment. • The course ends with performance of India's trade policies and India's relation with WTO.	Unit-3: Foreign trade: Performance and policies, trend in BOP in India, India and WTO.	Remember, understand

Semester- VI

Course name: Public Finance
Course code: ECO-RE-6036

Course outcome	Course outline	Bloom's Taxonomy Level
• This is the last paper as Discipline Specific Elective course. This course is divided into two parts.	Unit-1: Theory: Fiscal function, normative analysis, equity and social welfare, market failure: public goods and externality, theories on product and taxation,	Remember, understand

• The first part is about concepts and theories on public finance. Analysis on market failure, externality and public goods are other integral parts. • The last part in concerned with issues of public finance in India. It includes India's monetary and fiscal policies, taxation system, working of budget and fiscal federalism.	Unit-3: Issues from Indian public finance: Monetary and fiscal policies, current tax system, budgets and different types if deficits, fiscal federalism- local and state finance.	Remember, understand

Department of Economics

PROGRAMME SPECIFIC OUTCOME (BA/B.Sc Economics)

Specific outcome of studying the syllabus prescribed for the students of Economics skill course classes may becited below:

- □ The students will understand the role and importance of data.
- □ The students will be able to know the presentation of data through MS-Excel and other soft ware like SPSS, STATA, etc.
- □ The students will practically be involved in preparing questionnaire and interview schedule.
- □ The students will also understand various methods and techniques of collecting primary and secondary data.

Semester- III

Course name: Data Collection and Presentation
Course code: ECO-SE-3016

Course outcome	Course outline	Bloom's Taxonomy Level
• This is the first part of skill course of three year degree course on economics. The course begins with role,	Unit-1: Use of data: Use of data in social science, types and collection of data	Remember, understand, analyse, apply

importance and use of data. It also outlines types and methods of collection of data. • Then it proceeds to the process of preparation of questionnaire and interview schedule. • The course ends with use of data, charts, tables and diagram in MS-Excel and other soft wares like SPSS, STATA, etc.	Unit-2: Questionnaire and schedule: Meaning, preparation and use of questionnaire and interview schedule	Remember, understand, analyse, apply
	Unit-3: Presentation of data: Use of data, chart, tables, diagrams in MS-Excel and other soft wares likes SPSS, STATA, etc.	Remember, understand, analyse, apply

Semester- IV

Course name: Data Collection
Course code: ECO-SE-4016

Course outcome	Course outline	Bloom's Taxonomy Level
• This is the second part of skill course of three year degree course on economics. The course begins with data entry in MS-Excl and other soft wares like SPSS, STATA, etc. • Then it proceeds to the measures of central tendencies like mean, median and mode; and	Unit-1: Data entry: Data entry in MS-Excel and other soft wares like SPSS, STATA.	Remember, understand, analyse, apply
	Unit-2: Univariate frequency distribution: Mean, medien, mode, range, mean standard, standard deviation, skewness and kurtosis.	Remember, understand, analyse, apply

measures of dispersion like range, mean deviation and standard deviation. It also includes bivariate frequency distribution like correlation and regression. • The course ends with population and sample, parameters and statistic; and estimation parameters from statistic.	Unit-3: Bivariate frequency distribution: Correlation, rank correlation, regression.	Remember, understand, analyse, apply
	Unit-4: Estimation: Population and sample, estimation of parameters from statistic, properties of population parameters.	Remember, understand, analyse, apply

Department of History PROGRAMME SPECIFIC OUTCOME (BA History)

Specific outcome of studying the syllabus prescribed for the students of History major classes may be cited below:

- To understand the meaning and scope of history and its relation with other disciplines.
- The students will be acquainted with history of India according to its various phases like – Paleolithic, Mesolithic and Neolithic.
- The students will understand the state-formation process under the Mauryas, Guptas etc.
- Will be acquainted with the history of ancient civilizations of the world viz. Mesopotamia, Greece, Chinese, and Roman.
- The students will understand the rise of Turks and Afghans in India and its affect on state, society and economy.
- Will help the students to know the history of ancient medieval and modern Assam along with its various dynasties and their impact upon society, polity, economy etc.
- Will help the students to know about advent of Mughal in India and expansion of their territory.
- Will help the students to know about history of Europe and its transition from Medieval to modern age.
- Will help the students to know about the arrival of the British in India and their expansion and consolidation.
- Will help the students to understand the existence of science and technology in pre-colonial India.

COURSE OUTCOME

BA History (Honours) Syllabus (CBCS)

1st Semester (Honours)

Paper Name: History of India I
Paper code: HIS-HC-1016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this paper, the students will be able to explore andeffectively use historical tools in reconstructing the remote past of ancient Indian pre and proto history. The course will also train the students to analyse the various stages of evolution of human cultures and the belief systems in the proto- history period**.**	**Unit I.** Reconstructing Ancient Indian History	Remember, understand, Analyze
	Unit II. Pre-historic hunter-gatherers	Remember, understand, Analyze
	Unit III. The advent of food production	Remember, understand, Analyze
	Unit IV. The Harappan civilization	Remember, understand, Analyze, Evaluate
	Unit V. Cultures in transition	Remember, understand, Analyze

Paper Name: Social Formations and Cultural Patterns of The Ancient World
Paper Code: HIS-HC-1026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this paper, the students will be able to explain the processes and stages of the evolution of the variety of cultural pattern throughout antiquarian periods in History. They will be able to relate the connections between the various Bronze Age civilizations in the ancient world as well as development of slave and polis societies in ancient Greece.	**Unit I**. Evolution of Humankind:	Remember, understand, Analyze
	Unit II. Bronze Age Civilizations: economy, social stratification, state structure, religion	Remember, understand, Analyze
	Unit III. Nomadic groups in Central and West Asia	Remember, understand, Analyze
	Unit IV. Slave society in Ancient Greece:	Remember, understand, Analyze, Evaluate
	Unit V. Polis in ancient Greece	Remember, understand, Analyze

2nd Semester (Honours)

Paper Name: History of India-II
Paper code: HIS-HC-2016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
On successful completion of this course the students will be able toexplain the economic and socio-cultural connections, transitions and stratifications during the ruling houses, empires and the politico-administrative nuances of early Indian History from 300 BCE to 300 CE.	**Unit I.** Economy and Society	Remember, understand, Analyze
	Unit II. Changing political formations	Remember, understand, Analyze
	Unit III. Towards early medieval India	Remember, understand, Analyze
	Unit IV. Religion, philosophy and society	Remember, understand, Analyze, Evaluate
	Unit V. Cultural developments	Remember, understand, Analyze

Paper Name: Social Formations and Cultural Patterns of The Medieval World
Paper Code: HIS-HC-2026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to analyse and explain the historical socio-political, administrative and economic patterns of the medieval world. They will be able to describe the emergence, growth and decline of various politico-administrative and economic patterns and the resultant changes therein	**Unit I.** Roman Republic: I	Remember, understand, Analyze
	Unit II. Roman Republic: II	Remember, understand, Analyze
	Unit III. Economic developments in Europe from the 7th to the 14th centuries:	Remember, understand, Analyze
	Unit IV. Religion and culture in medieval Europe:	Remember, understand, Analyze, Evaluate
	Unit V. Societies in Central Islamic Lands:	Remember, understand, Analyze

3rd Semester (Honours)

Paper Name: History of India III (c. 750 -1206)
Paper code: HIS-HC-3016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
The completion of this paper will enable the students to relate and explain the developments in India in its political and economic fields and its relation to the social and cultural patterns therein in the historical time	**Unit I**. Studying Early Medieval India:	Remember, understand, Analyze
	Unit II. Political Structures:	Remember, understand, Analyze
	Unit III. Agrarian Structure and Social Change:	Remember, understand, Analyze

period between c.700 to 1206. They will also be able to analyse India's interaction with another wave of foreign influence and the changes brought in its wake in the period.	**Unit IV.** Trade and Commerce	Remember, understand, Analyze, Evaluate
	Unit V. Religious and Cultural Developments:	Remember, understand, Analyze, Evaluate

Paper Name: Rise of The Modern West – I
Paper Code: **HIS-HC-3026**

Course Outcome	Unit with Name	Bloom's Taxonomy Level
On completion of this course, the students will be able to explain the major trends and developments in the Western world between the 14th to the 16th century CE. They will be able to explore and analyse the significant historical shifts and events and the resultant effects on the civilizations of Europe in the period.	**Unit I**. Transition from feudalism (to capitalism):	Remember, understand, Analyze
	Unit II. Geographical explorations and early colonial expansion:	Remember, understand, Analyze
	Unit III. Renaissance:	Remember, understand, Analyze
	Unit IV. Reformation in the 16th century: Origin and impact	Remember, understand, Analyze Evaluate
	Unit V. Economic developments of the sixteenth century:	Remember, understand, Analyze

Paper Name: History of India IV (c.1206 - 1550)
Paper Code: HIS-HC-3036

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After completion of this course students will be able to explain the political and administrative history of medieval period of India from 1206 to 1550 AD. They will also be able to analyse the sources of history, regional variations, social, cultural and economic set up of the period.	**Unit I.** Sources	Remember, understand, Analyze
	Unit II. Polity:	Remember, understand, Analyze
	Unit III. Society and Economy:	Remember, understand, Analyze
	Unit IV. Regional Polities:	Remember, understand, Analyze Evaluate
	Unit V. Religion and Culture:	Remember, understand, Analyze

4th Semester (Honours)

Paper Name: Rise of The Modern West – II
Paper Code: HIS-HC-4016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the student will be able to explain	**Unit I.** Europe in the 17th Century	Remember, understand, Analyze,

the political and intellectual currents in Europe in the Modern Age. They will also be able to relate the circumstances and causal factors of the intellectual and revolutionary currents of both Europe and America at the beginning of the Modern age	**Unit II**. The English Revolution:	Remember, understand, Analyze,
	Unit III. European Economy	Remember, understand, Analyze,
	Unit IV. Politics in the 18th century:	Remember, understand, Analyze, Evaluate
	Unit V. Prelude to the Industrial Revolution	Remember, understand, Analyze

Paper Name: History of India V (c. 1550 - 1605)
Paper Code: HIS-HC-4026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
At the completion of this course, the students will be able to analyse the circumstances and historical shifts and foundations of a variety of administrative and political setup in India between c.1550-1605. They will also be able to describe the inter relationships between the economy, culture and religious practices of the period**.**	**Unit I.** Sources and Historiography	Remember, understand, Analyze
	Unit II. Establishment of Mughal rule	Remember, understand, Analyze
	Unit III. Consolidation of Mughal rule under Akbar:	Remember, understand, Analyze
	Unit IV. Expansion and Integration:	Remember, understand, Analyze, Evaluate
	Unit V. Rural Society and Economy:	Remember, understand, Analyze

Paper Name: History of India VI (c. 1605 - 1750)
Paper Code: HIS-HC-4036

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to explain and reconstruct the linkages of the history of India under the Mughal Rule. As a whole, this course will nable them to relate to the socio-economic and religious orientation of the people of Medieval period in India.	**Unit I .** Political Culture under Jahangir and Shah Jahan:	Remember, understand, Analyze,
	Unit II. Mughal Empire under Aurangzeb:	Remember, understand, Analyze,
	Unit III. Patterns of Regional Politics:	Remember, understand, Analyze,
	Unit IV. Trade and Commerce:	Remember, understand, Analyze, Evaluate
	Unit V : 18th century India	Remember, understand, Analyze

5th Semester (Honours)

Paper Name: History of Modern Europe- I (c. 1780-1939)
Paper Code: HIS-HC-5016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course the students will be able to evaluate the historical evolution and political developments that occurred in Europe in the period between 1780 to 1939. They will also be also to critically analyse the evolution of social classes, nation states, evolution of capitalism and nationalist sentiment in Europe. They will also be able to relate to the variety of causes that dragged the world into devastating wars in the intervening period.	**Unit I**. The French Revolution and its European repercussions	Remember, understand, Analyze,
	Unit II. Restoration and Revolution: c. 1815 - 1848:	Remember, understand, Analyze, evaluate
	Unit III. Capitalist Industrialization	Remember, understand, Analyze,
	Unit IV. Social and Economic Transformation (Late 18th century to c. 1914)	Remember, understand, Analyze, Evaluate
	Unit V. Varieties of Nationalism and the Remaking of States in the 19th and 20th Centuries.	Remember, understand, Analyze

Paper Name: History of India VII (c. 1780 - 1857)
Paper Code: HIS-HC-5026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to relate the circumstances leading to the consolidation of colonial rule over India and their consequences. They will also be able to explain the orientation of the indigenous population and the masses towards resistance to the colonial exploitation. The course will also enable the students to analyse popular uprisings among the tribal, peasant and common people against the British policies.	**Unit I.** Expansion and Consolidation of colonial Power:	Remember, understand, Analyze
	Unit II. Colonial State and Ideology:	Remember, understand, Analyze
	Unit III. Rural Economy and Society:	Remember, understand, Analyze
	Unit IV. Trade and Industry	Remember, understand, Analyze, Evaluate
	Unit V. Popular Resistance:	Remember, understand, Analyze

Paper Name: History of Assam Up to c. 1228
Paper Code: HIS-HE-5016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
This paper will give a general outline of the history of Assam from the earliest times to the advent of the Ahoms in the 13th century. Upon completion, students will be acquainted with major stages of developments in the political, social and cultural history of Assam during the early times.	**Unit-I**: [a] A brief survey of the sources:Literary,Archaeological [b] Land and people: Migration routes [c] Cultural linkages with South East Asia : the Stone Jars of DimaHasao	Remember, understand, Analyze
	Unit-II: [a] Origin and antiquity of Pragjyotisha or Kamrupa Society [b] Traditional rulers and early History [c] Religion and belief systems	Remember, understand, Analyze
	Unit-III: Political dynasties: [a] Varmana [b] Salastambha [c] Pala	Remember, understand, Analyze
	Unit-IV: [a] Political condition of Assam in the Post-Pala period. [b] Turko-Afghan invasions [c] Disintegration of the Kingdom of Kamarupa	Remember, understand, Analyze, Evaluate
	Unit-V: [a] Central and Provincial administration [b] Judicial administration [c] Revenue administration [d] Cultural Life : Literature, Art and architecture	Remember, understand, Analyze

Paper Name: History of Assam (c. 1228-1826)
Paper Code HIS-HE-5026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
On completion of this paper, students will be able to identify major stages of developments in the political, social and cultural history of Assam during the medieval times. This paper will enable the student to explain the	**Unit-1** *[a]* Sources- archaeological, epigraphic, literary, numismatic and accounts of the foreign travelers; *Buranjis* *[b]* Political conditions of the Brahmaputra valley at the time of foundation of the Ahom kingdom.	Remember, understand, Analyze,

history of Assam from the 13th century to the occupation of Assam by the English East India Company in the first quarter of the 19th century.	[c] Siu-ka-pha - An assessment [d] State information in the Brahmaputra valley-the Chutiya, Kachari and the Koch state	
	Unit-II [a] Expansion of the Ahom Kingdom in the 16thcentury: Suhungmung (Dihingiya Raja) [b] Political Developments in the 17thcentury: rule of Pratap Singha) Ahom-Mughal wars- the treaty of 1639	Remember, understand, Analyze,
	Unit –III [a] Assam in the second half of the 17thCentury- the Ahom-Mughal Wars – Mir Jumla's Assam Invasion- causes and consequences, [b] Invasion of Ram Singha - the Battle of Saraighat (1671) and its results [c] Post-Saraighat Assam: Ascendancy of the Tungkhungia dynasty – the reign of Gadadhar Singha.	Remember, understand, Analyze,
	Unit: IV [a] Ahom Rule at its zenith of RudraSingha (1696-1714) to RajeswarSingha (1751-1769) [b] Decline and fall of the Ahom Kingdom the Moamariya Rebellion and the [c] Burmese Invasions- The English East India Company in Assam Politics [d] Treatyof Yandaboo and Assam	Remember, understand, Analyze, Evaluate
	Unit :V [a] Ahom system of administration: the Paik system [b]Ahom Policy towards the neighbouring hill tribes [b] Religious life –-Sankaradeva and the Neo Vaishnavite Movement- background and implications [c] Cultural developments : Art, Architecture and literature.	Remember, understand, Analyze

6th Semester (Honours)

Paper Name : History f India VIII (c. 1857 - 1950)
Paper Code: HIS-HC-6016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
At the completion of this course, the learners will be able to analyse the course of British colonial exploitation, the social mobilizations during the period between c.1857 to 1950 and also the techniques of Indian resistance to British policies. It will also enable the students to explain the circumstances leading to de-colonization and also the initial period of nation building in India**.**	**Unit I.** Cultural changes and Socio-Religious Reform Movements:	Remember, understand, Analyze
	Unit II. Nationalism: Trends up to 1919	Remember, understand, Analyze,
	Unit III. Gandhian nationalism after 1919: Ideas and Movements:	Remember, understand, Analyze,
	Unit IV. Nationalism and Social Groups	Remember, understand, Analyze, Evaluate
	Unit V. Communalism and Partition:	Remember, understand, Analyze

Paper Name: History of Modern Europe II (c. 1780 -193
Paper Code: HIS-HC-6026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to analyse the historical developments in Europe between c.1780 to 1939. As the course structure of this paper focuses on the democratic and socialist foundations modern Europe, the students will be able to situate the historical development of working class movements, socialist upsurge and the economic forces of the two wars and the other ideological shifts of Europe in the period.	**Unit I.** Liberal Democracy, Working Class Movements and Socialism in the 19th and 20th Centuries	Remember, understand, Analyze
	Unit II. The Crisis of Feudalism in Russia and Experiments in Socialism:	Remember, understand, Analyze
	Unit III. Imperialism, War, and Crisis: c. 1880 -1919	Remember, understand, Analyze
	Unit IV. The post 1919 World Order	Remember, understand, Analyze, Evaluate
	Unit V. Cultural and Intellectual Developments since circa 1850	Remember, understand, Analyze

Paper Name History of Assam (c. 1826 – 1947)
Paper Code: HIS-HE-6016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
Upon completion of this course, students will be able to describe the period of British rule in Assam after its annexation by the	**Unit I:** [a] Political condition in Assam on the eve of the British rule. [b] Establishment and Consolidation of the British rule:	Remember, understand, Analyze,

imperialist forces. They will also be able to situate the development of nationalism in Assam and its role in India's freedom struggle. The course would enable the students to analyse the main currents of the political and socio-economic developments in Assam during the colonial period.	Reforms and Reorganizations- David Scott – Annexation of Lower Assam, Administrative [c] Reorganisation and Revenue Measures of Scott; Robertson – Administrative and Revenue Measures; Jenkins' Administrative Measures	
	Unit II: [a] Ahom Monarchy in Upper Assam (1833-38) [b] Annexation of Cachar [c] Early phase of Revolts and Resistance to British rule- GomdharKonwar,PiyaliPhukan, U.Tirut Singh, [d] The Khamti and the Singpho rebellion [e] The 1857 Revolt in Assam and its aftermath	Remember, understand, Analyze,
	Unit III: [a] Establishment of Chief Commissionership in Assam. [b] Land Revenue Measures and Peasant Uprisings in 19th century Assam [c] Growth of national consciousness – Assam Association,SarbajanikSabhas, RaiyatSabhas. [d] Government of India Act, 1919 – Dyarchy on Trial in Assam.	Remember, understand, Analyze
	Unit IV : [a] Non Co-operation Movement and Swarajist Politics in Assam [b] The Civil Disobedience Movement [c] Trade Union and Allied Movements [d] Tribal League and Politics in Assam	Remember, understand, Analyze, Evaluate
	Unit V: [a] Quit India Movement in Assam. [b] Cabinet Mission Plan and the Grouping Controversy [c] The Sylhet Referendum [d] Migration, Line System and its Impact on Politics in Assam	Remember, understand, Analyze

Paper Name : Assam Since Independence
Paper Code: HIS-HE-6026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
Students will be able to assess the aftermath of Partition and other socio- economic developments in post-independence Assam upon completion of this course. They will also be able to identify the main currents of political and socio-economic development in Assam after India's independence and the causes and impact of various struggles and movements in contemporary Assam.	**Unit I-** Political developments	Remember, understand, Analyze
	Unit II- Economic developments	Remember, understand, Analyze
	Unit III : Movements and Ethnic Ressurgence	Remember, understand, Analyze
	Unit IV: Environmental issues	Remember, understand, Analyze, Evaluate
	Unit V- Cultural development	Remember, understand, Analyze

Department of Political Science

PROGRAMME SPECIFIC OUTCOME (BA Political Science)

As a branch of Social Science, Political Science studies the state, politics and government. It also deals with the analysis of political Systems, the theoretical and practical application to politics and the examination of political behavior. The study of political science may help the students in various aspects.

- □ Political science as a subject acquainted the students to understand various theories of political science and its history and approaches, and an assessment of its critical.
- □ The study of political Science will help the students to know about the constitution of India and how the constitutional provisions are applied in the administrative system of the country. It helps them to know the various rights and Duties of the Citizen.
- □ Political Science is useful to understand the mechanisms of modern governmental systems.
- □ The subject enables the students to understand the various theories of International Relations and dynamics involved with it. The study of Political Science is also useful for understanding both national and international foreign policies.
- □ Political science also deals with various ideals like Rights, Justice, Liberty, Equality, etc.
- □ The subject is also helpful in inculcating democratic values, good citizenship, etc.
- □ With the help of studying Political Science students will able to understand prevailing political culture in a political system and thereby they get themselves acquaint with the political process of the political system.
- □ The study of Political Science is helpful in understanding the political development that takes place in a particular political system.
- □ The students get themselves aware about the Human Rights, working of various International Organisations in different field of Human Development through the study of Political Science.
- □ The subject imparts the lesson of co-operation and toleration among the students.
- □ This subject introduces students to the key debates on the meaning and nature of globalization by addressing its political, economic, social and cultural and technological dimension.
- □ The subject provides an introduction to the discipline of Public Administration. It encompasses public administration in its historical context with an emphasis on various classical and contemporary administrative theories.
- □ The subject enables the students to understand the political philosophy of the Indian and western political thinkers and their applicability in present context.
- □ The subject provides the knowledge of contemporary political Ideologies and issues in the global context the student.

COURSE OUTCOME

BA Political Science (Honours) Syllabus (CBCS)

1st Semester (Honours)

Paper Name: Understanding Political Theory
Paper Code: POL-HC-1016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) To understand design of political theory and its relevance. ii) To facilitate the students to assess the contemporary trends of political theory – feminism and post- modernism iii) To reunite theory and practice in relation to democracy	UNIT 1: What is Political Theory and its relevance, Feminism, Post-modernism	Remember, Understand,Evaluate
	UNIT 2: Grammar of Democracy: Procedural and Participative democracy	Remember, Understand,Analyse, & Evaluate

Paper Name: Constitutional Government and Democracy in India
Paper Code: POL-HC-1026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) To explain students with constitutional design of state structures and institutions. ii) To know the conflicts in constitutional provisions iii) To make them understand the state institutions in relation to extra constitutional environment.	Unit1: The Constituent Assembly and the Constitution	Remember, Understand,evaluate
	Unit 2: Organs of Government	Remember, Understand,analyse
	Unit 3: Federalism and Decentralization	Remember, Understand,analyse & evaluate

2nd Semester (Honours)

Paper Name: Political Theory-Concepts and Debates
Paper Code: POL-HC-2016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) To comprehend the various concepts in political theory and appreciate how they can be helpful to analyse crucial political issues. ii) To identify with the significance of debates in political theory in exploring multiple perspective to concepts, ideas and issues. iii) To understand how these concepts and debates enrich political life and issues surrounding it.	UNIT 1: Importance of Freedom: Positive & Negative	Remember, understand, analyse, evaluate
	UNIT-2: Significance of Equality: Political equality	Remember, Understand,evaluate
	UNIT 3: Indispensability of Justice: Procedural & Distributive	Remember, Understand,evaluate

Paper Name: Political Process in India
Paper Code: POL-HC-2026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) To understand the working of the important political institutions in India ii) To understand the major issues and debates in Indian politics iii) To observe issues of caste, gender, region and religion iv) To recognize the changing nature of the Indian state v) To evaluate the contradictory dynamics of modern state power	UNIT 1: Political Parties and the Party System	Remember, Understand,evaluate
	UNIT 2: Determinants of Voting Behaviour	Remember, Understand, analyse, evaluate
	UNIT 3: Politics of secession and Accommodation	Remember, Understand,evaluate
	UNIT: IV Religion and Politics	Remember, Understand,evaluate
	UNIT: V Caste and Politics	Remember, Understand,evaluate
	UNIT: VI Affirmative Action Policies	Remember, Understand,evaluate
	UNIT: VII The Changing Nature of the Indian State	Remember, Understand,analyse & evaluate

3rd Semester (Honours)

Paper Name: Introduction to Comparative Government and Politics
Paper Code: POL-HC-3016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) To value the basic concepts in comparative politics ii) To sort the different political systems and historical context of modern governments iii) To facilitate comparative analysis of countries related to their political institutions and behaviour.	Unit1: Understanding Comparative Politics	Remember, Understand,analyse
	UNIT 2: Historical context of modern government	Remember, Understand
	UNIT 3: Themes for comparative analysis	Remember, Understand,evaluate

Paper Name: Perspectives on Public Administration
Paper Code: POL-HC-3026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will help the students to: i) To learn the basic ideas related to public administration and its importance ii) To know the major theories of public administration, iii) To facilitate students to have an understanding of public policy and its formulation, iv) To introduces students with the major approaches and recent debates related to field of public administration.	Unit 1: Public administration as a discipline	Remember, Understand, evaluate
	Unit 2: Theoretical Perspectives: Classical & Neo-classical theories	Remember, Understand, evaluate
	Unit 3: Public policy	Remember, Understand, evaluate
	Unit 4: Major approaches in public administration	Remember, Understand, analyse & evaluate

Paper Name: Perspectives on International Relations and World History
Paper Code: POL-HC-3036

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) To understand the key theoretical approaches in International relations, ii) To make known students with the evolution of International state	UNIT 1: Studying International Relations	Remember, Understand,analyse, evaluate
	Unit 2: Theoretical Perspectives	Remember, Understand,evaluate

systems and its importance. iii) The main aim of this unit to make the students aware of the key theoretical debates in International relations iv) To facilitate students to have an overall understanding of International relations in relation to twentieth century IR history.	Unit 3: An Overview of Twentieth Century IR History	Remember, Understand,analyse & evaluate

4th Semester (Honours)

Paper Name: Political Processes and Institutions in Comparative Perspective
Paper Code: POL-HC-4016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i. To understands and analyse the complex nature and implementation of the political systems, political institutions and corresponding issues to these both in a country specific case of India and cross-country perspectives. ii. To express critical thinking about key issues of political system of different forms, political process and public policy. iii. To understand and analyse the nature of federalism and its relevance in modern context.	UNIT 1: Approaches to Studying Comparative Politics	Remember, Understand
	UNIT 2: Electoral System	Remember, Understand, analyse & evaluate
	UNIT 3: Party System	Remember, Understand, analyse & evaluate
	UNIT 4: Nation-state	Remember, Understand, analyse & evaluate
	UNIT 5: Democratization	Remember, Understand, evaluate
	NIT 6: Federalism	Remember, Understand, analyse & evaluate

PAPER NAME: Public Policy and Administration in India
PAPER CODE: POL-HC-4026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i. To know and achieve knowledge about the processes of public policymaking in India and their significance in administering the state.	Unit1: Public Policy	Remember, understand, analyse& evaluate
	UNIT 2: Decentralization	Remember, Understand, analyse & evaluate

ii. To understand the functioning of the financial administration in ensuring a citizen centric welfare administration in India.	UNIT 3: Budget	Remember, Understand, evaluate
	UNIT 4: Citizen and Administration Interface	Remember, Understand, evaluate
	UNIT 5: Social Welfare Administration	Remember, Understand, analyse & evaluate

Paper Name: Global Politics
Paper Code: POL-HC-4036

Course Outcome	Unit No. And Name	Bloom's Taxonomy Level
This course will enable the students to: i) To know the wide range of important global political and economic policyproblems ii) To have knowledge of the vital theoretical assumptions underlying conceptual frameworks globalisation's iii) To comprehend issues of globalisation that decides the international relations.	Unit1: Globalization: Conceptions and Perspectives	Remember, Understand, analyze & evaluate
	Unit 2: Contemporary Global Issues	Remember, Understand, analyze & evaluate
	UNIT 3: Global Shifts: Power and Governance	Remember, Understand, analyse & evaluate

5th Semester (Honours)

Paper Name: Classical Political Philosophy
Paper Code: POL-HC-5016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
The completion of the course will help the students to: i) To deduce ideas underlying traditions in classical political philosophy ii) To evaluate the debates and arguments of leading political philosophers belonging to different traditions of the period. iii) To assess the relevance of classical political philosophy in	UNIT 1: Text and Interpretation: Marxist Feminist, & Post-modernist	Remember, Understand
	UNIT 2: Plato and his political philosophy	Remember, Understand,analyse & evaluate
	UNIT 3: Aristotle and his political philosophy	Remember, Understand, evaluate
	UNIT 4: Machiavelli and his political philosophy	Remember, Understand, evaluate

understanding in contemporary politics	UNIT 5: Hobbes and his political philosophy	Remember, Understand, evaluate
	UNIT 6: John Locke and his political philosophy	Remember, Understand, evaluate

Paper Name: Indian Political Thought-I
Paper Code: POL-HC-5026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will help the students to: i) To emphasize themes and issues in political traditions of pre-colonial India. ii) To compare and contrast positions of different political traditions those were present in pre-colonial India. iii) To estimate the relevance of political thought of pre-colonial India in contemporary politics.	Unit 1: Traditions of Pre-colonial Indian Political Thought	Remember, Understand
	Unit 2: Ved Vyasa (Shantiparva): Rajadharma	Remember, Understand,evaluate
	Unit 3: Manu: Social Laws	Remember, Understand,evaluate
	Unit 4: Kautilya: Theory of State	Remember, Understand,evaluate
	Unit 5: Aggannasutta (Digha Nikaya): Theory of kingship	Remember, Understand,evaluate
	Unit 6: Barani: Ideal Polity	Remember, Understand,analyse, evaluate
	Unit 7: Abul Fazal: Monarchy	Remember, Understand,evaluate
	Unit 8: Kabir: Syncretism	Remember, Understand,evaluate

Paper Name: **Human Rights**
Paper Code: POL-HE-5036

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) To deduce ideas about the human rights. ii) To understands the various approaches of Human Rights. iii) To know the importance of Human Rights	Unit 1: Introduction to Human Rights	Remember, Understand, evaluate
	Unit 2: Approaches and perspectives	Remember, Understand, evaluate
	Unit 3: Human Rights and UNO	Remember, Understand, evaluate
	Unit 4: Human rights and the role of NGOs	Remember, Understand, evaluate

Paper Name: Select Constitutions

Paper Code: POL-HE-5046

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) To know the importance of constitutions. ii) To initiate various types of constitutions different parts of the world. iii) To be familiar with the various forms of governments from different parts of the world.	Unit 1: United Kingdom: The British Political Tradition Parliamentary Government	Remember, Understand,evaluate
	Unit 2: United States of America: Making of the American Constitution, The Federal System National Government	Remember, Understand,evaluate

6th Semester (Honours)

Paper Name: Modern Political Philosophy

Paper Code: POL-HC-6016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the studentsto: i. To understand ideas underlying traditions in modern political philosophy. ii. To analyze the debates and arguments of leading political philosophers of different philosophical traditions iii. To appraise the relevance of modern political philosophy in understanding contemporary politics	UNIT 1: Modernity and its discourses	Remember, Understand, evaluate
	UNIT 2: Romantics: J. J. Rousseau & Mary Wollstonecraft his political philosophy	Remember, Understand,analyse & evaluate
	UNIT 3: Liberal socialist: J. S. Mill & his political philosophy	Remember, Understand, evaluate
	UNIT 4: Radicals: Karl Marx & Alexandra Kollontai and their ideas	Remember, Understand, evaluate

PAPER NAME: Indian Political Thought-II
PAPER CODE: POL-HC-6026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the studentsto: i. To emphasize themes and issues inpolitical thought of modern India ii. To compare and contrast positions of	Unit 1: Introduction to Modern Indian Political Thought	Remember, Understand, evaluate
	Unit 2: Rammohan Roy: Rights	Remember, Understand, evaluate
leading political thinkers in India on issues those are constitutive of modern India. iii. To evaluate the relevance of political thought of modern India in understanding contemporary politics	Unit 3: Pandita Ramabai: Gender	Remember, Understand, evaluate
	Unit 4: Vivekananda: Ideal Society	Remember, Understand, evaluate
	Unit 5: Gandhi: Swaraj	Remember, Understand, evaluate
	Unit 6: Ambedkar: Social Justice	Remember, Understand, evaluate
	Unit 7: Tagore: Critique of Nationalism	Remember, Understand, evaluate
	Unit 8: Iqbal: Community	Remember, Understand, evaluate
	Unit 9: Savarkar: Hindutva	Remember, Understand, evaluate
	Unit 10: Nehru: Secularism	Remember, Understand, evaluate
	Unit 11: Lohia: Socialism	Remember, Understand, evaluate

PAPER NAME: Human Rights

PAPER CODE: POL-HE-6036

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i. To know the origin and development of human rights. ii. To know the measure adopted for the protection of human rights in India. iii. To make known emerging issues of human rights	Unit 1: Origin and development of human rightsin India	Remember, Understand, evaluate
	Unit2: Institutional mechanism for the protectionof human rights	Remember, Understand, analyze & evaluate
	Unit 3: Emerging Issues of human rights	Remember, Understand, analyze & evaluate
	Unit 4: Human Rights of vulnerable groups	Remember, Understand, analyze & evaluate

Paper Name: Select ConstitutionsPaper Code: POL-HE-6046

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i. To appreciate the importance of the Constitution. ii. To identify the various forms of governments from different parts of the world. iii. To initiate various types of constitutions of different parts of the world.	Unit 1: Peoples Republic of China: Revolutionary Legacy	Remember, Understand, analyze
	Unit2: Peoples Republic of China: Rights and Duties of Citizens	Remember, Understand, evaluate
	Unit 3: Switzerland: Political Traditions, Federalism	Remember, Understand, evaluate
	Unit 4: Switzerland: Direct Democracy	Remember, Understand, evaluate

DEPARTMENT OF PHYSICS

CHAIDUAR COLLEGE

PROGRAMME OUTCOMES

PROGRAMME: B.SC. PHYSICS

A bird's eye view on the "Programme Specific Outcome" of three years B.Sc. Physics (hons) and Generic Course with reference to the Gauhati University syllabus. A student after having gone through the three year B.Sc. Physics course and thereafter completion of the aforesaid course, students are expected to gain the following outcomes: Students will understand Mathematical Physics, which is regarded as the base ofϖ learning the various branches of physics. They will achieve the knowledge of Mechanics, which will lead a student to goϖ through the Newtonian theories and etc. Electricity and Magnetism is an important branch of Physics. Without having detailedϖ knowledge of Electricity and Magnetism they will not be able to enter into the Physics world. Students will develop their knowledge about Wave and Optics, that will help them to study the behaviour of Waves as well as the light rays and they will be able to connect it to their day to day life. Students will be taught about "Thermal Physics" i.e., Heat which is a form of energy.ϖ They will acquire knowledge and understanding about the digital system andϖ application. Modern Physics, Quantum Mechanics, Solid State Physics, Electromagnetic Theoryϖ etc. will be taught in this Course. They will achieve knowledge about Statistical Mechanics, Computational Physicsϖ Skills to cope with the digital world. They will be able to acquire knowledge of several Computer Program me, Weather Forecasting, and Research Technical Writing etc. Renewable energy source, Radiation safety, Graphic design etc. will be taught in thisϖ course.

1. Knowledge and Understanding:

a. In Mathematical Physics, students get the opportunity to learn vectors, vector calculus, Differential Equations, Matrices, Tensor Analysis, and Complex Variables etc.

b. Students learn various facts of Electricity and Magnetism. They also learn the basics of transmission lines, principle of operation of electric motors, electric generator. A comprehensive review on Gauss's Law and its applications in determination of Electric field intensity in different electrical set up.

c. Students will gain adequate knowledge on laws of thermodynamics and its applications in Heat engine, refrigerator etc. They will also grasp the utility of second law in describing entropy of thermodynamic systems and its connection to evolution of universe.

d. Students will learn the basics of electronics, principle of operation of diodes, transistors etc. It will help in understanding the working of rectifiers used for AC-DC conversion, amplifiers etc.

e. Students get the opportunity to learn various computational techniques like C, C++, FORTRAN, and Python. They will also be made acquainted to software's like MATLAB, MATHEMATICA. However, because of time constraint it may not be

possible to learn enough on every language or software's.

f. Students learn the evolution of different Atom Models discussed under Atomic Physics. The program will enable students to understand the physics of Hydrogen spectra, fine structure lines in spectroscopy and splitting of spectral lines in external fields. It has far reaching implications in understanding the composition of astrophysical objects of interest.

g. Students will learn the theories and models of Nuclear and Particle Physics. This knowledge will help in understanding the working of modern day detectors, counters.

The concept of Binding Energy will help in understanding the fundamentals of nuclear stability.

h. With the introduction of Statistical Physics, students will understand the physics of many particle systems. The knowledge on classical and quantum statistics will describe the behavior of Bose Einstein's Condensate, Fermi pressure and the behavior of white dwarf star.

i. Students will learn geometrical optics, physical optics and holography to understand various optical phenomena and will understand the designing of optical instruments.

j. The physics of bodies moving at speed comparable to light is indeed very interesting and it conceptualize the understanding on different frame of reference. The students will learn Special Theory of Relativity and its applications.

2. **Development of intellectual faculties:**

a. Mathematics is the language of Physics. The course will promotelogical and analytical thinking amongst students.

b. Students will eventually develop the art of relating the facts learned in different papers and this will inculcate constructive thinking and will develop problem solving capacity.

c. During the process of performing experiments, a systematic approach is required. This systematic study develops a sense of chronological approach towards a problem.

d. In performing experiments relatedto Electronics paper, students will acquire the skill of designing circuit and assembling components.

e. While learning various facts, students will develop a sense of visualization. It will help them to grasp the nature of subatomic particles and behaviour of different physical systems of interest.

f. Students will develop imaginative power and will also acquire the skill to estimate measurements or make legitimate guess in physics problems.

3. **Practical Skills:**

a. Students learn the basic measuring techniques of length using slide callipers,

screw gauge, spherometer etc.

b. Students will get the exposure to certain experiments of electricity, thermal physics, mechanics, nuclear physics, electronics and so forth.

c. Students will learn how to handle analog and digital multimeters. They will experience the utility of different electronic instruments.

d. Students will get the opportunity to handle function generator and CRO (Cathode Ray Oscilloscope). By this process, they will learn to measure frequency, wavelength of a wave or signal.

e. Students are supposed to pursue a project on a novel topic. This fosters a sense of creativity amongst the students. Also, the students will get a basic feel of research. They will acquire some computational skill, writing skill and will develop physical insight on the problem.

f. Students will get hands-on training on the latest computational techniques like Python, Sci-Lab etc.

4. **Communication and Other Skills:**

a. Students are allowed to prepare a topic holistically and after that they are asked to present. This polishes their communication skills. In other words, the communication skill is developed.

b. While performing the project work, students are encouraged to participate in group discussion with the supervisor, other faculty members and some of the students. This will develop a confidence and art of speaking/delivery in public platform. Sometimes projects are carried out in group. By that process, they develop a team spirit, sportsmanship etc.

c. The course exposes the students to various facets of computer programming and other relevant diagnostic techniques that may have important applications in developing future technology.

5. **Prospects of employment:**

(a) After the successful completion of this course, a student becomes eligible to pursue higher studies such as MSc (Physics) in different reputed institution across the country.

(b) A student of BSc Physics can be absorbed as a science teacher in a school provided he/she fulfils other eligibility criteria.

(c) A student of BSc Physics may get the opportunity to pursue a course on Geophysics, Biophysics, Sound engineering and so forth.

(d) A student of BSc Physics may get employment in the fields of instrumentation, nuclear medicine, radiology etc.

(e) A student pursuing BSc in Physics may dream of getting placement as Scientists in

reputed

organization like ISRO, DRDO other research institutes like IUCAA, S.N. Bose institute, . SINP,

Kolkata after completion of Ph.D and adequate research in respective fields.

(f) Students may undertake various training after completion of BSc and may get a scope to serve the country through civil services.

(g) Students will get ample opportunity to build a career in reputed Govt. owned enterprises like OIL, ONGC, and IOCL after completion of BSc.

(h) There are opportunities to get a placement in Central, Cooperative Banks as PO, Asst Branch Manager, and Client relationship officer after completion of BSc in Physics, which serves as eligibility criteria.

6. **Ethics:**

(a) In the process of project preparation students will be made aware of IP tools such as copyright. They will learn about plagiarism issues and will practice genuine techniques in preparing projects and other reports related to academics. This will develop an independent feel and bring out creativity amongst students.

(b)Students will understand the protocols of Laboratory work and learn discipline in performing their duties.

Head

Deptt. Of Physics

Learning Objective & Outcomes

B.Sc.1st Semester

Subject:Mathematical Physics I **Subject Code:PHY-HC-1016**

Learning Objective

1. The students will be introducedto Mathematical tools needed to address any problems in Theoretical Physics
2. The course will giveknowledge about Vector Calculus, Differential Equations, Curvilinear Coordinates, and Special Functions which have proved to be vital components in understanding key concepts of Electrodynamics, Quantum Mechanics, and Statistical Mechanics.
3. The course is designed in a framework that can inculcate analytical thinking among the students.

Course out comes.

After the completion of the course-

1. Students will acquire adequate knowledge about Vector and its applications in various fields.
2. The course will enable the students to apply the knowledge of Differential Equations in different core papers to be learned in subsequent semesters.
3. At the end of the course, the students are expected to understand the importance of different coordinate systems i.e. Cartesian, spherical and cylindrical in studying Physics.
4. The course will enable students to pursue a career in Theoretical Physics in the future.

Learning Objective & Outcomes

B.Sc. 1st Semester

Subject: Mechanics **Subject Code:PHY-HC-1026**

Learning Objective

1. This paper deals with Newtonian mechanics and its importance in classical world.
2. The paper is introduced with the very motive to familiarize students with various conservation laws of nature, physics of astrophysical objects, rigid body dynamics, physics of materials used in daily life.
3. Above all, Special theory of Relativity is introduced to learn the importance of inertial frames, Transformation equations and physical events admissible at speed comparable to light.

Course out comes.

After the completion of the course, Students will be ableto

1. Distinguish between inertial, non-inertial frames and physics associated with this reference frames.
2. Understand the Simple Harmonic Motion and the characteristics of such oscillating systems.
3. Grasp the principle of projectile motion and their applications in technological advancement.

Learning Objective & Outcomes

B.Sc. 2nd Sem.

Subject: Electricity and Magnetism **Subject code:PHY-HC-2016**

Learning Objective

This Course is designed to

1. Give detail knowledge on Electric Potential, Fields of different charge configurations.

Promote comprehensive discussion on the utility of Laplace's and Poisson's Equation.

2. Develop ideas and gain knowledge on the Dielectric properties of matter and its applications.

3. Generate inquisitiveness among the students about magnetic properties of materials and its contribution in technological advancement.

4. To gain knowledge about Network theorems applicable in circuits.

Course out comes.

Upon successful completion of this course it is intended that a student will be able to:

1. Understand the details of Electric and Magnetic Fields in matter.

2. Visualize the importance of Faraday's Laws of EM Induction in various applications such as transformer, ac generator etc.

3. Realize the concept of displacement current.

4. Apply knowledge of Kirchhoff's law to understand the operation of various electrical circuits used in modern devices.

5. Understand the functioning of Ballistic galvanometer

Learning Objective & Outcomes

B.Sc. 2nd Semester

Subject: Waves and Optics **Subject Code:PHY-HC-2026**

Learning Objective

1. The objective of the course is to develop understanding on the characteristics of mechanical and EM waves.

2. To introduce superposition principle and discuss wave properties like interference, diffraction.

3. To introduce Holography, its principle and applications in defense, medical industry.

Course out comes.

After the completion of the course, Students will be able to:

1. Understand the applications of superposition principle and will be able to see the physical origin of Beats.

2. Grasp the physics of musical instruments.

3. Gain knowledge on various Interferometers and understand EM phenomena that occur due to interference and diffraction of light.

Learning Objective & Outcomes

B.Sc.3rdSemester

Subject: Mathematical Physics II **Subject Code:PHY-HC-3016**

Learning Objective

1. To teach students about the analytical functions, develop the concept of singularity, Frobenius Method, Partial Differential Equations.
2. To introduce Fourier series to the students and show the applications in square and triangular waves.
3. The course discusses the utility of Hermitian, anti Hermitian, symmetric, antisymmetric matrix which will find applications in Quantum Mechanics to be studied in the subsequent semester.

Course out comes.

After the completion of the course, Students will be ableto

1. Solve second order ODE using Power series and Frobenius method.
2. Understand the utility of Legendre Polynomial, Hermite polynomial, Laguerre's polynomial and their significance in Electrodynamics, solution of Schrodinger equation.
3. Visualize the mathematical origin of complex wave pattern in signal processing.
4. Do Fourier analysis to understand the complicated periodic function.

Learning Objective & Outcomes

B.Sc. 3rd Semester

Subject:T h e r m a l P h y s i c s **Subject Code:PHY-HC-3026**

Learning Objective

1. To teach the applications of 1st, 2nd Laws of Thermodynamics and introduce the thermodynamic parameters.

2. To demonstrate the working of Heat Engine, Refrigerator, Carnot cycle.

3. To introduce the concept of entropy, Second law in terms of entropy and its consequence.

4. The develop the concept of Maxwell's Thermodynamic Relations and its applications.

5. To discuss the utility of Clausius-Clapeyeron equation and description of the variation

of boiling and melting point with pressure.

Course out comes.

After the completion of the course, Students will be ableto

1. Understand the physics of Thermodynamic systems, their phase behavior, conversion mechanism of heat into work.

2. Grasp the concept of reversible and irreversible processes, First law in different thermodynamic processes.

3. Gain knowledge on various thermodynamic potentials and the relations between them.

4. Understand the phase diagram of thermodynamic systems and to assess the order of phase transition with the use of free energy.

5. Develop skill to identify and describe various thermodynamic variables.

6. Figure out the deviation of real gas from ideal ga

Learning Objective & Outcomes

B.Sc.3rdSemester

Subject :D i g i t a l S y s t e m s

a n d A p p l i c a t i o n s **Subject Code : PHY-HC-3036**

Learning objectives

1. The course will introduce CRO and its functioning to the students.
2. To teach the utility of active and passive components in electrical circuit.
3. It is designed to familiarize students with Integrated Circuits and its classifications.
4. The course includes topics on Boolean Algebra which will help in realizing the logic of different gates.
5. The course discusses sequential circuits, memory elements.
6. The course will also introduce Microprocessor and its utility to the students.

Course out comes.

1. Students will be able to apply the knowledge of Boolean algebra in designing digital circuits.
2. Students will be able to analyze combinational logic circuits.
3. Students will be able to analyze and design sequential logic circuits.
4. Students will gain knowledge on different IC's and their utility in designing electrical circuits used in modern accessories.

Learning Objective & Outcomes

B.Sc.4th Semester

Subject :M a t h e m a t i c a l P h y s i c s I I I **Subject Code :PHY-HC-4016**

Learning Objective

1. To teach the basics of complex algebra, analytic functions and singularity.
2. To introduce residue theorem and its applications in different physical systems.
3. To develop the concept of Fourier space and transformation of variables from real space to Fourier space.
4. The course aims at developing a concrete idea on tensor analysis among the students with the introduction to kronecker delta, Levi-Civita symbols.

Course out comes.

After the completion of the course, Students will be ableto

1. Understand the Mathematical tools needed to address Special and General Theory of Relativity; learn Particle Physics in the future.
2. Apply the knowledge of Fourier and Laplace's Transforms in solving Differential Equations.
3. Grasp the utility of contra variant and co-variant tensors.

Learning Objective & Outcomes

B.Sc. 4th Semester

Subject: Elements of Modern Physics **Subject code:PHY-HC-4026**

Learning Objective

This Course Enable the Students to

1. Learn the bridge connecting Classical and Quantum Physics.
2. Understand the limitations of Classical Physics with concrete discussion on Black Body radiation, Photoelectric effect and Compton scattering.
3. Grasp the concept of wave particle duality of subatomic particles and its implications,
   Schrodinger equation for nonrelativistic particles, energy, momentum operators in quantum world.
4. Learn the emission mechanism of alpha, beta and gamma rays from unstable nuclei, utility of semi empirical mass formula, concept of mass defect.
5. Learn about the principle of harnessing nuclear energy, thermonuclear fusion on earth and its success till date.
6. Learn about Laser Physics and its vast utility in the field of medicine, industry.

Course out come

Upon successful completion of this course it is intended that a student will be able to:

1. Derive the Planck's Radiation Formula with the understanding of discrete exchange of energy between matter and radiation, concept of probability. This will be useful to formulate Wien's Displacement law that can help in measurement of surface temperature of stellar objects.
2. Understand the application of Quantum idea in measuring the power radiated off a stellar body.
3. Distinguish the characteristics of Quantum mechanical systems from the classical ones.
4. Acquire adequate knowledge on Binding Energy curve which can be helpful in explaining several nuclear phenomena and importance of magic number.
5. Learn the physics of He-Ne and Ruby Laser and its vast applications in the industrial and medical sectors.

Learning Objective & Outcomes

B.Sc. 4th Semester

Subject:Analog Systems & Applications **Subject Code:PHY-HC-4036**

Learning Objective

1. To learn the physics of semiconductor devices, physical concept of band gap and biasing of diodes.
2. Learn the usage of Rectifiers in conversion of AC to DC, applications of Zener diode as voltage regulator.
3. The course intends to present a detail description of Transistors and its various configurations. The mechanism of current flow in active electrical components is also included.
4. The course will establish the underlying physical concept of transistor acting as an amplifier and switch.
5. To learn about OPAMP and its utility as an adder, subtractor, Differentiator in analog electronics.

Course out comes.

After the completion of the course, Students will be ableto

1. Understand the working of PN junction diodes, photo diodes, zener diodes, solar cell etc. as applications of Semiconductor Physics.
2. Gain knowledge on amplifier circuit and the mechanism of feedback in such amplifiers.
3. Understand the utility of OPAMP and oscillator circuits in electronic devices.

Learning Objective & Outcomes

B.Sc.(Physics) 5thSemester

Subject :Quantum Mechanics & Applications **Subject Code :PHY-HC-5016**

Learning Objective

1. To teach the students about time dependent Schrodinger Equation, energy, momentum operators, Eigen functions.

2. To help students inanalyzing the physical meaning of wave functions, the normalization and orthogonality relation concerning the wave function associated with a quantum mechanical system.

3. Students will be taught about time independent Schrodinger equation, wave packets and linear combination of stationary states.

4. To teach the application of Schrodinger equation in Hydrogen like atoms and simple harmonic oscillator.

5. To course intends to provide a detail description on the key concepts of atomic physics

such as vector atom model, spectroscopic property of multi electronic atoms and their behavior in electric and magnetic fields.

Course out comes.

After the completion of the course, Students will be ableto

1. Understand the fundamentals of Quantum Mechanics and the developed framework to understand the behavior of atoms and subatomic particles.

2. Grasp the concept of free particle, stationary and non-stationary states, the method for solving Schrodinger equation in time dependent and time independent situations.

3. Learn the concept of spatial quantization, spinning electron hypothesis and its applications in spectroscopy.

4. Learn about the physical origin of fine structure lines, its intensity and various selection rules of Quantum mechanical origin.

5. Analyze the splitting of spectral lines in electric and magnetic fields : Stark and Zeeman effect.

Learning Objective & Outcomes

B. Sc. 5th Semester

Subject:Solid State Physics **Subject Code: PHY-HC-5026**

Learning objectives

1. To introduce crystalline solids, concept of unit cell, miller indices, reciprocal lattice and Bravais lattice to the students.
2. To teach X ray diffraction : Bragg's law as an experimental diagnostic for analysis of crystal structure.
3. To highlight the importance of specific heat and present a detail description of specific heat for solids: Dulong'sPetit's law, Debye-Einstein theory.
4. To discuss about the magnetic properties of solids, Spontaneous magnetization, Curie's law, Hysteresis and energy loss.
5. The course is designed to teach students about dielectric properties of materials, dispersion relation of normal modes.
6. To teach the students about Free Electron theory, Weidman Franz law and the band theory for distinguishing conductors, semiconductors and insulators.
7. To introduce Superconductivity, Meissner effect and the applications.

Course out comes

1. Students will learn about various types of crystalline solids, their packing fraction, interatomic force and hardness and softness of solids.
2. Students will learn about the behavior of specific heat of solids at low temperature.
3. Students will understand the relation between thermal and electrical conductivity of solids.
4. The course will enable students to learn about cooper pairing and its consequence, critical temperature and critical magnetic field and its significance.
5. Students will also learn about Hall effect and its applications in detecting P type, N type SCs and in measuring conductivity.

Learning Objective & Outcomes

B. Sc. 5th Semester

Subject: Advanced Mathematical Physics I **Subject Code: PHY-HE-5036**

Learning objectives

1. To teach the students about Linear independence and dependence of a vector.
2. To teach about Eigen values, Eigen vectors and rotations in 3D in matrix algebra.
3. Students will be introduced to Minkowski space, symmetric and anti-symmetric tensor and metric tensor.

Course out comes.

Upon Completion of the course students will be able to-

1. Grasp knowledge on matrix algebra, Linear Vector Space and Tensor.
2. Deal with the advanced mathematical tools to address problems in theoretical physics.

Learning Objective & Outcomes

B. Sc. 6th Semester

Subject: Electromagnetic Theory **Subject Code:** PHY-HC-6016

Learning objectives

1. To review the Maxwell's Equations, furnish a detail discussion on Lorentz and Coulomb gauge transformation equations, propagation of EM wave through vacuum, dielectric and conducting medium.
2. To make the students acquainted with reflection and refraction of plane waves at the interface, Fresnel's Formula, Polarization and Brewster's law.
3. To give idea on numerical aperture, single and multiple mode fibers.

Course out comes.

Upon Completion of the course students will be able to-

1. Evaluate EM energy density and quantify rate of energy flow through a surface.

2. Gain knowledge on Poynting Vector,formulate energy conservation principle in the light of Poynting Theorem.

3. Students will understand the propagation of EM waves in homogenous isotropic media.

4. Learn about the boundary conditions operative at the interface. Determination of Reflection, Transmission coefficients and Fresnel's formula.

Subject: Statistical Mechanics **Subject Code:** PHY-HC-6026

Learning objectives

1. To introduce the concept of macro state, microstate, develop idea on configuration/phase space.

2. To avail a detail discussion on different types of ensemble admissible in real physical systems.

3. To acquaint students with the characteristics of thermal radiation. Classical description of radiation with the formulation of Wien's law, Rayleigh-Jeans law.

4. To provide adequate knowledge on Quantum theory of radiation, describe Planck's radiation formula and its implications.

5. To discuss in detail Classical and Quantum Statistics and description of many body systems in the light of Distribution law formulated for MB, BE and FD statistics.

Course out comes.

Upon Completion of the course students will be able to-

1. Understand the application of Statistical Mechanics in addressing various problems of Astrophysics, Plasma Physics also in Chemistry and Life sciences.

2. Describe the behavior of many body systems such as a container filled with gas or a metallic sample with millions of electrons.It can be accomplished with the utility of the Classical and Quantum Statistics.

3. Utilize Wien's Displacement law for measurement of surface temperature of celestial objects, Stefan's law for measurement of radiated power from an object.

4. Grasp the failure of Classical Rayleigh Jean's and Wien's law in describing the Black Body radiation. Understand the concept of Ultra violet Catastrophe.

Course Outcome of Non CBCS Course (Current semesters in practice)

Subject: Mathematical Methods and Classical Mechanics **Subject Code:** PHY-M-5.1

Learning objectives

1. To teach Complex variable with detail discussion on Argand diagram, Euler's formula and De Moivre's Theorem.

2. To discuss analytic functions, Contour integrals and Cauchy Integral Theorem.

3. To develop idea on Residues, zeros and utility of Residue theorem.

4. To discuss motion of objects in central force fields, conservation laws as an outcone of Newtonian mechanics, Constraints.

5. The course will provide discussion on Lagrange's equation and its advantage over Newton's equation of motion.

6. The course also includes application of Lagrange's equation in describing the dynamics of simple pendulum, Atwood's machine, Keplerian motion etc.

7. To provide adequate knowledge on Hamilton's principle and its utility. Applications of Hamilton's formulation to understand the behavior of Oscillating systems, Kepler's

problem.

Course out comes.

Upon Completion of the course students will be able to-

1. Use the knowledge of Complex algebra to solve problems in real physical systems and conduct Fourier space analysis.
2. Understand the dynamics of Planet-Star system in the light of Kepler's law.
3. Determine the nature of orbits in Central force motion.
4. Learn Calculus of variation and its use in the discussion of Hamilton's variational principle.

Subject: Atomic Physics **Subject Code:** PHY-M-5.2

Learning objectives

1. To give a detail idea on Bohr's atomic Model, Determination of total energy of electron, radius of electronic orbit. Drawbacks of the model.
2. To discuss fine structure of spectral lines in the light of Sommerfeld's model.
3. To present a detail description on Vector Atom Model, Concept of Spatial quantization and spinning electron hypothesis.
4. To elucidate the physical mechanism underlying Zeeman Effect, Stark Effect and Pashen Back Effect.
5. To discuss in detail continuous and characteristic x rays and its production.
6. To discuss Raman Effect and its applications.

Course out comes.

Upon Completion of the course students will be able to-

1. Understand the Quantization of angular momentum, stationary orbits. Develop enough idea on Bohr's Atomic model.
2. Grasp the utility of X ray and its applications.
3. Understand Rutherford's Atomic model, scattering of particles off a heavy target.

Subject: Quantum Mechanics and Astrophysics**Subject Code:** PHY-M-5.3

Learning Objective

1. To teach the students about time dependent Schrodinger Equation, energy, momentum operators, Eigen functions.

2. To help students in analyzing the physical meaning of wave functions, the normalization and orthogonality relation concerning the wave function associated with a quantum mechanical system.

3. Students will be taught about time independent Schrodinger equation, wave packets and linear combination of stationary states.

4. To teach the application of Schrodinger equation in one Dimensional potential barrier, 1D Harmonic Oscillator.

5. To course intends to provide a detail description on development of Quantum Mechanics, failure of Classical idea. Description of BlackBody Radiation and Planck's Quantum Hypothesis.

6. To develop idea on Celestial coordinates, stellar magnitude system and spectroscopic Parallax to measure distance in astrophysical scenario.

Course out comes.

After the completion of the course, Students will be ableto-

1. Understand the fundamentals of Quantum Mechanics and the developed framework to understand the behavior of atoms and subatomic particles.

2. Grasp the concept of free particle, stationary and non-stationary states, the method for solving Schrodinger equation in time dependent and time independent situations.

3. Visualize the importance of Quantum tunneling in devices.

4. Grasp the knowledge of stellar magnitude and distance measurement system.

5. Understand the spectral classification and Stellar Evolution.

Subject: Electronics **Subject Code:** PHY-M-5.4

Learning objectives

1. To discuss the working of PN junction diode, Half and Full wave rectifier, development of regulated power supply.

2. Introduce Network theorems with examples.

3. Introduce Transistor, CB, CE mode of operation.

4. Discuss Transistor action, transistor as an amplifier.

5. Understand the Feedback mechanism and working principle of oscillators.

6. Introduction to Logic gates, Binary Number system and Flip Flops.

Course out comes

After the completion of the course, Students will be ableto-

1. Understand the working of SC diode.

2. Grasp the use of transistor in signal amplification and switching action.

3. Understand the functioning of memory element i.e. Flip Flops and will classify the types of Flip-flop available.

Subject: Nuclear Physics **Subject Code:** PHY-M-6.1

Learning objectives

1. To develop idea on nuclear force and stability of various nuclei.

2. To provide an outline on Yukawa Meson Theory.

3. To introduce radioactive decay process in Nuclear Physics. Understanding on alpha, beta and gamma radiation.

4. To learn about nuclear reactions, accelerators, construction and working of cyclotron.

Course out comes

After the completion of the course, Students will be ableto-

1. Understand the concept of binding energy, mass defect and stability of nuclei.

2. Learn the detail of nuclear fission, chain reaction.

3. Learn the fundamental concept of nuclear fusion, fusion barrier and challenges ahead.

4. Gain knowledge on cosmic rays and physical mechanism involving extensive air shower.

Subject: Mathematical Methods and Solid State Physics **Subject Code:** PHY-M-6.2

Learning objectives

1. Understand Tensor analysis, contra variant and covariant tensors, rules for combination of tensors.

2. To introduce crystalline solids, concept of unit cell, miller indices, reciprocal lattice and Bravais lattice to the students.

3. To teach X ray diffraction: Bragg's law as an experimental diagnostic for analysis of crystal structure.

4. To teach the students about Free Electron theory, Weidman Franz law and the band theory for distinguishing conductors, semiconductors and insulators.

Course out comes.

After the completion of the course, Students will be ableto-

1. Grasp idea on use of tensor in different fields.

2. Understand the magnetic properties of solids, energy loss in hysteresis.

3. Gain introductory idea on superconductivity, Meissner effect. Applications of superconductors in MRI, NMR and tokamak.

Subject: Modern Optics&EM Theory**Subject Code:** PHY-M-6.3

Learning objectives

1. To teach interference of polarized light, Babinet compensator.

2. To provide adequate knowledge on the principle of Holography, idea about optical fibers.

3. To review the Maxwell's Equations, furnish a detail discussion on Lorentz and Coulomb gauge transformation equations, propagation of EM wave through vacuum,

dielectric and conducting medium.

4. To make the students acquainted with reflection and refraction of plane waves at the interface, Fresnel's Formula, Polarization and Brewster's law.

Course out comes.

After the completion of the course, Students will be ableto-

1. To introduce polarization, Brewster's Law.
2. Evaluate EM energy density and quantify rate of energy flow through a surface.
3. Gain knowledge on PoyntingVector, formulate energy conservation principle in the light of Poynting Theorem.
4. Students will understand the propagation of EM waves in homogenous isotropic media.

Subject: Statistical Mechanics **Subject Code:** PHY-M-6.4

Learning objectives

1. To introduce the concept of macro state, microstate, develop idea on configuration/phase space.
2. To avail a detail discussion on different types of ensemble admissible in real physical systems.
3. To discuss in detail Classical and Quantum Statistics and description of many body systems in the light of Distribution law formulated for MB, BE and FD statistics.
4. Application of Maxwell velocity Distribution Law, application of FD to discuss electronic specific heat.

Course out come

Upon Completion of the course students will be able to-

1. Understand the application of Statistical Mechanics in addressing various problems of Astrophysics, Plasma Physics also in Chemistry and Life sciences.
2. Describe the behavior of many body systems such as a container filled with gas or a metallic sample with millions of electrons. It can be accomplished with the utility of the Classical and Quantum Statistics.
3. Utilize BE distribution function to determine Planck's Radiation Formula.
4. Grasp idea on BE condensation.

Department of Mathematics

PROGRAMME SPECIFIC OUTCOME (BSc Mathematics)

- Ability to learn algebra, abstract algebra linear algebra & vector.
- Ability to understand calculus and differential equation.
- Ability to learn Trigonometry, Spherical and astronomy.
- Knowledge of coordinate geometry and topology.
- Activity to learn real and numerical analysis.
- Ability to learn rigid dynamics, Hydrostatics and mechanics.
- Understand the probability and optimization theory of mathematics.
- Knowledge of discrete mathematics.
- Ability to learn and apply the computer programming in C.
- Ability to undertake project work.

COURSE OUTCOME

BSc Mathematics (Honours) Syllabus (CBCS)

1st Semester (Honours)

Paper Name: Calculus
Paper Code: MAT-HC-1016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Learn first and second derivative tests for relative extrema and apply the knowledge in problems in business, economics and life sciences. ii) Sketch curves in a plane using its mathematical properties in the different coordinate systems of reference. iii) Compute area of surfaces of revolution and the volume of solids by integrating over cross-sectional areas. iv) Understand the calculus of vector functions and its use to develop the basic principles of planetary motion.	UNIT 1: Higher order derivatives and its application, geometrical interpretation.	Remember, Understand, apply, analyze, evaluate ,
	UNIT 2: Reduction formulas for integration and application of integration in geometry	Remember, Understand, apply, analyze, evaluate ,
	UNIT 3: Vector functions and its applications	Remember, Understand, apply, analyze, evaluate ,

Paper Name: Algebra
Paper Code: MAT-HC-1026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Employ DeMoivre's theorem in a number of applications to solve numerical problems. ii) Learn about equivalent classes and cardinality of a set. iii) Use modular arithmetic and basic properties of congruences. iv) Recognize consistent and inconsistent systems of linear equations by the row echelon form of the augmented matrix. v) Learn about the solution sets of linear systems using matrix method and Cramer's rule	Unit1: Generalisation of complex numbers	Remember, Understand, apply, analyze, evaluate ,
	Unit 2: Statements and Logic, Functions	Remember, Understand, apply, analyze, evaluate ,
	Unit 3: Relations Induction Principle and number system	Remember, Understand, apply, analyze, evaluate ,
	Unit 4: System of linear equations and matrix operations	Remember, Understand, apply, analyze, evaluate ,

2nd Semester (Honours)

Paper Name: Real Analysis
Paper Code: MAT-HC-2016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Understand many properties of the real line *R*, including completeness and Archime-dean properties. ii) Learn to define sequences in terms of functions from *N* to a subset of *R*. iii) Recognize bounded, conver-gent, divergent, Cauchy and monotonic sequences and to calculate their limit superior, limit inferior, and the limit of a bounded sequence. Apply the ratio, root, alternating series and limit comparison tests for convergence and absolute convergence of an infinite series of real numbers.	UNIT 1: Algebraic and order properties of R,	Remember, Understand, apply, analyze, evaluate ,
	UNIT-2: Real sequences	Remember, Understand, apply, analyze, evaluate ,
	UNIT 3: Infinite series	Remember, Understand, apply, analyze, evaluate ,

Paper Name: Differential Equation
Paper Code: MAT-HC-2026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Learn basics of differential equations and mathematical mode-lling. ii) Formulate differential equations for various mathematical models. iii) Solve first order non-linear differential equations and linear differential equations of higher order using various techniques. iv) Apply these techniques to solve and analyse various mathematical models.	UNIT 1: Differential equations and mathematical models	Remember, Understand, apply, evaluate
	UNIT 2: Application of differential equations in Modelling	Remember, Understand, apply, analyze, evaluate ,
	UNIT 3: Solutions and properties of Differential equations.	Remember, Understand, apply, analyze, evaluate ,

3rd Semester (Honours)

PAPER NAME: Theory of Real Functions
PAPER CODE: MAT-HC-3016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Have a rigorous understanding of the concept of limit of a function. ii) Learn about continuity and uniform continuity of functions defined on intervals. iii) Understand geometrical properties of continuous functions on closed and bounded intervals. iv) Learn extensively about the concept of differentiability using limits, leading to a better understanding for applications. v) Know about applications of mean value theorems and Taylor's theorem	Unit1: Limits of a Function.	Remember, Understand, apply, evaluate
	UNIT 2: Continuous functions	Remember, Understand, apply, analyze, evaluate ,
	UNIT 3: Differentiability of a function and related properties.	Remember, Understand, apply, analyze, evaluate ,

Paper Name: Group Theory
Paper Code: MAT-HC-3026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Recognize the mathematical objects that are groups, and classify them as abelian, cyclic and permutation groups, etc. ii) Link the fundamental concepts of groups and symmetrical figures. iii) Analyze the subgroups of cyclic groups and classify subgroups of cyclic groups. iv) Explain the significance of the notion of cosets, normal subgroups and factor groups. v) Learn about Lagrange's theorem and Fermat's Little theorem. vi) Know about group homomorphisms and group isomorphisms.	Unit1: Introduction to symmetry and different forms of groups and its different properties	Remember, Understand, apply, evaluate
	Unit2: Quotient groups and related properties	Remember, Understand, apply, analyze, evaluate ,
	Unit3: Group Homomorphisms, its properties and related theorems.	Remember, Understand, apply, analyze, evaluate ,

Paper Name: Analytic Geometry
Paper Code: MAT-HC-3036

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Learn conic sections and transform co-ordinate systems ii) Learn polar equation of a conic, tangent, normal and properties iii) Have a rigorous understanding of the concept of three-dimensional coordinates systems	UNIT 1: Transformation of coordinates, Conic sections.	Remember, Understand, apply, evaluate
	Unit2: Study of Planes .	Remember, Understand, apply, analyze, evaluate ,

4th Semester (Honours)

Paper Name: Multivariation Calculus
Paper Code: MAT-HC-4016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Learn the conceptual variations when advancing in calculus from one variable to multivariable discussion. ii) Understand the maximization and minimization of multivariable functions subject to the given constraints on variables. iii) Learn about inter-relationship amongst the line integral, double and triple integral formulations. iv) Familiarize with Green's, Stokes' and Gauss divergence theorems	UNIT 1: Functions of several variables,	Remember, Understand, apply, analyze, evaluate ,
	UNIT 2: Extrema of functions of two variables, Method of Lagrange multipliers	Remember, Understand, apply, analyze, evaluate ,
	UNIT 3: Double integration over rectangular and nonrectangular regions,	Remember, Understand, apply, analyze, evaluate ,
	UNIT 4: Line integrals and its applications	Remember, Understand, apply, analyze, evaluate ,

Paper Name: Numerical Method
Paper Code: MAT-HC-4026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Learn some numerical methods to find the zeroes of nonlinear functions of a single variable and solution of a system of linear equations, up to a certain given level of precision. ii) Know about methods to solve system of linear equations, such as False position method, Fixed point iteration method, Newton's method, Secant method, LU decomposition iii) Interpolation techniques to compute the values for a tabulated function at points not in the table. iv) Applications of numerical differentiation and integration to convert differential equations into difference equations for numerical solutions	Unit1: Algorithms, Convergence, Bisection method, False position method, Fixed point iteration method, Newton's method, Secant method, LU decomposition	Remember, Understand, apply, evaluate
	UNIT 2: Lagrange and Newton interpolation: linear and higher order, finite difference operators	Remember, Understand, apply, analyze, evaluate ,
	UNIT 3: Numerical differentiation: forward difference, backward difference and central difference. Integration: trapezoidal rule, Simpson's rule, Euler's method.	Remember, Understand, apply, analyze, evaluate ,

Paper Name: Ring Theory
Paper Code: MAT-HC-4036

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Appreciate the significance of unique factorization in rings and integral domains. ii) Learn about the fundamental concept of rings, integral domains and fields. iii) Know about ring homomorphisms and isomorphisms theorems of rings. iv) Learn about the polynomial rings over commutative rings, integral domains, Euclidean domains, and UFD	Unit1: Rings, field, Ideals and their properties	Remember, Understand, apply, evaluate
	Unit 2: Polynomial Rings, PID, homomorphism isomorphism and related theorems	Remember, Understand, apply, analyze, evaluate ,

5th Semester (Honours)

Paper Name: Complex Analysis
Paper Code: MAT-HC-5016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
The completion of the Course will enable the students to: i) Learn the significance of differentiability of complex functions leading to the understanding of cauchy−riemann equations ii) Learn some elementary functions and valuate the contour integrals. iii) Understand the role of cauchy−goursat theorem and the cauchy integral formula. iv) Expand some simple functions as their taylor and laurent series, classify the nature of singularities, find residues and apply cauchy residue theorem to evaluate integrals.	UNIT 1: Properties of Complex Numbers ,	Remember, Understand, apply, analyze, evaluate ,
	UNIT 2: Analytic Functions	Remember, Understand, apply, analyze, evaluate ,
	UNIT 3: Contours, Contour Integrals and Its Examples	Remember, Understand, apply, analyze, evaluate ,
	UNIT 4: Antiderivatives, Proof of Antiderivative Theorem and Other Related Theorems	Remember, Understand, apply, analyze, evaluate ,

Paper Name: Linear Algebra
Paper Code: MAT-HC-5026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Learn about the concept of linear independence of vectors over a field, and the dimension of a vector space. ii) Basic concepts of linear transformations, dimension theorem, matrix representation of a linear transformation, and the change of coordinate matrix. iii) Compute the characteristic polynomial, eigenvalues, eigenvectors, and eigenspaces, as well as the geometric and the algebraic multiplicities of an eigenvalue and apply the basic diagonalization result. iv) Compute inner products and determine orthogonality on vector spaces, including Gram−Schmidt orthogonalization to obtain orthonormal basis. v) Find the adjoint, normal, unitary and orthogonal operators	Unit 1: Vector spaces and subspaces	Remember, Understand, apply, evaluate
	Unit 2: Eigenvectors and eigenvalues of a matrix, the characteristic equation, diagonalization, eigen-vectors of a linear transformation, complex eigenvalues	Remember, Understand, apply, analyze, evaluate ,
	Unit 3: Inner product, length, and orthogonality, orthogonal sets, orthogonal projections, the Gram–Schmidt process, inner product spaces; Diagonalization of symmetric matrices, the Spectral Theorem .	Remember, Understand, apply, analyze, evaluate ,

Paper Name: Number Theory
Paper Code: MAT-HE-5016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Learn about some fascinating discoveries related to the properties of prime numbers, and some of the open problems in number theory, viz., Goldbach conjecture etc. ii) Know about number theoretic functions and modular arithmetic. iii) Solve linear, quadratic and system of linear congruence equations.	Unit 1: Linear Diophantine equation, prime counting function and related theorems	Remember, Understand, apply, evaluate
	Unit 2: Number theoretic functions, sum and number of divisors, totally multiplicative functions and other functions	Remember, Understand, apply, analyze, evaluate ,

PAPER NAME: Programming in C (Including Practical)
PAPER CODE: MAT-HE-5066

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Understand and apply the programming concepts of C which is important to mathematical investigation and problem solving. ii) Learn about structured data-types in C and learn about applications in factorization of an integer and understanding Cartesian geometry and Pythagorean triples. iii) Use of containers and templates in various applications in algebra. iv) Use mathematical libraries for computational objectives. v) Represent the outputs of programs visually in terms of well formatted text and plots. vi) In practical students learn about the roots of a quadratic equation, solution of an equation using N-R algorithm, sin(x), cos(x) with the help of functions	Unit 1: Variables, constants, reserved words, library functions, structure of a C program, input/output functions and statements	Remember, Understand, apply, evaluate
	Unit 2: Control Statements	Remember, Understand, apply, analyze, evaluate ,
	Unit 3: Arrays and subscripted variables, Functions .	Remember, Understand, apply, analyze, evaluate ,

6th Semester (Honours)

PAPER NAME: Riemann Integration and Metric Space
PAPER CODE: MAT-HC-5016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Learn about some of the classes and properties of Riemann integrable functions, and the applications of the Fundamental theorems of integration. ii) Know about improper integrals including, beta and gamma functions. iii) Learn various natural and abstract formulations of distance on the sets of usual or unusual entities. Become aware one such formulations leading to metric spaces. iv) Analyse how a theory advances from a particular frame to a general frame. v) Appreciate the mathematical understanding of various geometrical concepts, viz. Balls or connected sets etc. in an abstract setting. vi) Know about Banach fixed point theorem, whose far-reaching consequences have resulted into an independent branch of study in analysis, known as fixed point theory. vii) Learn about the two important topological properties, namely connectedness and compactness of metric spaces	Unit 1: Riemann integration	Remember, Understand, apply, evaluate
	Unit 2: Metric spaces and their properties	Remember, Understand, apply, analyze, evaluate ,
	Unit 3: Continuous mappings in metric spaces and other mappings related to metric spaces	Remember, Understand, apply, analyze, evaluate ,

Paper Name: Partial Differential Equations
Paper Code: MAT-HC-6026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Formulate, classify and transform first order PDEs into canonical form. ii) Learn about method of characteristics and separation of variables to solve first order PDE's. iii) Classify and solve second order linear PDEs. iv) Learn about Cauchy problem for second order PDE and homogeneous and non-homogeneous wave equations. i) Apply the method of separation of variables for solving many well-known second order PDEs.	**Unit 1:** Introduction, Construction of first order partial differential equations (PDE). Cauchy's problem for first order equations and related methods	Remember, Understand, apply, evaluate
	Unit 2: Canonical form of first order PDE, Method of separation of variables for first order PDE.	Remember, Understand, apply, analyze, evaluate ,
	Unit 3: Reduction to canonical forms, Equations with constant coefficients, General solution.	Remember, Understand, apply, analyze, evaluate ,

Paper Name: Mathematical Modelling
Paper Code: MAT-HE-6036

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Know about power series solution of a differential equation and learn about Legendre's and Bessel's equations. ii) Use of Laplace transform and inverse transform for solving initial value problems. iii) Learn about various models such as Monte Carlo simulation models, queuing models, and linear programming models.	Unit 1: Power series solution of a differential equation about an ordinary point, solution about a regular singular point, The method of Frobenius; Legendre's and Bessel's equation.	Remember, Understand, apply, evaluate
	Unit2: Laplace transform and inverse transform, application to initial value problem up to second order.	Remember, Understand, apply, analyze, evaluate ,
	Unit 3: Monte Carlo Simulation Modelling, Generating Random Numbers	Remember, Understand, apply, analyze, evaluate ,

Paper Name: Group Theory II
Paper Code: MAT-HE-6066

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Learn about automorphisms for constructing new groups from the given group. ii) Learn about the fact that external direct product applies to data security and electric circuits. iii) Understand fundamental theorem of finite abelian groups. iv) Be familiar with group actions and conjugacy in Sn. v) Understand Sylow's theorems and their applications.	**Unit 1:** Isomorphisms, automorphisms, inner automorphisms, Automorphisms groups; External direct products of groups and their properties; the group of units modulo *n* as an external direct product	Remember, Understand, apply, evaluate
	Unit 2: Normal subgroups, factor groups and their applications, Internal direct products, of subgroups, Fundamental theorem of finite Abelian groups, isomorphism classes of finite abelian groups.	Remember, Understand, apply, analyze, evaluate ,
	Unit 3: Conjugacy classes, the class equation, Conjugacy classes in the symmetric group S_n, *p*-groups, The Sylow's theorems and their applications.	Remember, Understand, apply, analyze, evaluate ,

Paper Name: Hydromechanics
Paper Code: MAT-HE-6046

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) Know about Pressure equation, rotating fluids. ii) learn about Fluid pressure on plane surfaces, resultant pressure on curved surfaces, Gas law, mixture of gases iii) learn about the Eulerian and Lagrangian method. iv) learn about equation of continuity, examples, acceleration of a fluid at a point	**Unit 1: Hydrostatics** Pressure equation, condition of equilibrium, lines of force, homogeneous and heterogeneous fluids, elastic fluids, surface of equal pressure, fluid at rest under action of gravity, rotating fluids. Fluid pressure on plane surfaces, center of pressure, resultant pressure on curved surfaces. Gas law, mixture of gases, internal energy, adiabatic expansion.	Remember, Understand, apply, evaluate
	Unit 2 Hydrodynamics Real and ideal fluid, velocity of a fluid at a point, Eulerian and Lagrangian method, stream lines and path lines, steady and unsteady flows, velocity potential, rotational and irrotational motions, material local, convective derivatives, local and particle rate of change, equation of continuity, examples, acceleration of a fluid at a point. Equation of motion (For non-viscous fluid)	Remember, Understand, apply, analyze, evaluate ,

Department of Zoology

Chaiduar College, Gohpur

PROGRAMME SPECIFIC OUTCOME (BSc Zoology)

- Broad understanding of all the disciplines of life sciences such as taxonomy, anatomy, physiology, biotechnology and bioinformatics, molecular biology, developmental biology and develop the basic concepts.
- Understanding of the ecosystem and the concept of ecology; the need of wildlife conservation and management.
- Understanding of levels of organization viz. molecules, cells, tissues, organs and organ systems, organisms, populations, and species. How organisms function at these levels and to study the histology and comprehend the comparative anatomy of the organisms based on these knowledge.
- Understanding of various phases of development within a life cycle, which include reproduction, early development, and metamorphosis and adaptations.
- Understanding the Physiological, Biochemical, Endocrine and Immune system functions of an organism.
- Understanding the Biological Techniques, Bioinformatics and the application of statistics in Biological science.
- Understanding of the economic Zoology such as sericulture, apiculture, pest and its management for their career opportunities.
- Learn how to design a research project, assimilation and analysis of the data and ideas and concluding in the form of project report.

COURSE OUTCOME

BSc Zoology (Honours) Syllabus (CBCS)

Semester I

Semester	Course Code	Course Name	Course Outcome	Bloom's Taxonomy Level
I	ZOO-HC-1016	Non-Cordates -1	Students are able to understand about the characters and classify-cation and life cycle of various Protista, Porifera, Cnideria, Ctinophora, Platyhel-minthes and Nemathhelminthes	Remember, Understand, apply
		Practical	Prepare whole mount, life cycle of various organism Included under above mentioned kingdoms and phyla.	Remember, Understand, apply
	ZOO-HC-1026	Principle of Ecology	Students are able to understand about the basic principle with special reference to population community and ecosystem. At the same time in applied ecological part student will aware with the process of wild life conservation and management	Remember, Understand, Apply, evaluate
		Practical	Through the practical study Students will come to know about the practical use of various population characteristics, community and ecosystem services. Visit to National park/ Biodiversity Park/wildlife sanctuaries will give them live study of ecology.	Remember, Understand,

Semester II

Semester	Course Code	Course Name	Course Outcome	Bloom's Taxonomy Level
II	ZOO-HC-2016	Non- Chordates II: Coelomates	Students are able to understand about the characters and classification, social life and evolutionary significance Coelomates.	Remember, Understand, apply
		Practical	Students are able tounderst and about the museum specimen, anatomical and morphological structure and preparation of slide.	Remember, Understand, apply
	ZOO-HC-2026	Cell Biology	Students are able to understand about the structure and function of cell and cellular organelles, process of cell division and cell communication.	Remember, Understand
		Practical	Students are able to understand about the preparation of various stains and fixatives, determination of protein, mucopolysaccharides and chromosome	Remember, Understand, apply

Semester III

Semester	Course Code	Course Name	Course Outcome	Bloom's Taxonomy Level
III	ZOO-HC-3016	Diversity of Chordata	Students are able to understand about the general characteristics, classification, metamorphosis and animal distribution.	Remember, Understand, apply
		Practical	Students are able to understand about the general characteristics, classification, metamorphosis and animal distribution.	Remember, Understand, Apply
	ZOO-HC-3026	Animal Physiology: Controlling and Coordinating Systems	Students are able to understand the entire animal's functions of the body which includes nutrition., Respiration, heart, excretion, nerve physiology etc	Remember, Understand,
		Practical	Students are able to understand and learned about the various microscopic procedures including microtomy, permanent slides study.	Remember, Understand
III	ZOO-HC-3036	Fundamentals of Biochemistry	Students are able to understand all the biochemical components of the body system are studied. It helps the student to get a view about the chemical compositions of different chemical compounds such as enzymes, hormones and other secretions. It also includes the pathway and chemical which are responsible for the energy production in our body	Remember, Understand, Apply

		Practical	Students are able to understand and learned various technique of separation and determination of protein, lipid, carbohydrates etc.	Remember, Understand, Apply
	ZOO-SE-3024	Apiculture	This Skill Enhancement Course is aimed at developing student's professional skill by learning about the life cycle, colonies, Beekeeping techniques and equipments, diseases of honey bees and natural enemies, and setup and management of apiary based entrepreneurship farm.	Remember, Apply

Semester IV

Semester	**Course Code**	Course Name	Course Outcome	**Bloom's Taxonomy Level**
IV	ZOO-HC-4016	Comparative Anatomy of Vertebrates	Students will be able to understand the anatomical design of the vertebrates. They'll compare the integumentary, skeletal, digestive, respiratory, circulatory, urinogenital, and nervous systems among fishes, reptiles, amphibians, aves and mammals.	Remember, Understand, Apply
		Practical	Practical examination of permanent slides, disarticulated skeleton, video and project reports will reinforce their learning.	Remember, Understand

	ZOO-HC-4026	Animal Physiology: Life Sustaining Systems	This paper deals with the student's understanding of how the vertebrate body works. Student's will understand the physiology of digestion, respiration, excretion, circulation, and heart.	Remember, Understand
		Practical	They'll learn some basic medical laboratory techniques such as determination of ABO blood group, enumeration of RBC and WBC using haemocytometer, blood pressure observation using sphygmomanometer. They'll also get an idea about how the alimentary canal examined.	Remember, Understand
IV	ZOO-HC-4036	Animal Physiology: Biochemistry of Metabolic Processes	Students will be able to understand the human metabolism from the biochemical point of view. They'll apply principles of basic chemistry and biochemistry to explain biochemical pathways of carbohydrate, lipid, and protein metabolism.	Remember, Understand, Apply
		Biochemistry of Metabolic Processes	They'll know about biochemical assays on proteins, and learn about the working of enzyme through study of enzymatic activity.	Remember, Understand
IV	ZOO-SE-4014	Non-Mulberry Sericulture	This Skill Enhancement Course is aimed at developing student's professional skill by learning about the life cycle, rearing techniques, diseases of silk worms and setup and management of sericulture based entrepreneurship farm.	Understand, Apply

Semester V

Semester	Course Code	Course Name	Course Outcome	Bloom's Taxonomy Level
V	ZOO-HC-5016	Molecular Biology	Students will learn the concept of central dogma.	Remember, Understand
		Practical	Students are able to understand about the estimation of DNA, RNA and protein synthesis.	Remember, Understand
	ZOO-HC-5026	Principles of Genetics	Students are able to understand about the Mandelian inheritance, inter action of genes, mutation and its effects.	Remember, Understand, Apply
		Practical	Students are able to learn about the pedigree analysis, gene interaction study.	Remember, Understand, Apply
	ZOO-HE-5016	Computational Biology And Biostatics	Students will understand the importance, Goal, Scope of Genomics, Transcriptomics, Systems Biology, Functional Genomics, Metabolomics, and Molecular Phylogeny. Applications and Limitations of Bioinformatics	Remember, Understand
		Practical	Students will learn how to fetch useful data from online biological databases. They'll also do a blast analysis and create phylogenetic trees.	Remember, Understand, Apply
	ZOO-HE-5046	Parasitology	Students will learn the life cycle of common disease causing organisms including their mode of infection, severity of the disease and methods of prevention. It'll elevate their level of awareness about different classes of pathogens such as protists,	Remember, Apply

			platyhelminthes, nematodes, parasitic arthropoda.	
		Practical	Students will be able to identify some common pathogens under the microscope with the help of permanent slides. With the submission of a brief report on parasitic vertebrates, they'll reinforce their understanding of the topic.	Understand,Apply

Semester VI

Semester	Course Code	Course Name	Course Outcome	Bloom's Taxonomy Level
VI	ZOO-HC- 6016	Developmental Biology	Students are able to acquire a thorough knowledge of embryonic development along with the factors affecting it.	Remember, Understand
	ZOO-H.C-6026	Practical	Students will be able to learn different developmental stages through microscopic study of permanent slides and also from culture based study of certain animals.	Remember, Understand
	ZOO-HE-6026:	FISH and Fisheries	They'll learn about how to setup an entrepreneurship farm based on fish-culture. Learn about the characteristic features of fishes and identify them. They'll also learn how fishes can be used as model organisms in research.	Remember, Understand, Apply
	ZOO-HE-6046	Wildlife Conservation and Management	Students will learn the values of wildlife, conservation ethics; aspects of conservation; Causes of depletion; World conservation strategies.	Remember, Understand
			They'll be familiar with field techniques, assessment methods such as Tentree method, Circular, Square & rectangular plots. Identify animal species through their pugmarks, hoofmarks, scats etc.	Remember, Apply

PROGRAMME SPECIFIC OUTCOME (CBCS)
DEPARTMENT OF BOTANY
Chaiduar College

- Students will be able to critical evaluation of ideas and arguments by gathering appropriate information about the plants to understand classification of plants and the process of plant identification.
- Students will be able to understand plant identification methods by doing field study and with the help of literatures.
- To be understand about scientific method of collection and analyze of data's.
- Students will be able to present scientific hypotheses.
- Students will be familiar with different practical topics and experiments of practical and theory by searching primary literature, identify relevant works for a particular topic, and evaluate the scientific content of these works.
- To be understand bio- chemical analysis of practical's and also know to use standard statistical and mathematical methods.
- Students will be familiar with characteristics of plants, algae, fungi, bryophytes, pteridophytes, gymnosperm, bacteria, fungi etc. that separate them from other forms of life.
- Students will be able to understand origin, evolutionary history, fossil history, molecular biology and molecular systematics of plants for understand and future research.
- Students will be able to explain gene, genome, cell, tissue, flower development, biochemistry, biotechnological aspects of plants. They will be familiar with ecology, environmental relation, physiological adaptations, reproductions, development and mode of life cycle of different forms of plants.
- Students should be able to understand about the ecological aspects of plant science like populations, communities, ecosystems and environment biology.
- Students should be able to explain about the various experimental procedures techniques and methods of analysis for their area of specialization within biology.
- Students should be able to familiar with modern day research trends of plant sciences with laboratory equipment's.

BSc Botany (Honours) Syllabus (CBCS)

1st Semester (Honours)

Paper Name: Phycology and Microbiology

Paper Code: BOT-HC-1016

Course Outcome	**Unit No. and Topics**	**Bloom's Taxonomy Domain**
1. Understand the diversity microbes. 2. Know the systematic, morphology and structure of virus. 3. Understand the about bacteria 4. Understand about of Algae. 5. Understand the life cycle of different algal genus 6. Know the Economic Importance of Microbes. 7. Know the harmful effects of microbes. 8. Know the role of microbes in Research activities.	**Unit 1: Introduction to microbial world** Scope of microbes in industry and environment; Microbial nutrition, growth and metabolism.	Remember, understand
	Unit 2: Viruses Discovery, physiochemical and biological characteristics; classification (Baltimore), general structure with special reference to viroids and prions; replication (general account), DNA virus (T-phage), lytic and lysogenic cycle; RNA virus (TMV). Economic importance of viruses with reference to vaccine production, role in research, medicine and diagnostics, as causal organisms of plant diseases.	Remember, understand, apply
	Unit 3: Bacteria Discovery, general characteristics; Types- archaebacteria, eubacteria, actinomycetes, mycoplasma, rickettsia, chlamydiae and sphaeroplasts); Cell structure; Nutritional types; Reproduction-vegetative, asexual and recombination (conjugation, transformation and transduction). Economic importance of bacteria with reference to their role in agriculture and industry (Alcohol and Antibiotic production).	Remember, understand, apply, evaluate
	Unit 4: Algae General characteristics; Ecology and distribution; range of thallus organization; Cell structure and components; cell wall, pigment system, reserve food (of only groups represented in the syllabus), flagella; methods of reproduction; Classification; Evolutionary significance of *Prochloron*; criteria, system of Fritsch, and evolutionary classification of Lee (only upto groups); Role of algae in the environment, agriculture, biotechnology and industry, Economic importance of Diatoms.	Remember, understand, apply
	Unit 5: *Cyanophyta and Xanthophyta* Ecology and occurrence; Range of thallus organization; Cell structure; Reproduction, Morphology and life-cycle of *Nostoc* and *Vaucheria.*	Remember, understand, apply
	Unit 6: *Chlorophyta, Charophyta and Bacillariophyta* General characteristics; Occurrence; Range of thallus organization; Cell structure; Reproduction. Morphology and life-cycles of *Volvox*, *Oedogonium, Coleochaete, Chara*. General Account of Bacillariophyta.	Remember, understand, apply
	Unit 7: ***Phaeophyta and Rhodophyta*** Characteristics; Occurrence; Range of thallus organization; Cell structure; Reproduction.	Remember, understand, Apply
	Morphology and life-cycles of *Ectocarpus*, *Fucus* and *Polysiphonia*.	

Paper Name: Biomolecules and Cell Biology
Paper Code: BOT-HC-1026

Course Outcome	**Unit No. and Topics**	**Bloom's Taxonomy Domain**
1. Know the chemical natureof biomolecules. 2. Understand the bioenergetics and laws. 3. Structure and general features of enzymes. Concept of enzyme activity and enzyme inhibition. 4.-6. Understand the Biochemical nature of cell and cell organelles. Know the endomembrane system and protein transport. 7.Know about the cell divisions: mitosis & meiosis.	**Unit 1: Biomolecules** Types and significance of chemical bonds; Structure and properties of water; pH and buffers. **Carbohydrates:** Nomenclature and classification; Monosaccharides; Disaccharides; Oligosaccharides and polysaccharides. **Lipids:** Definition and major classes of storage and structural lipids; Fatty acids structure and functions; Essential fatty acids; glycerols structure, functions and properties; Phosphoglycerides. **Proteins:** Structure of amino acids; Levels of protein structure-primary, secondary, tertiary and quaternary; Protein denaturation and biological roles of proteins. **Nucleic acids:** Structure of nitrogenous bases; Structure and function of nucleotides; Types of nucleic acids; Structure of A, B, C, D, Z types of DNA; Types of RNA.	Remember, understand
	Unit 2: Bioenergetics Laws of thermodynamics, concept of free energy, endergonic and exergonic reactions, coupled reactions, redox reactions. ATP: structure, its role as a energy currency molecule.	Remember, understand
	Unit 3: Enzyme Structure of enzyme: holoenzyme, apoenzyme, cofactors, coenzymes and prosthetic group; Classification of enzymes; Features of active site, substrate specificity, mechanism of action (activation energy, lock and key hypothesis, induced - fit theroy), Michaelis – Menten equation, enzyme inhibition and factors affecting enzyme activity.	Remember, understand, evaluate
	Unit 4: The Cell Cell as a unit of structure and function; Characteristicsof prokaryotic and eukaryotic cells; Origin of eukaryotic cell (Endosymbiotic theory).	Remember, understand, apply
	Unit 5: Cell wall and plasma membrane Chemistry, structure and function of Plant cell wall. Overview of membrane function; fluid mosaic model; Chemical composition of membranes; Membrane transport – Passive, active and facilitated transport, endocytosis and exocytosis.	Remember, understand
	Unit 6: Cell organelles **Nucleus:** Structure-nuclear envelope, nuclear pore complex, nuclear lamina, molecular organization of chromatin; nucleolus. **Cytoskeleton:** Role and structure of microtubules, microfilaments and intermediary filament.	Remember, understand

	Chloroplast, mitochondria and peroxisomes: Structural organization; Function; Semiautonomous nature of mitochondria and chloroplast. **Endomembrane system:** Endoplasmic Reticulum – Structure, targeting and insertion of proteins in the ER, protein folding, processing; Smooth ER and lipid synthesis, export of proteins and lipids; Golgi Apparatus – organization, protein glycosylation, protein sorting and export from Golgi Apparatus; Lysosomes	
	Unit 7: **Cell division** Phases of eukaryotic cell cycle, mitosis and meiosis; Regulation of cell cycle-checkpoints, role of protein kinases.	Remember, understand, evaluate

2nd Semester (Honours)
Paper Name: Mycology and Phytopathology
Paper Code: BOT-HC-2016

Course Outcome	**Unit No. and Topics**	**Bloom's Taxonomy Domain**
1. Understand the Biodiversity of Fungi and understand the life cycle pattern of Fungi. 2. Know the Economic Importance and application of Fungi. 3. Know the terminologies in plant pathology.	**Unit 1: Introduction to Fungi** General characteristics; Status of Fungi in living system; Thallus organization, modification of hyphae; Cell and Cell wall composition; Nutrition, flagella, septum, homothallism and heterothallism, cell division. History of Classification (Hidetta *et al*. 2007); Classification of Fungi (Ainsworth, 1973, Webster 1977) up to sub-division with diagnostic characters and examples.General characteristics of Myxomycota, Oomycota, Zygomycota, Ascomycota, Basidiomycota and Deuteromycota.	Remember, understand, apply
4. Understand the scope and importance of Plant Pathology.	**Unit 2: Mastigomycotina (Chytridiomycetes and Oomycetes)** Characteristic features; Reproduction; Life cycle with reference to *Synchytrium, Phytophthora* and *Albugo.*	Remember, understand, apply
5. Know the prevention and control measures of plant diseases and its effect on economy of crops.	**Unit 3: Zygomycotina** Characteristic features; Reproduction; Life cycle with reference to Rhizophus.	Remember, understand, apply
	Unit 4: Ascomycotina General characteristics (asexual and sexual fruiting bodies); Life cycle, Heterokaryosis and parasexuality; Life cycle and classification with reference to *Saccharomyces*, *Aspergillus*, *Penicillium, Neurospora* and *Peziza.*	Remember, understand, apply
	Unit 5: Basidiomycotina General characteristics; Life cycle and Classification with reference to black stem rust on wheat *Puccinia* (Physiological Specialization), loose and covered smut (symptoms only), *Agaricus*; Bioluminescence, Fairy Rings and Mushroom Cultivation.	Remember, understand, apply

	Unit 6: Deuteromycotina (Fungi Imperfecti) General characteristics; Thallus organization; reproduction; classification with special reference to *Alternaria* and *Colletotrichum.*	Remember, understand, apply
	Unit 7: **Allied Fungi- Myxomycota** General characteristics; Status of Slime molds, Classification; Occurrence; Types of plasmodia; Types of fruiting bodies.	Remember, understand, apply
	Unit 8: Symbiotic associations Lichen – Occurrence; General characteristics; Range of thallus organization; Internal structure and nature of associations of algal and fungal partners; Reproduction. Mycorrhiza- Ectomycorrhiza, Endomycorrhiza and their significance.	Remember, understand, apply
	Unit 9: Applied Mycology Role of fungi in biotechnology; food industry (Flavour & texture, Fermentation, Baking, Organic acids, Enzymes, Mycoproteins); Pharmaceutical (Secondary metabolites); Agriculture (Biofertilizers); Mycotoxins; Biological control (Mycofungicides, Mycoherbicides, Mycoinsecticides, Myconematicides); Medical mycology.	Remember, understand, apply
	Unit 10: Phytopathology Terms and concepts; General symptoms; Geographical distribution of diseases; Etiology; Symptomology;Host-Pathogen relationships; Disease cycle and environmental relation; prevention and control of plant diseases, and role of quarantine. Bacterial diseases – Citrus canker and angular leaf spotof cotton. Viral diseases – Tobacco Mosaic viruses, vein clearing. Fungal diseases – Early blight of potato, Black stem rust of wheat, White rust of crucifers.	Remember, understand

Paper Name: Archegoniate

Paper Code: BOT-HC-2026

Course Outcome	**Unit No. and Topics**	**Bloom's Taxonomy Domain**
1. Understand the morphological diversity of Bryophytes. 2. Understand the economical and ecological importance of the Bryophytes. 3. Know the taxonomic position, occurrence, thallus structure, reproduction of Bryophytes. 4. Understand the morphological	**Unit 1: Introduction** Unifying features of archegoniates; Transition to land habit; Alternation of generations.	Remember, understand,
	Unit 2: Bryophytes General characteristics; Adaptations to land habit; Classification; Range of thallus organization.	Remember, understand, apply
	Unit 3: Type Studies- Bryophytes Classification, morphology, anatomy and reproduction of *Riccia, Marchantia, Anthoceros, Sphagnum* and *Polytrichum*; Reproduction and evolutionary trends in *Riccia, Marchantia, Anthoceros, Sphagnum* and *Polytrichum.* Ecological and economic importance of bryophytes.	Remember, understand, apply

diversity of Pteridophytes. 5. Understand the economic and ecological importance of the Pteridophytes. 6. Know the taxonomic position, occurrence, thallus structure, reproduction of Pteridophytes. 7. Know the evolution of Bryophytes and Pteridophytes.	**Unit 4: Pteridophytes** General characteristics; Classification; Early land plants (*Cooksonia* and *Rhynia*).	Remember, understand, apply
	Unit 5: Type Studies- Pteridophytes Classification, morphology, anatomy and reproduction of *Psilotum*, *Lycopodium*, *Selaginella*, *Equisetum*, *Pteris* and *Marsilea*. Apogamy and apospory, heterospory and seedhabit, telome theory, stelar evolution; Ecological and economic importance.	Remember, understand, apply
	Unit 6: Gymnosperms General characteristics, classification (up to family), morphology, anatomy and reproduction of *Cycas*, *Pinus*, *Ginkgo* and *Gnetum*; Ecological andeconomic importance.	Remember, understand, apply

3rd Semester (Honours)
Paper Name: Morphology and Anatomy of Angiosperms
Paper Code: BOT-HC-3016

Course Outcome	**Unit No. and Topics**	**Bloom's Taxonomy Domain**
1. Understand Plant morphology and its role in evolution and classification can be understood. 2. Understand the importance of tissue system in various field. 3. Know the developmental process of the tissue system. 4. Know the different types of tissues and its components. 5. Know the origin, development, and structure of dicot and monocot leaves.	**Unit 1: Morphology** Morphology of inflorescence, stamens and carpel, fruit; Telome theory, phyllode theory; Role of morphology in plant classification.	Remember, understand
	Unit 2: Introduction and scope of plant Anatomy Application in systematics, forensics and pharmacognosy.	Remember, understand, apply
	Unit 3: Structure and Development of Plant Body Internal organization of plant body: The three tissuesystems, types of cells and tissues. Development of plantbody: Polarity, Cytodifferentiation and organogenesis during embryogenic development.	Remember, understand, apply
	Unit 4: Tissues Classification of tissues; Simple and complex tissues (no phylogeny); cytodifferentiation of tracheary elements and sieve elements; Pits and plasmodesmata; Wall ingrowths and transfer cells, adcrustation and incrustation, Ergastic substances. Hydathodes, cavities, lithocysts and laticifers.	Remember, understand, apply
	Unit 5: Apical meristems Evolution of concept of organization of shoot apex (Apical cell theory, Histogen theory, Tunica Corpus theory, continuing meristematic residue, cytohistological zonation); Types of vascular bundles; Structure of dicot and monocot stem. Origin, development, arrangement and diversity in size and shape of leaves; Structure of dicot andmonocot leaf, Kranz anatomy. Organization of root apex (Apical cell theory, Histogen theory, Korper-Kappe theory); Quiescent centre; Root cap; Structure of dicot and monocot root; Endodermis, exodermis and origin of lateral root.	Remember, understand, apply

6. Know the activity of cambium and secondary growth. 7. Know the adaptation of plants in different environmental conditions.	**Unit 6: Vascular Cambium and Wood** Structure, function and seasonal activity of cambium; Secondary growth in root and stem. Axially and radially oriented elements; Types of rays and axial parenchyma; Cyclic aspects and reaction wood; Sapwood and heartwood; Ring and diffuse porous wood; Early and late wood, tyloses; Dendrochronology. Development and composition of periderm, rhytidome and lenticels.	Remember, understand, apply
	Unit 7: **Adaptive and Protective Systems** Epidermal tissue system, cuticle, epicuticular waxes, trichomes (uni-and multicellular, glandular and nonglandular, two examples of each), stomata (classification); Adcrustation and incrustation; Anatomical adaptations of xerophytes and hydrophytes.	Remember, understand, apply

Paper Name: Economic Botany
Paper Code: BOT-HC-3026

Course Outcome	**Unit No. and Topics**	**Bloom's Taxonomy Domain**
1. Know about the various centers of origin and domestication of crops	**Unit 1: Origin of Cultivated Plants** Centres of Origin, their importance with reference to Vavilov's work. Introductions, domestication and loss of crop genetic diversity; evolution of new crops/varieties, importance of germplasm diversity.	Remember, understand
2. Know about the domestication of cereals.	**Unit 2: Cereals** Wheat and Rice (origin, morphology, processing & uses); Brief account of millets.	Remember, understand, apply
3. Understand the importance of crop domestication to the whole ecosystem. 4. Know about the diversity of genes.	**Unit 3: Legumes** Origin, morphology and uses of Chick pea, Pigeon pea and fodder legumes. Importance to man and ecosystem.	Remember, understand, apply
	Unit 4: Sources of sugars and starches Morphology and processing of sugarcane, products and by-products of sugarcane industry. Potato – morphology, propagation & uses.	Remember, understand
5. Know about the various ecologically important species.	**Unit 5: Spices** Listing of important spices, their family and part used. Economic importance with special reference to fennel, saffron, clove and black pepper.	Remember, understand, apply
6. Understanding the processing of coffee and tea.	**Unit 6: Beverages** Tea, Coffee (morphology, processing & uses).	Remember, understand, apply
7. Understanding the extraction methods of various essential oils.	**Unit** 7: **Sources of oils and fats** General description, classification, extraction, their uses and health implications groundnut, coconut, linseed, soybean, mustard and coconut (Botanical name, family & uses). Essential Oils: General account, extraction methods, comparison with fatty oils & their uses.	Remember, understand, apply
8. Understanding rubber processing and its importance.	**Unit 8: Natural Rubber** Para-rubber: tapping, processing and uses.	Remember, understand, apply

9. Knowing medicinal uses of plants. 10. Knowing commercial value of plants. 11. Knowing the use of plants in making clothes.	**Unit 9: Drug-yielding plants** Therapeutic and habit-forming drugs with special reference to Cinchona, Digitalis, Papaver and Cannabis; Tobacco (Morphology, processing, uses and health hazards).	Remember, understand, apply
	Unit 10: Timber plants General account with special reference to teak and pine.	Remember, understand, apply
	Unit 11: Fibers Classification based on the origin of fibers; Cotton, Coirand Jute (morphology, extraction and uses).	Remember, understand, apply

Paper Name: Genetics Paper
Code: BOT-HC-3036

Course Outcome	**Unit No. and Topics**	**Bloom's Taxonomy Domain**
1. Understand the Mendel's law and its exceptions. 2. Understand the extrachromosomal inheritance. 3. Know about chromosome structure and its inheritance. 4. Gain knowledge on chromosomal variation. 5. Know about the anomalies in gene. 6. Know about the gene structure. 7. Know about the genetic evolutionary mechanism.	**Unit 1: Mendelian genetics and its extension** Mendelism: History; Principles of inheritance; Chromosome theory of inheritance; Autosomes and sex chromosomes; Probability and pedigreeanalysis; Incomplete dominance and codominance; Multiple alleles, Lethal alleles,Epistasis, Pleiotropy, Recessive and Dominant traits, Penetrance and Expressivity, Numericals; Polygenic inheritance.	Remember, understand, evaluate
	Unit 2: Extrachromosomal Inheritance Chloroplast inheritance: Variegation in Four o'clock plant; Mitochondrial in yeast; Maternal effects-shell coiling in snail; Kappa particles in Paramecium.	Remember, understand
	Unit 3: Linkage, crossing over and chromosomemapping Linkage and crossing over-Cytological basis of crossing over; Recombination frequency, two factor and three factor crosses; Interference and coincidence; Numericals based on gene mapping; Sex Linkage.	Remember, understand
	Unit 4: Variation in chromosome number and structure Deletion, Duplication, Inversion, Translocation, Position effect, Euploidy and Aneuploidy.	Remember, understand
	Unit 5: Gene mutations Types of mutations; Molecular basis of Mutations; Mutagens – physical and chemical (Base analogs, deaminating, alkylating and intercalating agents); Detectionof mutations: ClB method. Role of Transposons in mutation. DNA repair mechanisms.	Remember, understand
	Unit 6: Fine structure of gene Classical vs molecular concepts of gene; Ciston, Racon, Muton, rII locus	Remember, understand, apply
	Unit 7: **Population and Evolutionary Genetics** Allele frequencies, Genotype frequencies, Hardy-Weinberg Law, role of natural selection, mutation, genetic drift. Genetic variation and Speciation.	Remember, understand, apply

4th Semester (Honours)

Paper Name: Molecular Biology

Paper Code: BOT-HC-4016

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
1. Know about the discovery of genetic material. 2. Understand structure of genetic material in various organisms. 3. Understand the process of DNA duplication in various organisms. 4. Understand the Central Dogma. 5. Know the importance of hormones and heat shock proteins. 6. Know about RNA processing pathways and Ribozymes. 7. Understand the process of protein formation and its modifications.	**Unit 1: Nucleic acids: Carriers of genetic information** Historical perspective; DNA as the carrier of genetic information (Griffith's, Hershey & Chase, Avery, McLeod & McCarty, Fraenkel-Conrat's experiment.	Remember, understand
	Unit 2: The Structures of DNA and RNA / Genetic Material DNA Structure: Miescher to Watson and Crick- historic perspective, DNA structure, Salient features of double helix, denaturation and renaturation, cot curves; Organization of DNA-Prokaryotes, Viruses, Eukaryotes. Organelle DNA -- mitochondria and chloroplast DNA. The Nucleosome Chromatin structure- Euchromatin, Heterochromatin- Constitutive and Facultative heterochromatin.	Remember, understand, apply
	Unit 3: The replication of DNA Chemistry of DNA synthesis (Kornberg's discovery); General principles – bidirectional, semi-conservative and semi discontinuous replication, RNA priming; Various models of DNA replication, including rolling circle, θ (theta) mode of replication, replication of linear ds-DNA; Enzymes involved in DNA replication.	Remember, understand
	Unit 4: Central dogma and genetic code Key experiments establishing-The Central Dogma (Adaptor hypothesis and discovery of mRNA template), Genetic code (deciphering & salient features**).**	Remember, understand
	Unit 5: Transcription Transcription in prokaryotes and eukaryotes. Principles of transcriptional regulation; Prokaryotes: Regulation oflactose metabolism and tryptophan synthesis in *E. coli.* Eukaryotes: transcription factors, heat shock proteins, steroids and peptide hormones; Gene silencing.	Remember, understand
	Unit 6: Processing and modification of RNA Split genes-concept of introns and exons, removal of introns, spliceosome machinery, splicing pathways, group Iand group II intron splicing, alternative splicing eukaryotic mRNA processing (5' cap, 3' poly A tail); Ribozymes; RNA editing and mRNA transport.	Remember, understand
	Unit 7: **Translation** Ribosome structure and assembly, mRNA; Charging of tRNA, aminoacyl tRNA synthetases; Various steps in protein synthesis, proteins involved in initiation, elongation and termination of polypeptides; Fidelity of translation; Inhibitors of protein synthesis; Post-translational modifications of proteins.	Remember, understand

Paper Name: Plant Ecology and Phytogeography

Paper Code: BOT-HC-4026

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
1. Understand the basic concepts of environment.	**Unit 1: Introduction** Basic concepts; Levels of organization. Inter-relationships between the living world and the environment, the components and dynamism, homeostasis.	Remember, understand, evaluate
2. Know the soil structure and its dependence on climate.	**Unit 2: Soil** Importance; Origin; Formation; Composition; Physical; Chemical and Biological components; Soil profile; Role of climate in soil development.	Remember, understand, apply
3. Understand the processes of ecosystem.	**Unit 3: Water** Importance: States of water in the environment; Atmospheric moisture; Precipitation types (rain, fog, snow, hail, dew); Hydrological Cycle; Water in soil; Water table.	Remember, understand, apply
4. Understand the adaptation of plants.	**Unit 4: Adaptation of plants to various environmental factors** Light, temperature, wind and fire	Remember, understand, evaluate
5. Understand trophic levels and their interactions.	**Unit 5: Biotic interaction** Trophic organization, basic source of energy, autotrophy, heterotrophy; symbiosis, commensalism, parasitism; food chains and webs; ecological pyramids; biomass, standing crop.	Remember, understand, evaluate
6. Know the concept of pattern of population growth	**Unit 6: Population ecology** Population characteristics, Growth curve, population regulation, r and k selection. Ecological speciation: Allopatric/ Sympatric and Parapatric speciation.	Remember, understand, apply
7. Understand community ecology and succession.	**Unit** 7: **Plant communities** Concept of ecological amplitude; Habitat and niche; Characters: analytical and synthetic; Ecotone and edge effect; Dynamics: succession – processes, types; climax concepts.	Remember, understand, evaluate
8. Know the structure of ecosystem.	**Unit 8: Ecosystem** Structure; Processes; Trophic organisation; Food chains and Food webs; Ecological pyramids.	Remember, understand, evaluate
9. Understand the flow of energy in ecosystem.	**Unit 9: Functional aspects of ecosystem** Principles and models of energy flow; Production and productivity; Ecological efficiencies; Biogeochemical cycles; Cycling of Carbon, Nitrogen and Phosphorus.	Remember, understand, evaluate
10. Knowing different phytogeographical zones and vegetations of India.	**Unit 10: Phytogeography** Principles; Continental drift; Theory of tolerance; Endemism; Brief description of major terrestrial biomes (one each from tropical, temperate & tundra); Phytogeographical division of India; Vegetation types of NE India with special reference to Assam.	Remember, understand, apply

Paper Name: Plant SystematicsPaper Code: BOT-HC-4036

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
1. After completion of the course, the students will- 2. Know the various concepts of plant classification and procedure for herbarium preparation. 3. Gain knowledge of various rules of plant nomenclature and classification. 4. Gain knowledge of different types of classification system. 5. Know numerical taxonomy, phylogenetic tree and evolution of Angiosperms. 6. Know the history of plant classification.	**Unit 1: Significance of Plant Systematics** Introduction to systematics; Plant identification, Classification, Nomenclature. Evidences from palynology, cytology, phytochemistry and molecular data. Functions and importance of Herbarium; Important herbaria and botanical gardens of the world and India; Virtual herbarium; E-flora; Concept of taxa (family, genus, species); Categories and taxonomic hierarchy.	Remember, understand, evaluate, apply
	Unit 2: Botanical Nomenclature Principles and rules (ICN); Ranks and names; Typification, author citation, Effective and valid publication, rejection of names, principle of priority and its limitations; Names of hybrids.	Remember, understand, apply
	Unit 3: Systems of Classification Major contributions of Theophrastus, Bauhin, Tournefort, Linnaeus, Adanson, de Candolle, Bessey, Hutchinson, Takhtajan and Cronquist; Classification systems of Bentham and Hooker (upto series) and Engler and Prantl (upto series); Brief reference of Angiosperm Phylogeny Group (APG) classification.	Remember, understand, apply
	Unit 4: Numerical taxonomy and cladistics Characters; Variations; OTUs, character weighting and coding; Cluster analysis; Phenograms, cladograms (definitions and differences).	Remember, understand, apply
	Unit 5: Phylogeny of Angiosperms Terms and concepts (primitive and advanced, homology and analogy, parallelism and convergence, monophyly, Paraphyly, polyphyly and clades). Origin and evolution of angiosperms; Co-evolution of angiosperms and animals; Methods of illustrating evolutionary relationship (phylogenetic tree, cladogram).	Remember, understand
	Unit 6: Angiospermic Families Detail study of the following families: Magnoliaceae, Fabaceae, Asteraceae, Solanaceae, Acanthaceae, Lamiaceae, Euphorbiaceae, Orchidaceae, Musaceae, Zingiberaceae, Poaceae.	Remember, understand

5th Semester (Honours)
Paper Name: Reproductive Biology of Angiosperms
Paper Code: BOT-HC-5016

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
1. Gain knowledge of angiosperm reproduction.	**Unit 1: Introduction** History (contributions of G.B. Amici, W. Hofmeister, E. Strasburger, S.G. Nawaschin, P. Maheshwari, B.M. Johri, W.A. Jensen, J. Heslop-Harrison) and scope.	Remember, understand

2. Understand the process flower development. 3. Gain knowledge of ovule structure, pollen pistil interaction, and embryo. 4. Gain knowledge of ovule types embryo structure. 5. Gain knowledge of types of pollination and its role. 6. Gain knowledge of compatibility and hybridization 7. Gain knowledge of embryo, endosperm and Seed and its importance 8. Know about apomixis, polyembryony and its application.	**Unit 2: Reproductive development** Induction of flowering; flower as a modified determinate shoot. Flower development: genetic and molecular aspects.	Remember, understand
	Unit 3: Anther and pollen biology Anther wall: Structure and functions, microsporogenesis, callose deposition and its significance.Microgametogenesis; Pollen wall structure, MGU (male germ unit) structure, NPC system; Palynology and scope (abrief account); Pollen wall proteins; Pollen viability,storage and germination; Abnormal features: Pseudomonads, polyads, massulae, pollinia.	Remember, understand, apply
	Unit 4: Ovule Structure; Types; Special structures–endothelium, obturator, aril, caruncle and hypostase; Female gametophyte–megasporogenesis (monosporic, bisporic and tetrasporic) and megagametogenesis (details of *Polygonum* type); Organization and ultrastructure of mature embryo sac.	Remember, understand, apply
	Unit 5: Pollination and fertilization Pollination types and significance; adaptations; structure of stigma and style; path of pollen tube in pistil; double fertilization.	Remember, understand
	Unit 6: Self incompatibility Basic concepts (interspecific, intraspecific, homomorphic, heteromorphic, GSI and SSI); Methods to overcome self-incompatibility: mixed pollination, bud pollination, stub pollination; Intra-ovarian and *in vitro* pollination; Modification of stigma surface, parasexual hybridization; Cybrids, *in vitro* fertilization.	Remember, understand, evaluate
	Unit 7: Embryo, Endosperm and Seed Structure and types; General pattern of development of dicot and monocot embryo and endosperm; Suspensor:structure and functions; Embryo-endosperm relationship; Nutrition of embryo; Unusual features; Embryo development in *Paeonia*. Seed structure, importance and dispersal mechanisms.	Remember, understand
	Unit 8: Polyembryony and Apomixis Introduction; Classification; Causes and applications.	Remember, understand

Paper Name: Plant Physiology
Paper Code: BOT-HC-5026

Course Outcome	**Unit No. and Topics**	**Bloom's Taxonomy Domain**
On completion of the course the students will - 1. Gain knowledge of plant and water relationship 2. Gain knowledge of plant nutrition.	**Unit 1: Plant-water relation** Water Potential and its components, water absorption by roots, aquaporins, pathway of water movement, symplast, apoplast, transmembrane pathways, root pressure, guttation. Ascent of sap– cohesion-tension theory. Transpiration and factors affecting transpiration, antitranspirants, mechanism of stomatal movement. Plant response to water stress.	Remember, understand

3. Gain knowledge of the process of translocation and various functions of plant hormones 4. Gain knowledge of effect of various external agents on the physiology of flowering. 5. Gain knowledge of hormones 6. Gain knowledge of physiology of flowering 7. Gain knowledge of role of light in plant pphysiology	**Unit 2: Mineral nutrition** Essential and beneficial elements, macro and micronutrients, methods of study and use of nutrient solutions, criteria for essentiality, mineral deficiency symptoms, roles of essential elements, chelating agents, Ion antagonism and toxicity.	Remember, understand, evaluate
	Unit 3: Nutrient Uptake Soil as a nutrient reservoir, transport of ions across cell membrane, passive absorption, electrochemical gradient, facilitated diffusion, active absorption, role of ATP, carrier systems, proton ATPase pump and ion flux, uniport, co-transport, symport, antiport.	Remember, understand
	Unit 4: Translocation in the phloem Experimental evidence in support of phloem as the site of sugar translocation. Pressure–Flow Model; Phloem loading and unloading; Source–sink relationship.	Remember, understand
	Unit 5: Plant growth regulators Discovery, chemical nature (basic structure), bioassay and physiological roles of Auxin, Gibberellins, Cytokinin, Abscisic acid, Ethylene, Brassinosteroids and Jasmonic acid.	Remember, understand
	Unit 6: Physiology of flowering Photoperiodism, flowering stimulus, florigen concept, vernalization, seed dormancy.	Remember, understand, analyze
	Unit 7: Phytochrome, crytochromes and phototropins Discovery, chemical nature, role in photomorphogenesis, low energy responses (LER) and high irradiance responses (HIR), mode of action.	Remember, understand

Paper Name: Natural Resource Management
Paper Code: BOT-HE-5016

Course Outcome	**Unit No. and Topics**	**Bloom's Taxonomy Domain**
On completion of the course the students will- 1. Gain knowledge on various natural recourses and its sustainable use. 2. Understand biodiversity and its conservation techniques 3. Gain knowledge of soil pattern and use 4. Gain knowledge of water and management. 5. Gain knowledge on IPR, CBD and various action plans.	**Unit 1: Natural resources** Definition and types	Remember, understand
	Unit 2: Sustainable utilization Concept, approaches (economic, ecological and socio-cultural).	Remember, understand
	Unit 3: Land Utilization (agricultural, pastoral, horticultural, silvicultural); Soil degradation and management.	Remember, understand, apply
	Unit 4: Water Fresh water (rivers, lakes, groundwater, aquifers, watershed); Marine; Estuarine; Wetlands; Threats and management strategies.	Remember, understand, apply
	Unit 5: Biological Resources Biodiversity-definition and types; Significance; Threats; Management strategies; Bio-prospecting; IPR; CBD; National Biodiversity Action Plan).	Remember, understand
	Unit 6: Forest Definition, Cover and its significance (with special reference to India); Major and minor forest products; Depletion; Management.	Remember, understand, evaluate

6. Gain knowledge on role of forests in conservation and forests products and managements. 7. Gain knowledge on energy resources 8. Gain knowledge on the various techniques of energy conservation and learn to apply in their daily life and use of GIS. 9. Gain knowledge on national and international organization and its role.	**Unit 7: Energy** Renewable and non-renewable sources of energy.	Remember, understand
	Unit 8: Contemporary practices in resource management EIA, GIS, Participatory Resource Appraisal, Ecological Footprint with emphasis on carbon footprint, Resource Accounting; Waste management.	Remember, understand
	Unit 9: National and international efforts in resource management and conservation	Remember, understand, apply

Paper Name: Horticultural Practices and Post-Harvest TechnologyPaper Code: BOT-HE-5026

Course Outcome	**Unit No. and Topics**	**Bloom's Taxonomy Domain**
On completion of the course the students will- 1. Have basic knowledge on role of horticulture in the society. 2. Gain knowledge on ornamental plants. 3. Gain knowledge on	**Unit 1: Introduction** Scope and importance, Branches of horticulture; Role in rural economy and employment generation; Importance in food and nutritional security; Urban horticulture and ecotourism.	Remember, understand
	Unit 2: Ornamental plants Types, classification (annuals, perennials, climbers and trees); Identification and salient features of some ornamental plants [rose, marigold, gladiolus, carnations, orchids, poppies, gerberas, tuberose, sages, cacti and succulents (opuntia, agave and spurges)] Ornamental flowering trees (Indian laburnum, gulmohar, Jacaranda, Lagerstroemia, fishtail and areca palms, semul, coraltree).	Remember, understand, analyse, apply

fruits, vegetables. 4. Gain knowledge on Biofertilizers, biopesticides 5. Know about techniques in horticulture, landscaping and gardening 6. Gain knowledge on floriculture	**Unit 3: Fruit and vegetable crops** Production, origin and distribution; Description of plants and their economic products; Management and marketing of vegetable and fruit crops; Identification of some fruits and vegetable varieties (citrus, banana, mango, chillies and cucurbits).	Remember, understand, apply
7. Have knowledge on bonsai and various post-harvest technologies 8. Gain knowledge on diseases 9. Gain knowledge conservation and management. 10. Arrange field trip	**Unit 4: Horticultural techniques** Application of manure, fertilizers, nutrients and PGRs; Weed control; Biofertilizers, biopesticides; Irrigation methods (drip irrigation, surface irrigation, furrow and border irrigation); Hydroponics; Propagation Methods: asexual (grafting, cutting, layering, budding), sexual (seed propagation), Scope and limitations.	Remember, understand, apply
	Unit 5: Landscaping and garden design Planning and layout (parks and avenues); gardening traditions - Ancient Indian, European, Mughal and Japanese Gardens; Urban forestry; policies and practices.	Remember, understand, analyse
	Unit 6: Floriculture Cut flowers, bonsai, commerce (market demand and supply); Importance of flower shows and exhibitions.	Remember, understand, apply
	Unit 7: Post-harvest technology Importance of post-harvest technology in horticultural crops; Evaluation of quality traits; Harvesting and handlingof fruits, vegetables and cut flowers; Principles, methods of preservation and processing; Methods of minimizing loses during storage and transportation; Food irradiation - advantages and disadvantages; food safety.	Remember, understand, apply
	Unit 8: Disease control and management Field and post-harvest diseases; Identification of deficiency symptoms; remedial measures and nutritional management practices; Crop sanitation; IPM strategies (genetic, biological andchemical methods for pest control); Quarantine practices; Identification of common diseases andpests of ornamentals, fruits and vegetable crops.	Remember, understand, evaluate
	Unit 9: Horticultural crops - conservation and management Documentation and conservation of germplasm; Role of micropropagation and tissue culture techniques; Varieties and cultivars of various horticultural crops; IPR issues; National, international and professional societies and sources of information on horticulture.	Remember, understand, analyse
	Unit 10: Field trip Field visits to gardens, standing crop sites, nurseries, vegetable gardens and horticultural fields at suitable locations.	Remember, understand, analyse, evaluate, Apply

6th Semester (Honours)

Paper Name: Plant MetabolismPaper

Code: BOT-HC-6016

Course Outcome	**Unit No. and Topics**	**Bloom's Taxonomy Domain**
On completion of the course the students will- 1. Have detailed knowledge on the various metabolic processes of plants. 2. Gain knowledge on photosynthesis, carbohydrate and lipid metabolism, carbon oxidation, synthesis of ATP, nitrogen fixation, 3. Understand the mechanism of signal transduction. 4. Gain hands on experience on chromatographic techniques, sugar and protein estimation.	**Unit 1: Concept of metabolism** Introduction, anabolic and catabolic pathways, regulation of metabolism, role of regulatory enzymes; classification, nomenclature and importance of enzyme; concept of coenzyme, apoenzyme and prosthetic group; enzyme inhibition (allosteric, covalent modulation and Isozymes).	Remember, understand
	Unit 2: Carbon assimilation Historical background, photosynthetic pigments, role of photosynthetic pigments (chlorophyllsand accessory pigments), antenna molecules and reaction centres, photochemical reactions, photosynthetic electron transport, PSI, PSII, Q cycle, CO_2 reduction, photorespiration, C4-pathways; Crassulacean acid metabolism; Factors affecting CO_2 reduction.	Remember, understand
	Unit 3: Carbohydrate metabolism Synthesis and catabolism of sucrose and starch.	Remember, understand, apply
	Unit 4: Carbon Oxidation Glycolysis, fate of pyruvate, regulation of glycolysis, oxidative pentose phosphate pathway, oxidative decarboxylation of pyruvate, regulation of PDH, NADH shuttle; TCA cycle, amphibolic role, anaplerotic reactions, regulation of the cycle, mitochondrial electron transport, oxidative phosphorylation, cyanide-resistant respiration, factors affecting respiration.	Remember, understand, apply
	Unit 5: ATP synthesis Mechanism of ATP synthesis, substrate level phosphorylation, chemiosmotic mechanism (oxidative and photophosphorylation), ATP synthase, Boyers conformational model, Racker's experiment, Jagendorf's experiment; role of uncouplers.	Remember, understand
	Unit 6: Lipid metabolism Synthesis and breakdown of triglycerides, β-oxidation, glyoxylate cycle, gluconeogenesis and its role in mobilisation of lipids during seed germination, α oxidation.	Remember, understand, evaluate
	Unit 7: Nitrogen metabolism Nitrate assimilation, biological nitrogen fixation (examples of legumes and non-legumes); Physiology and biochemistry of nitrogen fixation; Ammonia assimilation and transamination.	Remember, understand
	Unit 8: Mechanisms of signal transduction Receptor-ligand interactions; Second messenger concept, Calcium calmodulin, MAP kinase cascade.	Remember, understand

Paper Name: Plant BiotechnologyPaper
Code: BOT-HC-6026

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
On completion of the course the students will- 1. Gain knowledge on technique of tissue culture, cryopreservation, and recombinant plants 2. Have basic knowledge of the processes of transgenic plant development and its importance in present world. 3. Have the idea of cloning of gene, genomic and cDNA librearies. 4. Understand the methodologies and have practical knowledge of PCR, electrophoresis, media preparation for tissue culture etc.	**Unit 1: Plant Tissue Culture** Historical perspective; Composition of media; Nutrient and hormone requirements (role of vitamins and hormones); Totipotency; Organogenesis; Embryogenesis (somatic and zygotic); Protoplast isolation, culture and fusion; Tissue culture applications (micropropagation, androgenesis, virus elimination, secondary metabolite production, haploids, triploids and hybrids; Cryopreservation; Germplasm Conservation).	Remember, understand, apply
	Unit 2: Recombinant DNA Technology Restriction Endonucleases (History, Types I-IV, biological role and application); Restriction Mapping (Linear and Circular); Cloning Vectors: Prokaryotic (pUC 18 and pUC19, pBR322, Ti plasmid, BAC); Lambda phage, M13 phagemid, Cosmid, Shuttle vector; Eukaryotic Vectors (YAC).	Remember, understand, analyze
	Unit 3: Gene Cloning Recombinant DNA, Bacterial Transformation and selectionof recombinant clones, PCR-mediated gene cloning; Gene Construct; construction of genomic and cDNA libraries, screening DNA libraries to obtain gene of interest by genetic selection; complementation, colony hybridization; PCR.	Remember, understand, analyze
	Unit 4: Methods of gene transfer *Agrobacterium*-mediated, Direct gene transfer by Electroporation, Microinjection, Microprojectile bombardment; Selection of transgenics– selectable marker and reporter genes (Luciferase, GUS, GFP).	Remember, understand, apply
	Unit 5: Application of Biotechnology Pest resistant (Bt-cotton); herbicide resistant plants (Round Up Ready soybean); Transgenic crops with improved quality traits (Flavr Savr tomato, Golden rice); Improved horticultural varieties (Moondust carnations); Role of transgenics in bioremediation (Superbug); edible vaccines; Industrial enzymes (Aspergillase, Protease, Lipase); Gentically Engineered Products– Human Growth Hormone; Humulin; Biosafety concerns.	Remember, understand, apply

Paper Name: Industrial and Environmental MicrobiologyPaper
Code: BOT-HE-6016

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
	Unit 1: Scope of microbes in industry and environment	Remember, understand

1. Gain knowledge on use of microbes in industrial and agricultural sector. **2.** Have knowledge on fermentation process and bioreactors. **3.** Gain more knowledge on the fermentation techniques by visiting an industry. **4.** Understand the method of production of different useful products in large scale. **5.** Gain knowledge on use of microbes in remediation of contaminated soil and water. **6.** Have hands on experience in various microbial techniques.	**Unit 2: Bioreactors/Fermenters and fermentation processes** Solid-state and liquid-state (stationary and submerged) fermentations; Batch and continuous fermentations. Components of a typical bioreactor, Types of bioreactors-laboratory, pilotscale and production fermenters;Constantly stirred tank fermenter, tower fermenter, fixed bed and fluidized bed bioreactors and air-lift fermenter. A visit to any educational institute/ industry to see an industrial fermenter, and other downstream processing operations.	Remember, understand, apply
	Unit 3: Microbial production of industrial products Microorganisms involved, media, fermentation conditions, downstream processing and uses; Filtration, centrifugation, cell disruption, solvent extraction, precipitation and ultrafiltration, lyophilization, spray drying; Hands on microbial fermentations for the production and estimation (qualitative and quantitative) of Enzyme: amylase or lipase activity, Organic acid (citric acid or glutamic acid), alcohol (Ethanol) and antibiotic (Penicillin).	Remember, understand, apply
	Unit 4: Microbial enzymes of industrial interest and enzyme immobilization Microorganisms for industrial applications and hands on screening microorganisms for casein hydrolysis; starch hydrolysis; cellulose hydrolysis. Methods of immobilization, advantages and applications of immobilization, large scale applications of immobilized enzymes (glucose isomerase and penicillin acylase).	Remember, understand, apply
	Unit 5: Microbes and quality of environment Distribution of microbes in air; Isolation of microorganisms from soil, air and water.	Remember, understand, apply
	Unit 6: Microbial flora of water Water pollution, role of microbes in sewage and domestic waste water treatment systems. Determination of BOD, COD, TDS and TOC of water samples; Microorganisms as indicators of water quality, check coliform and fecal coliform in water samples.	Remember, understand, analyze
	Unit 7: Microbes in agriculture and remediation of contaminated soils Biological fixation; Mycorrhizae; Bioremediation of contaminated soils. Isolation of root nodulating bacteria, arbuscular mycorrhizal colonization in plant roots.	Remember, understand, evaluate

Paper Name: Analytical Techniques in Plant SciencesPaper Code: BOT-HE-6026

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
On completion of the course the students will- 1. Gain knowledge on microscopy and its application 2. Understand the instrumentation of centrifuge, spectroscopy, chromatography, electrophoresis. 3. Understand biostatistics and its different calculation techniques like mean, median, mode, chi-square test etc.	**Unit 1: Imaging and related techniques** Principles of microscopy; Light microscopy;Fluorescence microscopy; Confocal microscopy; Use of fluorochromes: (a) Flow cytometry (FACS); (b) Applications of fluorescence microscopy: Chromosome banding, FISH, chromosome painting; Transmission and Scanning electron microscopy – sample preparation for electron microscopy, cryofixation, negative staining, shadow casting, freeze fracture, freeze etching.	Remember, understand, apply
	Unit 2: Cell fractionation Centrifugation: Differential and density gradient centrifugation, sucrose density gradient, CsCl2gradient, analytical centrifugation, ultracentrifugation, marker enzymes.	Remember, understand, apply
	Unit 3: Radioisotopes Use in biological research, auto-radiography, pulse chase experiment.	Remember, understand, apply
4. Have practical experience in almost all the techniques.	**Unit 4: Spectrophotometry** Principle and its application in biological research.	Remember, understand, apply
	Unit 5: Chromatography Principle; Paper chromatography; Column chromatography, TLC, GLC, HPLC, Ion-exchange chromatography; Molecular sieve chromatography; Affinity chromatography.	Remember, understand, analyze, apply
	Unit 6: Characterization of proteins and nucleic acids Mass spectrometry; X-ray diffraction; X-ray crystallography; Characterization of proteins and nucleic acids; Electrophoresis: AGE, PAGE, SDS-PAGE.	Remember, understand, apply
	Unit 7: Biostatistics Statistics, data, population, samples, parameters; Representation of Data: Tabular, Graphical; Measures of central tendency: Arithmetic mean, mode, median; Measures of dispersion: Range, mean deviation, variation, standard deviation; Chi-square test for goodness of fit.	Remember, understand, evaluate, apply

COURSE OUTCOME

BSc Botany (Regular) Syllabus (CBCS)

1st Semester (Regular)

Paper Name: Biodiversity Microbes, Algae, Fungi and Archegoniate) Paper Code: BOT-RC-1016

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain

1. Understand the diversity among Microbes. 2. Know the systematic, morphology and structure of Algae.Learned the life cycle pattern of Algae. 3. Understand the life cycle pattern of Fungi.Understand the useful and harmful activities of Fungi. 4. Understand the Microbial world and **Archegoniate** diversity. 5. Understand the life cycle pattern of Bryophytes Know the Importance of Pteridophytes. 6. Understand the life cycle pattern of Pteridophytes 7. Know the importance and uses of Gymnosperms.	**Unit 1: Microbes** Viruses – Discovery, general structure, replication (general account), DNA virus (T-phage); Lytic and lysogenic cycle, RNA virus (TMV); Economic importance; Bacteria – Discovery, General characteristics and cell structure; Reproduction – vegetative, asexual and recombination (conjugation, transformation and transduction); Economic importance.	Remember, understand
	Unit 2 : Algae General characteristics; Ecology and distribution; Range of thallus organization and reproduction; Classification of algae; Morphology and life-cycles of the following: *Nostoc, Chlamydomonas, Oedogonium, Vaucheria, Fucus, Polysiphonia*. Economic importance of algae.	Remember, understand
	Unit 3: Fungi Introduction- General characteristics, ecology and significance, range of thallus organization, cell wall composition, nutrition, reproduction and classification; True Fungi- General characteristics, ecology and significance, life cycle of Rhizopus (Zygomycota) Penicillium, Alternaria (Ascomycota), Puccinia, Agaricus (Basidiomycota); Symbiotic AssociationsLichens: General account, reproduction and significance; Mycorrhiza: ectomycorrhiza and Gusyllabus.in 8 endomycorrhiza and their significance	Remember, understand
	Unit 4: Introduction to Archegoniate Unifying features of archegoniates, Transition to land habit, Alternation of generations.	Remember, understand
	Unit 5: Bryophytes General characteristics, adaptations to land habit, Classification, Range of thallus organization. Classification (up to family), morphology, anatomy and reproduction of Marchantia and Funaria. (Developmental details not to be included). Ecology and economic importance of bryophytes with special mention of Sphagnum.	Remember, understand
	Unit 6: Pteridophytes General characteristics, classification, Early land plants (*Cooksonia and Rhynia*). Classification (up to family), morphology, anatomy and reproduction of Selaginella, Equisetum and Pteris. (Developmental details not to be included). Heterospory and seed habit, stelar evolution. Ecological and economical importance of Pteridophytes.	Remember, understand
	Unit 7: Gymnosperms General characteristics, classification. Classification (up to family), morphology, anatomy and reproduction of Cycas and Pinus. (Developmental details not to be included). Ecological and economical importance.	Remember, understand

2nd Semester (Regular)

Paper Name: Plant Ecology and Taxonomy Paper Code: BOT- RC-2016

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
1. Understand the diversity of higher plants. 2. Learned the ecological factors. 3. Know the plant communities 4. Learned the ecosystem 5. Understand the geographical zones. 6. Gain knowledge on plant taxonomy 7. Gain knowledge onplant identification 8. Gain knowledge on taxonomic evidence and taxonomic hierarchy 9. Gain knowledge on plant nomenclature 10. Gain knowledge on plant classification 11. Gain knowledge on biometrics, phonetics.	**Unit 1: Introduction**	Remember, understand
	Unit 2: Ecological factors Soil: Origin, formation, composition, soil profile. Water: States of water in the environment, precipitation types. Light and temperature: Variation Optimal and limiting factors; Shelford law of tolerance. Adaptation of hydrophytes and xerophytes.	Remember, understand
	Unit 3: Plant communities Characters; Ecotone and edge effect; Succession; Processes and types.	Remember, understand
	Unit 4: Ecosystem Structure; energy flow trophic organization; Food chains and food webs, Ecological pyramids production and productivity; Biogeochemical cycling; Cycling of carbon, nitrogen and Phosphorous	Remember, understand
	Unit 5: Phytogeography Principal biogeographical zones; Endemism	Remember, understand
	Unit 6: Introduction to plant taxonomy Identification, Classification, Nomenclature.	Remember, understand
	Unit 7: Identification Functions of Herbarium, important herbaria and botanical gardens of the world and India; Documentation: Flora, Keys: single access and multi-access	Remember, understand
	Unit 8 : Taxonomic evidences from palynology, cytology, phytochemistry and molecular data.	Remember, understand
	Unit 9: Taxonomic hierarchy Ranks, categories and taxonomic groups	Remember, understand
	Unit 10: Botanical nomenclature Principles and rules (ICN); ranks and names; binominal system, typification, author citation, valid publication, rejection of names, principle of priority and its limitations.	Remember, understand
	Unit 11: Classification Types of classification-artificial, natural and phylogenetic. Bentham and Hooker (upto series), Engler and Prantl (upto series).	Remember, understand
	Unit 12: Biometrics, numerical taxonomy and cladistics Characters; variations; OTUs, character weighting and coding; cluster analysis; phenograms, cladograms (definitions and differences).	Remember, understand

6th Semester (Regular)
Paper Name: Ethnobotany
Paper Code: BOT-SE-6014

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
1. Understand the diversity of concept among the traditional knowledge. 2. Know the systematic, study on different tribe and knowledge found various pockets. 3. Learned from traditional concept the discovery of modern medicine. 4. Understand the life cycle pattern of different tribes and protect them from the behaviors lost in modernism.	**Unit 1: Ethnobotany** Introduction, concept, scope and objectives; Ethnobotany as an interdisciplinary science. The relevance of ethnobotany in the present context; Major and minor ethnic groups or Tribals of India, and their life styles. Plants used by the tribals: a) Food plants b) intoxicants and beverages c) Resins and oils and miscellaneous uses.	Remember, understand
	Unit 2: Methodology of Ethnobotanical studies a) Field work b) Herbarium c) Ancient Literature d) Archaeological findings e) temples and sacred places.	Remember, understand
	Unit 3: Role of ethnobotany in modern Medicine Medico-ethnobotanical sources in India;Significance of the following plants in ethno botanical practices (along with their habitat and morphology) a) *Azadiractha indica b) Ocimum sanctum c) Vitex negundo. d) Gloriosa superba* e) *Tribulus terrestris f) Pongamia pinnata g) Cassia auriculata h) Indigofera tinctoria*. Role of ethnobotany in modern medicine with special example *Rauvolfia sepentina, Trichopus zeylanicus, Artemisia,Withania.* Role of ethnic groups in conservation of plant genetic resources. Endangered taxa and forest management (participatory forest management).	Remember, understand
	Unit 4: Ethnobotany and legal aspects Ethnobotany as a tool to protect interests of ethnic groups. Sharing of wealth concept with few examples from India. Biopiracy, Intellectual Property Rights and Traditional Knowledge.	Remember, understand

Department of Chemistry

PROGRAMME SPECIFIC OUTCOME (B Sc Chemistry)

- Understand the chemical thermodynamics and kinetics.
- Understand electrochemistry of organic molecules and their reaction mechanism.
- Understand the states of matter.
- Knowledge of electrochemistry.
- Knowledge of few aliphatic and aromatics organic compounds- their preparation, properties & reactions (hydrocarbon, alkyl halides, alcohol, carboxylic acid, amines, benzene phenols etc.)
- Understand the classical approach of atomic structure & theories of bonding, nature and properties of non-transition and transition elements.
- Empowers students to know the basic of quantum chemistry and quantum approach of atomic structure and chemical bonding.
- Understanding the phase and chemistry of surfaces and collides.
- To impart the knowledge of coordination compounds in terms of bonding, stability, reactions and electronic spectra.
- Understand the theories of molecular spectroscopy and ability to use the theories for studying common molecule.
- Ability to understand the role of metal iron & other essential elements in biology.
- To impart the knowledge of statistical thermodynamics.
- Understanding the photochemistry- its physical importance and use in organic chemistry.
- To impart the knowledge of few natural products and the drug.
- Ability to analyze organic compounds and inorganic salt intense.
- Ability to estimate inorganic ions by volumetric, complexometric, gravimetric, redox and precipitation method.
- Ability to prepare inorganic complex and organic compounds.
- Ability to determine various physical properties of matters (like viscosity, surface tension, solubility, molecular mass, specific rotation etc.).
- Ability to undertake project work.

COURSE OUTCOME

BSc Chemistry (Honours) Syllabus (CBCS)

Semester-I (Honours)

Paper CHE-HC-1016: Inorganic Chemistry-I

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
On successful completion of the course, students would have clear understanding of the concepts related to atomic and molecular structure, chemical bonding, periodic properties and redox behaviour of chemical species. Students will also have hands on experience of standard solution preparation in different concentration units and learn volumetric estimation through acid-base and redox reactions.	Atomic Structure	Remember, understand, apply
	Periodicity of Elements	Remember, understand, apply
	Chemical Bonding	Remember, understand, apply
	Oxidation-Reduction	Remember, understand, apply
	LAB: (A) Titrimetric Analysis (B) Acid-Base Titrations (C) Oxidation-Reduction Titrimetric	Understand and apply

Paper CHE-HC-1026 Physical Chemistry I

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
Upon successful completion, students will have the knowledge and skills to identify and describe Gaseous state, Liquid state, Molecular and Crystal Symmetry and Ionic equilibria. In gaseous state unit the students will learn the kinetic theory of gases, ideal gas and real gases. In liquid state unit, the students are expected to learn the qualitative treatment of the	Gaseous state	Remember, understand, apply, evaluate
	Liquid state	Remember, understand, apply, evaluate
	Molecular and Crystal Symmetry, Elementary idea, Bravais lattice.	Remember, understand, apply, evaluate
	Solid state	Remember, understand, apply, evaluate
	Ionic equilibria	Remember, understand, apply, evaluate

structure of liquid along with the physical properties of liquid, viz, vapour pressure, surface tension and viscosity. In the molecular and crystal symmetry unit they will be introduced to the elementary idea of symmetry which will be useful to understand solid state chemistry and group theory in some higher courses. In solid state unit the students will learn the basic solid state chemistry application ofx-ray crystallography for the determination of some very simple crystal structures. The students will also learn degree of ionization, $P^{H,}$ salt hydrolysis, buffer solution in another important topic "ionic equilibria" in this course.	Lab: 1. Surface tension measurements. 2. Viscosity measurement using Ostwald's viscometer. 3. Indexing of a given powder diffraction pattern of a cubic crystalline system. 4. pH meter	Remember understand, apply

Semester- II (Honours)

Paper CHE-HC-2016: Organic Chemistry I

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
Students will be able to identify different classes of organic compounds, like cycloalkanes, aromatic hydrocarbon and describe their reactivity and explain/ analyse their chemical and stereo chemical aspects.	1. Basics of Organic Chemistry	Remember, understand
	2. Stereochemistry	Remember, understand, apply
	3. Chemistry of Aliphatic Hydrocarbons	Remember, understand
	4. Carbon-Carbon sigma bonds	Remember, understand, apply
	5. Carbon-Carbon pi bonds	Remember, understand, apply
	6. Cycloalkanes and Conformational Analysis	Remember, understand, apply
	6. Aromatic Hydrocarbons	Remember, understand, apply

	Lab: 1. Checking the calibration of thermometer. 2. Purification of organic compounds. 3. Determination of the melting points. 4. Effect of impurities on the melting point. 5. Chromatographic Separation of mixture.	Remember, understand, apply

Paper CHE-HC-2026: Physical Chemistry- II

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
Upon successful completion, the students are expected to learn laws of thermodynamics, thermochemistry, thermos-dynamic functions, relations between thermodynamic properties, Gibbs Helmholtz equation, Maxwell relations etc. Moreover, the students are expected to learn partial molar quantities, chemical equilibrium, solutions and colligative properties. After completion of this course, the students will be able to understand the chemical systems from thermodynamic point of view.	Chemical Thermodynamics	Remember, understand, apply, evaluate
	Systems of Variable Composition	Remember, understand, apply, evaluate
	Chemical Equilibrium	Remember, understand, apply, evaluate
	Solutions and Colligative Properties	Remember, understand, apply, evaluate
	Lab: Thermochemistry	Remember, understand, apply

Semester-III (Honours)

Paper CHE-HC-3016: Inorganic Chemistry-II

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
On successful completion of this course students would be able to apply	General Principles of Metallurgy	Remember, understand

theoretical principles of redox chemistry in the understanding of metallurgical processes. 18 Students will be able to identify the variety of s and p block compounds and comprehend their preparation, structure, bonding, properties and	Acids and Bases	Remember, understand, apply
	Chemistry of s and p Block Elements	Remember, understand, apply
	Noble Gases	Remember, understand
	Inorganic Polymers	Remember, understand
	LAB: (A) Iodo / Iodimetric Titrations	Remember, understand, apply
	(B) Inorganic preparations	Remember, understand, apply

Paper CHE-HC-3026: Organic Chemistry-II

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
Students will be able to describe and classify organic compounds in terms of their functional groups and reactivity.	1. Chemistry of Halogenated Hydrocarbons	Remember, understand
	2. Alcohols, Phenols, Ethers and Epoxides	Remember, understand
	3. Carbonyl Compounds	Remember, understand
	4. Carboxylic Acids and their Derivatives	Remember, understand
	5. Sulphur containing compounds	Remember, understand
	Lab: 1. Test of functional groups	Remember, understand, apply
	2. Organic preparations	Remember, understand, apply

Paper CHE-HC-3036 Physical Chemistry- III

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
Upon successful completion, the students are expected to learn phase rule and its application in some specific systems. They will also learn rate laws of chemical transformation, experimental methods of rate law determination, steady state	Phase Equilibria	Remember, understand, apply, evaluate

approximation etc. in chemical kinetics unit. After attending this course, the students will be able to understand different types of surfaces adsorption processes and basics of catalysis including enzyme catalysis, acid base catalysis and particle size effect on catalysis.	Chemical Kinetics	Remember, understand, apply, evaluate
	Catalysis	Remember, understand, apply, evaluate
	Surface chemistry	Remember, understand, apply, evaluate
	Lab: • Phase equilibria • Distribution of acetic/ benzoic acid • Study of the kinetics • Adsorption	Remember, understand, apply, evaluate

Paper CHE-SE-3034: Basic Analytical Chemistry

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
Upon completion of this course, students shall be able to explain the basic principles of chemical analysis, design/implement microscale and semimicro experiments, record, interpret and analyse data following scientific methodology.	Introduction	Remember, understand
	Analysis of soil	Remember, understand
	Analysis of water	Remember, understand, apply
	Analysis of food products	Remember, understand, apply
	Chromatography	Remember, understand, apply

Semester IV(Honours)

Paper CHE-HC-4016: Inorganic Chemistry-III

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
On successful completion, students will be able name coordination compounds according to IUPAC, explain bonding in	Coordination Chemistry:	Remember, understand, apply
	Transition Elements:	Remember, understand.

this class of compounds, understand their various properties in terms of CFSE and predict reactivity. Students will be able to appreciate the general trends in the properties of transition elements in the periodic table and identify differences among the rows. Throughthe experiments students not only will beable to prepare, estimate or separate metal complexes/compounds but also will be able to design experiments independently which they should be able to apply if and when required.	Lanthanoids and Actinoids:	Remember, understand.
	Bioinorganic Chemistry	Remember, understand.
	LAB: (A) Gravimetric Analysis (B) Inorganic Preparations (C) Chromatography of metal ions	Understand and apply

Paper CHE-HC-4026: Organic Chemistry-III

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
Students will be able to identify and classify different types of N-based derivatives, alkaloids and heterocyclic compounds, can explain their structures, mechanism and reactivity. They will be able to critically examine the synthesis and reactions mechanism.	1. Nitrogen Containing Functional Groups	Remember, understand
	2. Polynuclear Hydrocarbons	Remember, understand
	3. Heterocyclic Compounds	Remember, understand
	4. Alkaloids	Remember, understand
	5. Terpenes	Remember, understand
	Lab: 1. Detection N, S, halogens in organic compounds. 2. Functional group test for nitro, amine and amide groups. 3. Qualitative analysis of unknown organic compounds	Remember, understand, apply

Paper CHE-HC-4036 Physical Chemistry- IV

Course Outcome	Unit No. And Name	Bloom's Taxonomy Level
In this course, the students will learn theories of conductance and electrochemistry. Students will also understand some very important topics such as solubility and solubility products, ionic products of water, conductometric titrations etc. The students are also	Conductance	Remember, understand, apply, evaluate
	Electrochemistry	Remember, understand, apply, evaluate
	Electrical & Magnetic Properties of Atoms and Molecules	Remember, understand, apply, evaluate

expected to understand the various parts of electrochemical cells along with Faraday's Laws of electrolysis. The students will also gain basic theoretical idea of electrical & magnetic properties of atoms and molecules.	Lab: Conductometry: I. Determination of cell constant	Remember, understand, apply, evaluate
	II. Determination of eqv. conductance, degree of dissociation, dissociation constant of a weak acid.	
	III Conductometric Titrations	
	Potentiometry	Remember, understand, apply, evaluate

Paper CHE-SE-4024: Green Methods in Chemistry

Course Outcome	Unit No. And Name	Bloom's Taxonomy Level
Students shall be able to describe and evaluate chemical products and processes from environmental perspective, define and propose sustainable solutions and criticallyassess the methods for waste reduction and recycling. Tools of Green chemistry, Twelve principles of Green Chemistry, with examples.	1 A green synthesis of ibuprofen	Remember, understand,
	2 Surfactants for Carbon Dioxide	Remember, understand,
	3 Environmentally safe antifoulant.	Remember, understand, apply,
	4 CO_2 as an environ-mentally friendly blowing agent	Remember, understand, apply
	5 Using a catalyst to improve the delignifying (bleaching) activity of hydrogen peroxide.	Remember, understand, apply
	6 A new generation of environmentally advanced preservative	Remember, understand,
	7. Right fit pigment	Remember, understand, apply
	8 Development of a fully recyclable carpet	Remember, understand

Semester- (V) (Honours)

Paper CHE-HC-5016: Organic Chemistry-IV

Course Outcome	Unit No. And Name	Bloom's Taxonomy Level
Students will be able to explain/describe the important features of nucleic acids, amino acids and enzymes and develop their ability to examine their properties and applications.	1. Nucleic Acids	Remember, understand
	2. Amino Acids, Peptides and Proteins	Remember, understand, apply
	3. Enzymes	Remember, understand
	4. Lipids	Remember, understand, apply
	5. Concept of Energy in Biosystems	Remember, understand, apply,
	6. Pharmaceutical Compounds: Structure and Importance	Remember, understand, apply
	Lab: • Estimation of glycine • Study of the titration curve of glycine. • Estimation of proteins by Lowry's method • Study of the action of salivary amylase • Effect of temperature on the action of salivary amylase. • Saponification value of an oil or a fat. • Determination of Iodine number of an oil/ fat • Isolation and characterization of DNA from onion/ cauliflower/ peas	Remember, understand, apply

Paper CHE-HC-5026 Physical Chemistry V

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
After completion of this course the students are expected to understand the application of quantum mechanics in some simple chemical systems such as hydrogen atom or hydrogen like ions. The students will also learn chemical bonding in some simple molecular systems. They will able to understand the basics of various kinds of spectroscopic	Quantum Chemistry:	Remember, understand, apply, evaluate
	Molecular Spectroscopy: Rotation spectroscopy	Remember, understand, apply, evaluate
	Vibrational spectroscopy:	Remember, understand, apply, evaluate
	Raman spectroscopy:	Remember, understand, apply, evaluate

techniques and photochemistry.	Electronic spectroscopy:	Remember, understand, apply, evaluate
	Photochemistry	Remember, understand, apply
	Lab: • UV/Visible spectroscopy • Verify Lambert-Beer's law • Determine the conc. of KMnO4 and K2Cr2O7 in a mixture. • Study the kinetics of interaction • Analysis of the given vibration-rotation spectrum of HCl(g)	Remember, understand, apply

Paper CHE-HE-5056 Polymer Chemistry- V

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
After completion of this course the students will learn the definition and classifications of polymers, kinetics of polymerization, molecular weight of polymers, glass transition temperature, and polymer solutions etc. They also learn the brief introduction of preparation, structure and properties of some industrially important and technologically promising polymers.	Introduction and history of polymeric materials	Remember, understand
	Functionality and its importance	Remember, understand
	Kinetics of Polymerization	Remember, understand, apply, evaluate
	Crystallization and crystallinity	Remember, understand, apply
	Nature and structure of polymers and Determination of molecular weight of polymers	Remember, understand, apply, evaluate
	Glass transition temperature (Tg) and determination of Tg.	Remember, understand, evaluate
	Polymer Solution and Properties of Polymers.	Remember, understand, apply
	Lab: • Polymer synthesis. • Polymer characterization. • Polymer analysis.	Remember, understand, apply

Paper CHE-HE-5026 Analytical Methods in Chemistry- V

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
On successful completion students will be have theoretical understanding about choice of various analytical techniques used for qualitative and quantitative characterization of samples. At the same time through the experiments students will gain hands on experience of the discussed techniques. This will enable students to take judicious decisions while analysing different samples.	Qualitative and quantitative aspects of analysis	Remember, understand, apply
	Optical methods of analysis: UV-Visible Spectrometry	Remember, understand, apply
	Basic principles of quantitative analysis	Remember, understand, apply
	Infrared Spectroscopy	Remember, understand, apply
	Flame Atomic Absorption & Emission Spectrometry	Remember, understand, apply
	Thermal methods of analysis	Remember, understand, apply, evaluate
	Electroanalytical methods	Remember, understand, apply,
	Separation techniques	Remember, understand, apply
	Lab: 1. • Separation Techniques • Solvent Extractions • Analysis of soil • Ion exchange • Spectrophotometry	Remember, understand, apply

Semester-VI (Honours)

Paper CHE-HC-6016: Inorganic Chemistry-IV

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
By studying this course, the students will be expected to learn about how ligand substitution and redox reactions take place in coordination complexes. Students will also learn about organometallic compounds, comprehend their bonding, stability, reactivity and uses. They will be	Mechanism of Inorganic Reactions	Remember, understand, apply
	Organometallic Compounds	Remember, understand
	Metal Carbonyls	Remember, understand
	Metal Alkyls	Remember, understand

familiar with the variety of catalysts based on transition metals and their application in industry. On successful completion, students in general will be able to appreciate the use of	Transition Metals in Catalysis	Remember, understand
	Theoretical Principles in Qualitative Inorganic Analysis (H_2S Scheme)	Remember, understand, apply

concepts like solubility product, common ion effect, pH etc. in analysis of ions and how a clever design of reactions, it is possible to identify the components in a mixture. With the experiments related to coordination compound synthesis, calculation of 10Dq, controlling factors etc. will make the students appreciate the concepts of theory in experiments.	LAB: (A) Qualitative semimicro analysis of mixtures. (B) Synthesis of complexes. (C) Determination of ε_{max} value from UV-visible spectra (D) Measurement of 10 Dq by spectrophotometric method, verification of spectrochemical series.	Understand and apply
	(B) Inorganic preparations	Remember, understand, apply

Programme Outcome: B. Voc. (Medical Laboratory Technician)

The programme will train students in areas such as – phlebotomy, microbiology, biochemistry, blood bank, clinical pathology, haematology, histopathology and cytopathology, research etc.

The Programme is focused to providing knowledge, understanding and skill which will incorporate with specific job roles in healthcare sector and also generate employability to the youths who can be directly absorbed in various private hospitals, Nursing homes, Diagnostic laboratories, model hospitals, paramedical institutions, blood bank, research labs, government hospitals etc.

DEPARTMENT OF MEDICAL LABORATORY TECHNOLOGY

PROGRAMME SPECIFIC OUTCOME (B. VOC. MLT)

- Theoretical knowledge, understanding and skills to draw blood specimens from patients using correct techniques, proper labelling of the specimens for correct identification and transporting the blood specimen to the laboratory.
- Theoretical knowledge, understanding and skills required to plan and organise work to meet requirements.
- Theoretical knowledge and understanding about how to assist before, during and after collection of the blood specimen.
- Theoretical knowledge, understanding and skills in updating patient records.
- Theoretical knowledge, understanding and skills to provide technical information about the test results to physicians, family members, or researchers.
- Theoretical knowledge, understanding and skills to prepare reagents and maintain stocks.
- Theoretical knowledge, understanding and skills to analysis of body fluids, including blood, urine, cerebrospinal fluid or tissue samples to determine the presence of normal or abnormal components.
- Theoretical knowledge, understanding and skills to set up, calibrate, operate, clean and maintain equipment used in quantitative or qualitative analysis, such as spectrophotometers, calorimeters, flame photometers and computer-controlled analysers.
- Theoretical knowledge, understanding and skills to assist in fine needle aspiration cytology (FNAC).
- Theoretical knowledge, understanding and skills to document the data and analysis of medical tests and clinical results into a patient’s medical record/ computer for storage.

- Theoretical knowledge, understanding and skills to check vitals to assess suitability of potential donor to donate blood based on their medical history.
- Theoretical knowledge, understanding and skills to support in drawing blood from donors.
- Theoretical knowledge, understanding and skills to support in screening donated blood for presence of any infection, blood type and blood group etc.
- Theoretical knowledge, understanding and skills to support in checking compatibility of blood and performing relevant documentation before issuing out the blood
- Theoretical knowledge, understanding and skills to supervise/train the assistants, or other medical laboratory workers engaged in laboratory testing.
- Theoretical knowledge, understanding and skills to perform gross examination by describing and trimming the tissue specimen (biopsy) to proper size, tissue fixation, tissue processing, embedding or blocking, tissue sectioning and staining.
- Theoretical knowledge, understanding and skills required of a Histotechnician to maintain and operate the laboratory equipment like microtones, cryostat etc.
- Theoretical knowledge, understanding and skills required of an Allied Health Professional to recognise the boundaries of the role and responsibilities and working within the level of competence in accordance with legislation, protocols and guidelines.
- Theoretical knowledge, understanding, skills required of an Allied Health Professional to work effectively with other people and integrate one's work of other people.
- Theoretical knowledge, understanding and skills to follow all safety and infection control procedures.
- Theoretical knowledge, understanding and skills to manage bio-medical waste.
- Theoretical knowledge, understanding and skills required of an Allied Health professional to practice code of conduct setup by the healthcare provider.

COURSE OUTCOME

B. VOC. (MLT) SYLLABUS (CBCS)

1st Sem (Vocational)

Paper Name: Basic Anatomy and Physiology

Paper Code: MLT-VC-1016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Understanding the basics and fundamentals of cells, tissues, different systems of the body including GI system, Respiratory system, cardiovascular system, urinary system, reproductive system endocrine system etc. ➢ Further the students have to learn about the medical terminology used in human anatomy, functions of different systems of human.	Unit 1: Introduction to human Anatomy and Physiology	Remember, understand, analysis
	Unit 2: Cell and its organelles	Remember, understand, analysis
	Unit 3: Tissues	Remember, understand, analysis
	Unit 4: Gastro-intestinal System	Remember, understand, analysis
	Unit 5: Respiratory System	Remember, understand, analysis
	Unit 6: Cardiovascular system and Lymphatic System	Remember, understand, analysis
	Unit 7: Musculoskeletal system	Remember, understand, analysis
	Unit 8: Different types of body fluids, secretions and excretions	Remember, understand, analysis
	Unit 9: Urinary system	Remember, understand, analysis
	Unit 10: Reproductive system	Remember, understand, analysis
	Unit 11: Endocrine system	Remember, understand, analysis
	Unit 12: Nervous system	Remember, understand, analysis
	Unit 13: Sensory organs	Remember, understand, analysis

Paper Name: Biochemistry

Paper Code: MLT-VC-1026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will be able to identify various laboratory glassware, plastic ware and instruments along with care and maintenance of equipments and apparatus used in the laboratory. ➢ The students have understood the phlebotomist's duties towards identification of patient and taking their consents before withdrawing blood specimens. In addition to that preparing appropriate site for blood samples.	Unit 1: Brief introduction to biochemistry and laboratory apparatus	Understand, remember, apply, analyse
	Unit 2: Instruments (theory & demonstration) Diagrams to be drawn	Understand, apply, analyse
	Unit 3: Standard solutions	Understand, apply, evaluate, analyse
	Unit 4: Preparations of solutions	Understand, apply, evaluate, analyse
	Unit 5: Role of phlebotomy technician	Understand, apply, evaluate, analyse
	Unit 6: Specimens	Remember, understand, evaluate, analyse

Paper Name: Pathology

Paper Code: MLT-VC-1036

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will to know about various blood collection equipments, different types of blood sample collections, need	Unit 1: Introduction to haematology	Understand, remember, apply, analyse
	Unit 2: Blood and anaemia	Understand, remember, apply, analyse
	Unit 3: Haemostasis	Understand, remember, apply, evaluate, analyse

to know about color coded vacutainers, anticoagulants. ➢ Further the students will to know basics about blood and other samples with suitable collections and various tests. ➢ The students will able to know about various laboratory hazards, safety and first-aid and personal hygiene.	Unit 4: Clinical Pathology	Understand, remember, apply, evaluate, analyse
	Unit 5: Introduction to immunohaematology	Understand, remember, apply, evaluate, analyse
	Unit 6: Personnel hygiene	Remember, understand, apply, analyse
	Unit 7: Safety and first aid	Remember, understand, apply, analyse

2nd Sem (Vocational)

Paper Name: Microbiology I

Paper Code: MLT-VC-2016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Student will have basic knowledge about various microorganisms like bacteria and its growth & nutrition, virus, parasites and identify bacteria, preparation of culture medium to grow bacteria. ➢ Students will be able to perform various sterilization methods; they will understand hospital born disease and its prevention and control.	Unit 1: Introduction to microbiology, morpholohy of bacteria	Understand, remember, apply, analyse
	Unit 2: Growth and nutrition of bacteria	Understand, remember, apply, analyse
	Unit 3: Sterilization and disinfection	Understand, remember, apply, evaluate, analyse
	Unit 4: Systemic bacteriology	Understand, remember, apply
	Unit 5: Parasitology	Understand, remember, apply
	Unit 6: Virology	Understand, remember, apply
	Unit 7: Infection control and prevention	Understand, remember, apply, analyse

Paper Name: Biochemistry II

Paper Code: MLT-VC-2026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will be able to understand basics about biochemistry of carbohydrates, lipids, vitamins, enzymes. ➢ Further they will be able to learn code of conduct for medical laboratory. ➢ Students will have understanding about the importance of urea, creatinine and uric acid. ➢ The students will be able to perform various blood and urine tests.	Unit 1: Basic sensitization to biochemistry and clinical biochemistry	Understand, remember, apply
	Unit 2: Blood and urine chemistry	Understand, remember, apply
	Unit 3: Carbohydrates	Understand, remember, analyse
	Unit 4: Introduction to metabolism	Understand, remember, analyse
	Unit 5: Lipids	Understand, remember, analyse
	Unit 6: Vitamins	Understand, remember, analyse
	Unit 7: Biophysics	Understand, remember, apply, analyse
	Unit 8: Enzymes	Understand, remember, analyse
	Unit 9: Clinical importance of urea, uric acid and creatinine	Understand, remember, analyse, evaluate
	Unit 10: Sensitization on current best practices in laboratory	Remember, understand, apply

Paper Name: Pathology II

Paper Code: MLT-VC-2036

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will be able to understand basics about the production of various blood cells, haemostasis and coagulation and related	Unit 1: Haematology	Understand, remember, analyse
	Unit 2: Haemostasis and coagulation	Understand, remember, apply, analyse
	Unit 3: Special Haematological tests	Understand, remember, apply, analyse

tests, slide preparation for blood and bone marrow for normal and abnormal cells. ➢ Students will have understanding about the basics of histo & cytopathology. ➢ Further the students will have understanding about various biomedical waste, safe handling and management of biomedical waste.	Unit 4: Bone marrow biopsy study	Understand, remember, apply, analyse
	Unit 5: Histopathology	Understand, remember, apply, analyse
	Unit 6: Cytology and cytopathology	Understand, remember, apply, analyse
	Unit 7: Biomedical waste management	Understand, remember, apply, analyse

3rd Sem (Vocational)

Paper Name: Microbiology II

Paper Code: MLT-VC-3016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will be able to understand about various bacteria & fungus and diseases caused by it and lab diagnosis. Further the students will learn about various staining techniques for bacterial cell wall, bacterial capsule, fungal staining etc.	Unit 1: Medical bacteriology	Understand, remember, apply, analyse
	Unit 2: Medical Mycology	Understand, remember, apply, analyse
	Unit 3: Staining techniques	Understand, remember, apply, analyse, evaluate

Paper Name: Biochemistry II

Paper Code: MLT-VC-3026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following-	Unit 1: Elementary knowledge of acid base balance	Understand, remember, apply, analyse

➢ Students will understand about the basics of Acid base balance, food and nutrition and its importance. ➢ Students will understand lipids, amino acids and protein metabolism.	Unit 2: Nutrition	Understand, remember, analyse
	Unit 3: Lipids	Understand, remember, analyse
	Unit 4: Amino acids	Understand, remember, analyse
	Unit 5: Proteins	Understand, remember, analyse
	Unit 6: Metabolism of proteins	Understand, remember, analyse
	Unit 7: Metabolism of lipids	Understand, remember, analyse

Paper Name: Pathology II

Paper Code: MLT-VC-3036

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will know about haemoglobin and different types of anaemia, different types of blood cell counts. ➢ Further they will learn about basics of histotechniques and body fluid analysis.	Unit 1: Sample collections, RNC, WBC, platelets, reticulocytes	Understand, remember, apply, analyse
	Unit 2: Haemoglobins	Understand, remember, analyse
	Unit 3: Anaemia – definition, classification, various types of anaemia with pathogenesis, clinical significance, laboratory investigations etc.	Understand, remember, analyse
	Unit 4: Histopathology	Understand, remember, analyse
	Unit 5: Special staining techniques	Understand, remember, apply, analyse
	Unit 6: Analytical laboratory testing procedures	Understand, remember, apply, analyse, evaluate

4th Sem (Vocational)

Paper Name: Microbiology III

Paper Code: MLT-VC-4016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will understand about various parasites and its types and the disease caused and various virus its transmission. ➢ Students will be able to diagnose various parasitic and viral disease. ➢ Students will be able to identify different blood and stool parasites.	Unit 1: Introduction to parasitology	Understand, remember, analyse
	Unit 2: Morphology, life cycle, pathogenicity and laboratory diagnosis of Protozoa	Understand, remember, analyse, apply
	Unit 3: Morphology, life cycle, pathogenicity and laboratory diagnosis of Helminths	Understand, remember, analyse, apply
	Unit 4: Virus	Understand, remember, analyse

Paper Name: Biochemistry IV

Paper Code: MLT-VC-4026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will learn about hormone and its mechanism, different enzymes and elevated levels in various disease conditions, further the students will know about the functions of liver, kidney, heart, thyroid and tests to evaluate these organs.	Unit 1: Hormones	Understand, remember, analyse
	Unit 2: Clinical enzymology	Understand, remember, apply, analyse, evaluate
	Unit 3: Organ function test (Liver function, renal function, gastric function, thyroid function, lipid profile test)	Understand, remember, analyse, apply, evaluate

Paper Name: Pathology IV

Paper Code: MLT-VC-4036

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will understand about blood groups, blood transfusion, different methods to identify blood groups, matching donor's blood with patient's blood, various screening procedures for blood donors. ➢ Students will understand about the infectious diseases that can be transmitted through blood, blood transfusion reactions, storage of blood in blood bank. ➢ Further the students will be able to learn about cytotechniques.	Unit 1: Sensitization to blood banking	Understand, remember, analyse
	Unit 2: Principle of blood transfusion	Understand, remember, analyse, apply, evaluate
	Unit 3: Cytopathology	Understand, remember, analyse
	Unit 4: Fine needle aspiration cytology	Understand, remember, analyse

5th Sem (Vocational)

Paper Name: Microbiology IV

Paper Code: MLT-VE-5016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will understand about and types, antigen,	Unit 1: Immunity definition, types, immunoglobulin and types, antigen	Understand, remember, analysem apply
	Unit 2: Hypersensitivity and autoimmune disease	Understand, remember, analyse

antibody,vaccines and immunization. ➢ Students will be able to understand about nosocomial infection that can be transmitted from hospital, prevention and control of hospital infection. ➢ Further the students will have idea about various serological tests to diagnose various disease.	Unit 3: Serological tests	Understand, remember, analyse, apply, evaluate
	Unit 4: Hospital acquired infection	Understand, remember, analyse, apply

Paper Name: Biochemistry V

Paper Code: MLT-VE-5026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will learn about water and mineral metabolism and associated diseases related to it, different inorganic ions and importance in our body. ➢ Students will understand about formation of kidney stone, different types of kidney stones. ➢ Further students will learn about acid and base with related disease with acid base balance disturbances.	Unit 1: Water and mineral metabolism	Understand, remember, analyse
	Unit 2: Gastric analysis	Understand, remember, analyse, apply
	Unit 3: Calculi	Understand, remember, analyse, apply
	Unit 4: Acid base balance and disturbance	Understand, remember, analyse
	Unit 5: Metabolism of proteins and amino acids	Understand, remember, analyse

Paper Name: Pathology V

Paper Code: MLT-VE-5036

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will learn about the tissue specimen (biopsy), taking specimen for grossing, fix it with proper fixative, processing the tissue specimen, taking tissue specimen for embedding, proper sectioning of the tissue and stain it with various staining solutions. ➢ Students will be able to know about microtome and microtomy. ➢ Further students will be able to perform special staining techniques used in histopathology lab.	Unit 1: Introduction to histopathology, cells and tissues	Understand, remember, analyse
	Unit 2: Specimen receiving, labelling and registration in the laboratory	Understand, remember, analyse, apply
	Unit 3: Fixatives	Understand, remember, analyse, apply
	Unit 4: Grossing techniques	Understand, remember, analyse, apply
	Unit 5: Tissue processing for paraffin sections	Understand, remember, apply
	Unit 6: Embedding or blocking	Understand, remember, apply
	Unit 7: Section cutting	Understand, remember, apply
	Unit 8: Different types of microtome and microtome knives, honing and stropping	Understand, remember, analyse, apply
	Unit 9: Staining	Understand, remember, analyse, apply, evaluate
	Unit 10: Special stains	Understand, remember, analyse, apply, evaluate
	Unit 11: Pigments and its stains	Understand, remember
	Unit 12: Frozen and cryostat sections	Understand, remember, apply

6^{th} Sem (Vocational)

Paper Name: Microbiology V

Paper Code: MLT-VE-6016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will be able to know about various	Unit 1: Systemic bacteriology	Understand, remember, analyse
	Unit 2: Mycobacteria	Understand, remember, analyse

medically important bacteria. ➢ Further students will know the basics of molecular biology and different types of microscope including electron microscope.	Unit 3: Molecular techniques in diagnostic microbiology	Understand, remember, analyse, apply
	Unit 4: Microscopy	Understand, remember, analyse, apply

Paper Name: Biochemistry VI

Paper Code: MLT-VE-6026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will learn about basics of DNA & RNA, replication of DNA, genetic engineering, ➢ Students will understand m,etabolic disorders of amino acids, elevation of enzymes in disease condition, isoenzymes, techniques used in biochemistry. ➢ Further the students will understand the basics of biostatistics.	Unit 1: DNA replication, translation, transcription and genetic engineering	Understand, remember, analyse
	Unit 2: Metabolic disorders	Understand, remember, analyse
	Unit 3: Clinical enzymology	Understand, remember, analyse, apply, evaluate
	Unit 4: Radio isotope techniques	Understand, remember, analyse
	Unit 5: Immunoassay	Understand, remember, analyse, apply
	Unit 6: Biostatics	Understand, remember, apply

Paper Name: Pathology VI

Paper Code: MLT-VE-6036

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon completion of this course, students will have the understanding of following- ➢ Students will learn in details about cytopathology	Unit 1: Introduction to cytopathology	Understand, remember, analyse
	Unit 2: Different branches of cytology, Role of cytology	Understand, remember, analyse

and various branches, different types of specimen used in cytopathology lab, different normal and abnormal cells. ➢ Students will be able to know about cytology of various body cavity fluids. ➢ Students will be able to understand about fine needle aspiration cytology along with different fixation and staining.	Unit 3: Collection of specimen from female genital tract	Understand, remember, analyse
	Unit 4: Urinary cytology	Understand, remember, analyse, apply
	Unit 5: Progressive changes of the cells	Understand, remember, analyse, apply
	Unit 6: Body cavity fluids	Understand, remember, analyse, apply, evaluate
	Unit 7: Fine Needle Aspiration Cytology	Understand, remember, analyse, apply
	Unit 8: Imprint cytology, crush smear cytology, biopsy sediment cytology, cell block preparation	Understand, remember, analyse, apply
	Unit 9: Staining	Understand, remember, analyse, apply, evaluate
	Unit 10: Establishments of cytopathology lab.	Understand, remember, analyse

❖ Students have to undergo for an internship of six-month duration in hospitals.

Program outcomes, program specific outcomes and course outcomes of Department of Commerce, Chaiduar College

DEPARTMENT OF COMMERCE

The B.Com degree programmed is designed to give students managerial abilities in business-related fields. The course is designed with wide range of understanding in subject matter of accounting, corporate law, finance, marketing, taxation, management, insurance, information technology etc. After receiving their degree, B. Com students can readily explore a wide range of career options. After the course is over, it equips students to make choices on a personal and professional level. Students can learn everything there is to know about business and finance. They can pursue careers in banking, publicly traded companies, privately held businesses, auditing firms, law firms, brokerage firms, patent firms, investment houses, mutual funds, marketing and sales, accounting, and tax consulting, as well as careers as chartered or cost accountants or as master of business administration or MBA holders.

PAPER	COURSE	OUTCOMES
Ability – Enhancement compulsory course (AECC)-1	Business Communication (English/MIL)	Its goal is to teach students about the process of sharing information between people within and outside of a business or organization. Effective business communication demonstrates how employees and management interact with one another to achieve organizational goals and objectives. As a result, knowing about this topic is beneficial for students because being a part of the corporate world results in increased employee

		engagement and a higher degree of creativity. It also leads to the creation of a positive environment, increased loyalty, and increased customer satisfaction.
C-1	Financial Accounting	Its purpose is to enable students to learn and follow the financial transactions of companies using standard guidelines and know how to prepare financial statements. It also helps students have career prospects as accountants. This topic is concerned with summarizing, analyzing and reporting his financial transactions related to business.
C-2	Business Law	Its purpose is to enable students to study the laws governing trade practices. This includes all laws governing how companies are formed, incorporated, managed, managed, closed down, or sold. The primary purpose of business law is to maintain order, resolve disputes, establish generally accepted standards, and

		protect the rights and freedoms associated with business and its relationships with other businesses, government agencies, and customers. is to that's it.
GE-1	. **Micro- Economics or Investing in Stock Market**	The subject Microeconomics is of great help to students in studying the welfare economy situation. This industry helps students understand her happiness in her economy. It also helps students become economists, allowing them to see the allocation of resources within the economy. Microeconomics also ensures that we understand the implications and issues of taxation and formulate appropriate tax policies. OR The topic of investing in the stock market is very important and helps a lot in knowing the economy of the country. Stock market plays a pivotal role in the growth of country's industry and commerce and ultimately has

		a massive impact on the country's economy. This is why governments, industries and even the country's central bank are keeping a close eye on what is happening in his stock market. stock market is important from the perspective of 24 industry. Whenever a company wants to raise funds for further expansion of or for the establishment of a new business, he must obtain a loan of from a financial institution or issue his shares through the exchange. I have. This theme also provides a basis for students' ideas on the working process of the stock market and motivates students to pursue careers as lucrative stockbrokers.
Ability – Enhancement Compulsory Course (AECC) -2	**Environmental Studies**	Its purpose is to enable students to learn how we should live and how to develop sustainable strategies to protect the environment. Help students understand their living and physical environment and how to solve difficult environmental problems that

		affect nature. Knowledge of this topic increases the student's sensitivity and also enables her to take steps to protect her environment.
C- 3	**Corporate Accounting**	Its purpose is to teach students the process of systematically recording financial transactions, classifying and analyzing them, preparing financial statements, evaluating financial situations, and supporting financial data and providing information about financial transactions. It's about helping you learn the process of using it to make decisions. work. The main purpose of this course is to make the student aware that she knows the process for determining the outcome of a company's financial transactions. Also includes her preparation of for financial statements, cash flow statements and certain events such as mergers and consolidated balance sheets. Make decisions in financial management. Corporate

		accountants who do all this work are also called management accountants. Subject helps students pursue a career as an accountant.
C-4	**Corporate Law**	Its purpose is to enable students to understand and know the laws, rules, and regulations that affect business. Item covers topics such as the formation, ownership, rights and obligations of all persons involved in the operation and management of a legal entity. Covers topics such as company formation, rights of directors and shareholders, articles of incorporation, articles of association, prospectus, board matters, secretarial matters and listing. delisting of companies. This topic motivates student to become future corporate lawyer.
GE-2	**Macro economics** **OR** **Insurance & Risk Management**	Its purpose is to enable students to learn and understand assessing the overall performance of the economy in relation to national income. National

		income data help predict levels of tax activity and understand income distribution among different groups of people in the economy. studies on this subject examine different problems related to unemployment, business cycle instability, inflation/deflation, international trade and national economic growth. or This course provides students with an understanding of emerging concepts of risk management in the modern business world. This included property risk, liability risk and personal risk. Risk management now has a greater reach in the modern enterprise. In the financial world, risk management is about proactively identifying potential risks, analyzing them and taking preventative measures. Risk management is the process of analyzing risks and deciding how to deal with such risks. It

		enables students to become risk managers and it is the risk manager's job to implement a risk management program to minimize the possibility of loss.
C-5	**Computer Applications in Business**	Computers have become very important business tools. They are used in all aspects of running a business. Used for product creation, marketing Accounting and administration. Computers allow people to do their jobs faster and more efficiently. The computer makes it easier to store data Save money and use business software applications to increase productivity, measure productivity, and perform other business functions accurately.
C - 6	**Income tax law and practice**	Helps students pass on their knowledge of tax law. Taxation plays a very important and established role in all economies today. Governments in both

		developed and developing countries rely heavily on tax measures, measures to reduce wealth inequality in their societies, as well as to provide the necessary funding for socioeconomic development. This subject imparts knowledge of laws, regulations, and how taxes are assessed. This course also motivates students to become tax consultants or tax practitioners in the future.
C-7	**Management Principles and Applications**	Management, as we all know, is a discipline. It is really a very complex and important with many aspects and a large scope. The Management Principles are a general and broad guideline governing decision making and behavior within a group or organization. These principles deal deeply with human behavior, thoughts and actions are never static and therefore are not as rigid as the one that governs science or the other principles. These principles are guidelines to be used when applying management

		techniques. Thus, a good knowledge of the subject will motivate students to pursue a career in management.
GE-3	**Business statistics** **OR** **Operation research in business**	Studying this topic allows students to learn about the use of statistics in sales project planning, financial analysis of capital expenditure projects, profit forecasting for a new business or product, set production number and also conduct sampling. analysis at determines the quality of the product. It is also a study related to data collection and analysis. It is also used for record keeping, probability calculation and knowledge provision. Topic helps understand the world a little better through numbers and other quantitative information. OR Management is under constant pressure to make business decisions that lead to more efficient operations and greater profits.

		Operational Engineering Research helps managers allocate resources more efficiently and enables them to optimize business performance better. Subjects begin to analyze a specific decision-making problem such as the best location for factories, whether to open a new warehouse, and so on. Production planning, replacing old machines, etc. Its threads deal with the problems, give solutions, and ultimately help make the right decisions. Typically, is used to analyze complex real-life problems, often with the goal of improving and optimizing performance. Correct knowledge of all this Important subjects that help students become a good entrepreneur
(SEC)-1	**Entrepreneurship OR New Venture Planning**	The study of entrepreneurship benefits students and learners from different social and economic backgrounds as it teaches people to hone unique skills and think outside the box.

		Learning about this topic creates opportunities, instills trust, ensures social justice, and stimulates the economy. Entrepreneurship programs that teach students essential life skills will help them navigate an uncertain future. These skills include problem solving, team building, empathy, as well as learning to accept failure as part of growing up. Knowledge of this topic motivates student to become a successful entrepreneur. OR The Student Business Planning Course includes detailed information that can help provide opportunities for business success, such as market analysis, competitive analysis, customer segmentation, marketing planning, logistics and operations, cash flow forecast and an overall long-term growth trajectory. It motivates students to become

		a successful business leader in the future.
Course (B.Com 5th Semester) Non CBCS	**Marketing management**	This is a subject that imparts knowledge to students about the practical application of the marketing direction, techniques and methods of marketing of a business enterprise and develops into a subject that inspires students choose marketing as a career choice.
	Financial management	This is a study aimed at imparting knowledge to students about the process of planning, organizing, controlling, and monitoring financial resources to achieve financial goals and objectives of an organization institution. It inspires students to pursue careers in finance
	Regulatory framework of business - I	This is a subject that imparts to students' knowledge of different rules, laws, and different business governing bodies in India.
	Financial statement analysis	This is a course that imparts knowledge to students on the process of evaluating a company's financial performance by internal and external stakeholders. It's

		also about generating income statements, cash flow statements, ratio analysis, and more.
	Customer relationship management	It's a subject that makes students aware of a company's interaction with current and potential clients. It uses data analysis about customer's history to move forward in a business relationship with client and in this manner expanding deals development and benefit. It too makes a difference to make a career in deals and promoting.
	Business Environment	It's a subject that makes student understand financial, political, legal, demographic, social, competitive, worldwide and technological sectors and makes a difference for them to get it to move forward business.
6th Sem	**Regulatory framework in business - II**	It is a subject that makes a difference for a student to get information on business administrative system in India and also about branches of foreign organizations or companies doing trade in

		India. It thus helps to give knowledge of the administrative structure of commerce in India.
	Information technology in business	Its study aims to impart knowledge to the student about information technology which fosters innovation in business and enhances quality of services and boosts productivity and sales growth.
	Marketing of services	Its aim is to impart knowledge to student about marketing services which is used to market a service or a product. The knowledge of which helps to make a career in marketing.
	Project work	The aim of the project work is to procure viable information on the execution of perceptions studied through the complete course structure.

PROGRAMME SPECIFIC OUTCOME, EDUCATION (B.A.)

(BA Education) Specific outcomes of studying the syllabus prescribed for the students of Education major classes may be cited below,

• To understand the scientific foundational theories and principles of education.

• To enable the students to understand the relationship between education and psychology and different methods of educational psychology.

• To acquaint the students with the development of the education system in the ancient, medieval, colonial and post-colonial periods in India along with Assam.

• To acquaint the students with education as a social process and how it can be understood from a social perspective.

• To acquaint the learner with emerging education issues like literacy programs, women empowerment, Human rights, globalization, and vocationalization of secondary education.

• To help the students to acquire knowledge of the concept of measurement and evaluation in education, and they will understand the different types of educational tests and their uses.

• To enable the students to understand the concept and scope, and objectives of Educational Technology like teaching technology, behavioral technology and instructional technology.

• To enable the students to understand the concept, scope and importance of environmental education.

• To acquire knowledge about the three major philosophies of education - Idealism, Naturalism and Pragmatism and to familiarise with the Indian schools of philosophical thought -Vedic, Buddhist and Islamic thought.

• To acquaint the students with the teaching-learning process, the principles, and maxims fundamental to teaching.

• To enable the students to understand the basic concepts related to developmental psychology.

• To enable the students to understand the concept of continuing education and Distance education and its relevance to the changing society.

• To help the students to understand the meaning and importance of special education on persons with disabilities, education provisions and support services for special children.

• To enable the students to understand the basic concepts of management, organization and administration.

COURSE OUTCOME

BA Education (Honours) Syllabus (CBCS)

1st Semester (Honours)

Paper Name: Principles of Education

Paper Code: EDU-HC-1016

Course Outcome	No. and Name of the Unit	Bloom's Taxonomy level
After completion, students will have knowledge about the sound philosophy of education, types of curriculum, democracy, discipline, freedom, correlation of studies, and the democratic idea of modern education.	Unit 1: Meaning and Concept of Education	Remember, understand, analyse
	Unit 2: Aims of Education,	Remember, understand, analyse
	Unit 3: Curriculum, Correlation of Studies, Co-curricular Activities	Remember, understand, apply
	Unit 4: Discipline and Freedom	Remember, understand, analyse, application
	Unit 5: Democracy and Education	Remember, understand, analyse, application

Paper Name: Psychological Foundation of Education

Paper Code: EDU-HC-1026

Course Outcome	No. and Name of the Unit	Bloom's Taxonomy level
After completion, students will have knowledge about the relationship between education and psychology, the need for educational psychology, memory, forgetting, interest, attention, psychological practicals etc.	Unit 1: Psychology and Education	Remember, understand, analyse
	Unit 2: Learning and Motivation	Remember, understand, analyse, and application
	Unit 3: Memory, Forgetting, Interest and Attention	Remember, understand, analyse, application
	Unit 4: Intelligence, Creativity and Personality	Remember, understand, analyse, application
	Unit 5: Laboratory Practical	Remember, understand, application

2nd Semester (Honours)

Paper Name: Philosophical and Sociological Foundation of Education

Paper Code: EDU-HC-2016

Course Outcome	No. and Name of the Unit	Bloom's Taxonomy level
Upon successful completion, students will have the knowledge and skills to know the concept of philosophy and its relationship with education, to understand the educational implications of different Indian schools of philosophy, to understand the educational implications of different western schools of philosophy, to know the concept of sociology and its relationship with education, to develop understanding about the concept of educational sociology, social group and socialization.	Unit:1 Philosophy and Education	Remember, understanding, evaluation
	Unit:2 Various Indian Schools of Philosophy and Education	Remember, understanding application, evaluate
	Unit:3 Various Western Schools of Philosophy and Education	Remember, understanding application, evaluate
	Unit:4 Sociology and Education	Remember, understanding application, evaluate
	Unit:5 Socio-cultural Context of Education	Remember, understanding application, evaluate

Paper Name: Development of Education In India -2

Paper Code: EDU-HC-2026

Course Outcome	No. and Name of the Unit	Bloom's Taxonomy level
Upon successful completion, students will have the knowledge and skills to know the concept of ancient Indian education system, to describe the education system in Ancient India, particularly Vedic Education, to examine the education system in Medieval India, to analyse the education during British Period	**Unit:1 Education in Ancient and Medieval India**	**Remember, understanding, evaluate**
	Unit:2 Education in British India : The Beginning	**Remember, understanding, application, and evaluate**
	Unit:3 Education in British India : In 19th Century	**Remember, understanding, application, and evaluate**
	Unit:4 Rise of Nationalism and its impact on Education	**Remember, understanding, application, and evaluate**
	Unit:5 Education in British India : A Period of Experiment	**Remember, understanding, application, and evaluate**

3rd Semester (Honours)

Paper Name: Development of Education In India -2

Paper Code: EDU-HC-3016

Course Outcome	No. and Name of the Unit	Bloom's Taxonomy level
Upon successful completion, students will have the knowledge and skills to identify the educational situation during the time of Independence period, Recommendation the educational importance of different Education Commission and Committee in post-Independence India, analyse the National Policy on Education at different times, Accustom to the recent Educational Development in India	Unit:1 Development of Indian Education the post-Independence period	Remember, understanding, evaluate
	Unit: 2 Development of Secondary Education in the post-independence period	Remember, understanding apply, evaluate
	Unit:3 Indian Education Commission-1964-66	Remember, understanding apply, evaluate
	Unit:4 National Policy on Education in post-Independence period	Remember, understanding apply, evaluate
	Unit:5 Recent Developments and Programs in Indian Education	Remember, understanding, apply, evaluate

Paper Name: Educational Technology and Teaching Methods

Paper Code: EDU-HC-3026

Course Outcome	No. and Name of the Unit	Bloom's Taxonomy level
Upon successful completion, students will have the knowledge and skills to identify the objectives of educational technology in the teaching-learning process, innovation in the field of education through technology, various methods and devices of teaching, to acquaint the students with levels, effectiveness of teaching and classroom management, strategies of effective teaching as a profession.	Unit:1 Educational Technology	Remember, understanding, evaluate
	Unit: 2Information and Communication Technology in Teaching-Learning	Remember, understand apply, evaluate
	Unit:3 Models of Teaching	Remember, understanding apply, evaluate
	Unit:4 Methods and Techniques of Teaching	Remember, understanding apply, evaluate
	Unit:5 Lesson Planning and Micro Teaching	Remember, understanding, apply, evaluate

Paper Name: Value And Peace Education
Paper Code: EDU-HC-3036

Course Outcome	No. and Name of the Unit	Bloom's Taxonomy level
Upon successful completion, students will have the knowledge and skills to identify the concept of values, the role of educational institutions in building a value-based society, the importance of peace in human life and its relevance at the national and international levels, challenges in imparting peace education, strategies and skills in promoting peace education at the institutional level	Unit:1 Value	Remember, understanding apply, evaluate
	Unit:2 Types of Values, their characteristic , function and educational significance	Remember, understanding apply, evaluate
	Unit:3 Value Education	Remember, understanding apply, evaluate
	Unit: 4 Peace Education	Remember, understanding apply, evaluate
	Unit:5 Challenges of Peace Education and Role of Different Organization	Remember, understanding apply, evaluate

4th Semester (Honours) Paper

Name: Great Educational Thinkers
Paper Code: EDU-HC-4016

Course Outcomes	Unit No and Name	Bloom's Taxonomy Level
• Enable the students to learn the philosophy of life of different educational thinkers and their works • Enabled the students to learn about the vies of thinkers in educational context • Enable the students to learn about relevance of some of their thoughts at present day context.	**Unit 1. educational thoughts of Srimanta Sankardeva**	**Remember, understand**
	Unit 2. educational thoughts of mahatma Gandhi and Rabindranath Tagore	**Remember, understand**
	UNIT 3. Educational thoughts of APJ Abdul Kalam	**Remember, understand**
	Unit 4. Educational thoughts of Rousseau and Frobel	**Remember, understand**
	UNIT 5. Educational thoughts of john Dewey and Madam Mari Montessori	**Remember, understand**

Paper Name: Educational Statistics and Practical
Paper Code: EDU-HC-4026

Course Outcomes	Unit No and Name	Bloom's Taxonomy Level
• Develop the basic concept of statistics • Be acquainted with different statistical procedures used in education • Develop the ability to represent educational data through graphs • Familiarize the students about the normal probability curve and its application in education	**Unit 1: Basics of educational statistics**	**Understand, apply**
	Unit 2: Graphical presentation of data	**Understand, apply**
	Unit 3: Co-efficient of correlation and percentiles	**Understand, apply**
	Unit 4 : Normal probability curve and and its application	**Understand, apply**
	Unit 5 : Statistical Practical	**Understand, apply**

Paper Name: Emerging Issues in Education
Paper Code: EDU-HC-4036

Course Outcomes	Unit No and Name	Bloom's Taxonomy Level
After completion of the course ▪ The students will know the emerging issues of local, national and state ▪ The students will know the various issues in recent year in higher education ▪ The students will know the various problems and challenges of education in India at all levels	Unit 1: Social Inequality in Education and Constitutional Safeguard	Remember, understand, analyze, apply
	Unit 2: Liberalization, Privatization and Globalization of Education.	Remember, understand, analyze, apply
	Unit 3: Issues related to Students	Remember, understand, analyze, apply
	Unit 4: Environmental Education and Population Education	Remember, understand, analyze, apply
	Unit 5: Multi-cultural Education Alternative Education	Remember, understand, analyze, apply

5th Semester (Honours)

Paper Name: Measurement And Evaluation In Education and Practical
Paper Code: EDU-HC-5016

Course Outcomes	Unit No and Name	Bloom's Taxonomy Level
The completion of the course will enable the students to: • Enable the students to understand the concept of measurement and evaluation in education • Acquaint the students with general procedure of test construction and characteristics of good test • Develop an understanding of different types of educational test their uses • Acquaint the students about personality test, and aptitude test	Unit1. Measurement and evaluation in education	Understand, analyse
	Unit2. Test construction	Understand, application
	Unit3. Educational achievement test	Apply, evaluate
	Unit 4. Personality test	Apply, evaluate
	Unit 5 laboratory practical.	Apply, evaluate

Paper Name: Guidance and Counselling
Paper Code: EDU-HC-5026

Course Outcomes	Unit No and Name	Bloom's Taxonomy Level
• Help the students to understand the concepts, need and importance of guidance and Counselling • Enabled the students to know the different types and approaches to guidance and counselling • Enabled the learners to understand the challenges faced by the teacher as guidance worker	UNIT 1. Introduction to guidance	Understand, application
	Unit.2 introduction to counselling	Analyze, application
	Unit: 3 organization of guidance services	Understand, analyze
	Unit .4 guidance needs of the students	Understand, application
	Unit 5. School guidance programme	Understand, application

Paper Name: Continuing Education
Paper Code: EDU-HE-5016

Course Outcomes	Unit No and Name	Bloom's Taxonomy Level
The completion of the course will enable the students to: **• Know the concept, objectives, scope and significance of continuing education in the context of the present scenario** **• Understand different aspects and agencies of continuing education.** **• Realise different methods and techniques as well as issues of continuing education.** **• Know the meaning of open education and realize the importance of open schools and open universities in continuing education.** **• Understand the development of adult education in India, the kinds of adult education and the different problems of adult Education.**	**Unit 1: Continuing Education**	**Remember, understand**
	Unit 2: Methodologies and issues of continuing education	**Remember, understand**
	Unit 3: Open Education	**Remember, understand**
	Unit 4: Adult education	**Remember, understand**
	Unit 5: Recent literacy programmes in India	**Remember, understand**

Paper Name: Teacher Education
Paper Code: EDU-HE-5046

Course Outcomes	Unit No and Name	Bloom's Taxonomy Level
The completion of the course will enable the students to: **• Explain the concept, scope, aims and objectives and significance of teacher education** **• Understand and conceive the qualities, responsibilities and professional ethics of teachers.** **• Acquaint with development of teacher education in India.** **• Acquaint with the different organizing bodies of teacher education in India**	**UNIT 1: Conceptual framework and historical perspectives of teacher education in India**	**Remember, understand**
	Unit 2: Teacher education for different levels of education	**Remember, understand**
	Unit 3: Structure and organization of teacher education in India	**Remember, understand**
	Unit 4: Status of teacher education in India	**Remember, understand**
	Unit 5: Education and developing political awareness	**Remember, understand**

6TH Semester (Honours)

Paper Name: Education and Development
Paper Code: EDU-HC-6016

Course Outcome	No. and Name of the Unit	Bloom's Taxonomy level
The completion of the course will enable the students to: • **Understand the relationship between education and development.** • **Understand the role of education in community development.** • **Understand the educational development in the post-globalization era.** • **Economic and political awareness through education.**	**Unit:1Basic concepts of education and development**	**Remember, understanding**
	Unit:2 Education and community development	**Understanding**
	Unit:3 Education and human resource development	**Understanding**
	Unit:4 Education and economic development	**Understanding**
	Unit:5 Education and developing political awareness.	**Understanding and Application**

Paper Name: Project
Paper Code: EDU-HC-6026

Course Outcome	No. and Name of the Unit	Bloom's Taxonomy level
After completion of this course the learner will be able to: • **Understand the process of conducting research.** • **To prepare a project report**	**Project Report**	**Knowledge, understanding, Apply, Evaluation**

Paper Name: Special Education
Paper Code: EDU-HE-6026

Course Outcome	No. and Name of the Unit	Bloom's Taxonomy level
After completion of this course, the learner will be able to: **• Acquaint with the different policies and legislation of special education.** **• Enable the students to know about different types of special education.** **• 3. Familiarize the students with the different types of special children with their characteristics.**	**Unit:1 Special education**	**Understanding**
	Unit:2 Physically challenged children	**Understanding**
	Unit:3 Children with Intellectual Disability (Mental Retardation) and Gifted	**Understanding**
	Unit:4 Children with Learning Disability.	**Understanding, Remember**
	Unit:5 Policies, Legislation and Services	**Understanding, Remember**

Paper Name: Educational Management
Paper Code: EDU-HE-6036

No. and Name of the Unit	No. and Name of the Unit	No. and Name of the Unit
After completion of this course the learner will be able to: **• Develop an understanding of the basic concept of educational management.** **• Enable the students to understand the concept and importance of educational planning.** **• Enable the students to know about financial resources and financial management in education.**	**Unit:1 Introduction to Educational Management**	**Understanding, remembering**
	Unit: 2 Resources in Education	**Understanding, remembering**
	Unit: 3 Educational Planning	**Understanding, remembering**
	Unit: 4 Institutional planning	**Understanding**
	Unit: 5 Financial education and recent trends in management	**Understanding, remembering**

PROGRAMME OUTCOME, PROGRAMME SPECIFIC OUTCOME & COURSE OUTCOME

Programme Outcomes: BA

After completing BA, the students are expected to acquire:

- Acquire knowledge with facts and figures concerned with the subjects such as History, Political Science, Education, Economics, Languages, etc.
- Understand the basic concepts, fundamental principles, and various theories in the above-mentioned subjects.
- Realize the importance of literature in terms of aesthetic, mental, moral, intellectual development of an individual and accordingly of the society.
- Understand how issues in the social science get influenced by the literature and how the literature can provide solutions to the social issues.
- Gained the analytical ability to analyze the literature and social issues to appreciate the strength and to suggest the improvements for better results.
- Appreciate that social issues are no longer permanent and largely depend on the political and the economic changes.
- Convince himself/herself that the study of literature and social sciences are not only helpful to evolve better individual and better society but also helpful to make the life of an individual happier and more meaningful.
- Participate in various social and cultural activities voluntarily.
- Written articles, novels, stories to spread the messages of equality, nationality, social harmony and other human values.
- Emerge as a multifaceted personality who is self-dependent; earning his own bread and butter and also creating opportunities to do so.
- Realize that the pursuit of knowledge is a lifelong process and one can achieve the success only with untiring efforts and positive attitude.
- Develop various communication skills such as reading, listing, speaking, etc., which will be helpful in expressing ideas and views clearly and effectively.

Department of Nepali

PROGRAMME SPECIFIC OUTCOME (BA Nepali)

After successful completion of the Programme, BA in Nepali, students are expected to achieve the following outcomes:

- ? Students will understand and have knowledge about Nepali Literature. Their knowledge will encourage them to think about world literatures and the possibility of cultural exchanges.
- ? They will have the knowledge of the historical development of Indian Writing in Nepali and the challenges faced by the early authors. They will also have knowledge about the partition of India and thus will be able to visualize the past through a revisit to the partition literature.
- ? The texts and ideas included in the papers covering Modern and Post-Modern Nepali Literature will help the students know and understand the issues and ideas prevailing in the contemporary society. This will help them develop an international outlook.
- ? Students will acquire knowledge about diverse societies and cultures, political and literary movements as the prescribed texts are contextualized in different socio-cultural events and movements.
- ? Students will understand and develop knowledge about the interrelation of life with literature through their study of a wide variety of texts and genres of literature.
- ? Students will have knowledge about the ideas and themes dealt by the authors, which will encourage them to explore more and more new ideas and motivate them to undertake a comparative study.
- ? They will acquire knowledge and understanding to go for higher studies.

COURSE OUTCOME

BA Nepali (Regular) Syllabus (CBCS)

1st Semester (Regular)

Paper Name **Nepali Sahityako Aoitihasik Sarbekshyan**
Paper Code **NEP-RC-1016**

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: ● Students will be able to understand the History of Nepali literature. It helps to obtain the knowledge of literary history, its importance, limitations etc. ● In this course, students may learn about the drama and novel, their elements and historical developments etc. ● Nepali novel may be studied with the theories like romanticism, regionalism, sociorelism etc. ● In this course students may lerarn about the essay, its elements, history and developments of essay. ● It helps to understand the nepali criticism, its history, development and tendencies. ● Students can learn knowledge of Nepali Newspapers/Magazines and of different Organizations of Nepali.	Unit 1: Nepali Sahityako Pristabhumi ra Vikashko Ruprekha Nepali Kobitako Vikash Crome,	Remember, understand, Evaluate
	Unit 2: Nepali Akhyanko Vibash Crom (Kotha ra Upanysh) Nepali Nibandako Vikash Crom.	Remember, understand, Evaluate
	Unit 3: Nepali Natak ko Vikash Crom Nepali Samalochanako Vikash Crom	Remember, understand, apply
	Unit 4: Nepali Patra-Patrika ko itihash, Nepali Sanhga-Sansthako Itihash	Remember, understand, Evaluate

Paper Name **MIL Communication-Pramukh Bharatia Bhasa**

Paper Code **NEP-AE-1014**

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
On successful completion of this course students are expected to achieve the following learning outcomes: ● Students will be able to learn Romantic and Sad stories in Nepali and also the life and work of Mahakabi-Lakshmi Prasad Devkota ● In this course, the students will learn the Nature and Scope of Nepali Language and they are introduced to all prominent international languages. ● Here, the students are exposed to Nepali Grammer, Parts of speech in nepali etc. ● In this course students may learn Nepali Vocabulary Synonymous words Antonymous etc.	Unit 1: Muna-Madan– Khanda Kabya	Remember, understand, Evaluate
	Unit 2: Bhasa-Artha, Paribhasa, Mukhya Sanghatak Ekaihoru, Prakriti Ro Bisosata, Sansarka Pramukh Bhasa Paribar Horuko Parichya.	Remember, understand, Evaluate
	Unit 3: Nepali Sabdabarga-Naam, Sarbanaam, Biseson, Kriyapad, Kriyayogi, Naamyogi, Sanyujuk, Byakoronik Koti-Linga, Bachan, Purush,Kaal, Pakshya, Bachya, Adar.	Remember, understand, apply
	Unit 4: Paryabaachi Sabda, Bilom Sabda, Sar Sabda, Thet Nepali Sabda, Paribhasik Ro Prabidhik Sabda	Remember, understand, Evaluate

2nd Semester (Regular)

Paper Name **Sahityaka Twattahoru.**

Paper Code **NEP-RC-2016**

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
On successful completion of this course students are expected to learn the meaning and necessity of nepali literature. Detailed classification of nepali literature is also learnt here. ● Students will be able to learn the definitions with examples of Sanda, Alankar, Sabdasakti, Rosch etc ● Introduction to different classes of Nepali Literature.	Unit 1: Sahityako artha ra Paribhasa, Sahityako Prayujan ra Hetu	Remember, understand, Evaluate
	Unit 2: Sahityako Pramukh Bidhahoruko Parichay	Remember, understand, Evaluate
	Unit 3: Sanda-ortho ra Paribhasa, Sandaka Pramukh Prakarharoko Soudaharan Parichay, Alankar artha ra Paribhasa, alankarka Pramukhharoko Soudaharan, Parichay, Sabdasakti-Paribhasa, Sabdasaktika Prakarhoruko Parichay.	Remember, understand, apply
	Unit 4: Rosch,-Artha, Paribhasa, Prakarharuko Soudaharan, Parichay.Kabyagun-Kabyagunko Parichay ra Prakar, Kabyados-Kabyadoska Lakshyan totha Swarup, kabyadosko Bargikaran, Dimbo,Pratik,Mithak Sangracharana, Bunot, Gadya ro Padyasailoko Parichay .	Remember, understand, Evaluate

3rd Semester (Regular)

Paper Name **Nepali Akhyan**

Paper Code **NEP-CC-3016**

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
Here, students are expected to learn the following: ● Students will be able to learn the about the Novel-its elements, historical developments etc ● Students can also learn structure of short stories, Fictions etc. ● Modern Nepali stories their different tendencies and achievements. ● Life histories and achievements of following nepali writers are also taught here: Hariprasad Gorkharai, Santi Thata, Guruprasad Mainali, Lakshmidevi Sundas, Devikumari Thapa etc.	Unit 1: Adhunik Nepali kothaka Bikash ra Pramukh Prabritiharoko Adhyayan. Naso, Parolko Ago-Guruprasad Mainali	Remember, understand, Evaluate
	Unit 2: Adhunik Nepali Upanyashka Bikash ra Pramukh Prabriti Haruko Adhyan. Janmabhumi Mero Swadesh-Geeta Upadhyaya	Remember, understand, Evaluate
	Unit 3: Mero Euta Naga Hukki-Hariprasad Gorkharai. Ama Januhos-Maya Thakuri. Paryabaran Rakshya-Naya Devi.	Remember, understand, apply
	Unit 4: Nirbachit-Lakshmidevi Sundas, Charkioko Chana-Debakumari Thapa, Aborton-Santi Thapa, Disantar-Bikrambir Thapa.	Remember, understand, Evaluate

Paper Name **Nepali Katha**

Paper Code **NEP-RC-3026**

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
Here, students are expected to learn the following: • Students will be able to learn details development of Indian nepali short stories. • They will study dimension of nepali fiction, its structural forms, tendencies etc.	Unit 1: Adhunik Nepali kothaka Bikash ra Pramukh Prabritiharoko Adhyayan. Naso, Parolko Ago-Guruprasad Mainali, Paridanda-Puskar Samsher	Remember, understand, Evaluate
• Students may also learn the fiction by the theories like Romantisism, Realisim,Sur-relism, existentialism etc. • Life history and achievements of the following nepali writers can also be known here: Indrabahadur rai, Sanu Lama, Purna rai, Rupnarayan Sing, Bhabani Bhiksu, Siva Kumar rai etc	Unit 2: Dhanamotiko Cinema Swapna-Rupnarayan Sing, Machako Mol-Sivakumar Rai. Maiya Saheb-Bhabani Bhikshu. Chowkidar-Haimandas Rai (Kirat)	Remember, understand, Evaluate
	Unit 3: Mero Euta Naga Hukki-Hariprasad Gorkharai. Ratbhori Huri Chalo-Indrabahadur Rai. Jyotibinako Ujhyalo-Sanu Lama, Pasanghoruko Katha-Purna Rai.	Remember, understand, apply
	Unit 4: Nirbachit-Lakshmidevi Sundas, Charkioko Chana-Debakumari Thapa, Aborton-Santi Thapa, Disantar-Bikrambir Thapa.	Remember, understand, Evaluate

Paper Name **Samanya Ro Srijanatmok Lekhan.**

Paper Code **NEP-SE-3014**

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
Here, students are expected to learn the following: ● Essay Writing ● Letter Writing ● Advertisement writing ● Newspaper Writing ● Writing for Radio ● Taking an interview ● Fiction writing	*Unit 1: Rachana Lekhan-Ortha, Prakar, Swarup ra mahatta. Bigyapan Lekhan-Bigyapanko Artha ra lekhan Bidhi. Saransa Lekhan-Saransako Artharo Lekhan Bidhi.*	Remember, understand, Evaluate
	Unit 2: Patralekhan-Patralekhan Bidhi Ro Patraka Prakarhoru.	Remember, understand, Evaluate
	Unit 3: Nibandha Lekhan-Nibandhako Swarup, Prakarra ra Pramukh Twattahoru. Radiolekhan-Radiolekhanka Bidhi roBibid Prakarhoru.	Remember, understand, apply
	Unit 4: Sakchyakkar-Parichay, Prakar Uddeshya, Prabriti ra Mahatta. Pratibedon Lekhan-Pratibedonko artha ro Lekhan Bidhi	Remember, understand, Evaluate

4th Semester (Regular)

Paper Name **Nepali Bhasabigyan**

Paper Code **NEP-RC-4016**

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
On successful completion of this course students are expected to learn ● To study the various forms of languages. ● The origin of nepali literature, its concept, nature and scope of nepali language etc ● To study the development of Indian language i.e. Sanskrit. They can learn specific outcomes of Yask, Pamini and others. ● Students can learn the development of critical knowledge of linguistic. Enhanced the knowledge of phonology, morphonology.	Unit 1: Nepali Bhasako Utpatti ra Bikashko Sarbakshyan-Nepali Bhasaka sabdabarga ra Byakaranik Kotihoru.	Remember, understand, Evaluate
	Unit 2: Nepali Bhasako sabdabhandar-Nepali Bhasako Sabdanirman Prakriya.	Remember, understand, Evaluate
	Unit 3: Nepali Bhasako barnahoroko Swarup ra Barnabinyashka Niyom.	Remember, understand, apply
	Unit 4: Nepali Bhasako Adhyan Parampara-Nepali Byakaran ra Kosc haoroko Itihas.	Remember, understand, Evaluate

Paper Name **Samakalin Nepali Kabitaro Inka Prabritihoru**

Paper Code **NEP-CC-4016**

Course Outcome	**Unit No. & Name**	**Bloom's Taxonomy Level**
On successful completion of this course students are expected to learn ● To enhance the understanding and evaluation power of nepali poetry diction its elements, origin and development. ● To make students familiar to the different trends of nepali poetry. ● To develop the study skills of nepali poetry.	Unit 1: Samakalin sabdako artha, paribhasa ra abadharana, samakalin kabitaka pramukhya prabriti ro bisesonotaharo	Remember, understand, Evaluate
	Unit 2: Timilai mo sandhai Dekhdechu-Monah Thakuri. Desprem-Puspalal Upadhyaya. Swapnahoru-Paban Chamling. Yu Jindagi Khoi Ke Jindagi-Haribhakta Katwal	Remember, understand, Evaluate
	Unit 3: Ajo Pheri Chorasito-Bikash Goutam. Porkhako Nadi-Bhabilal Lamichane. Uiclist Aodupirilai Ashirbad-Naba Sapkota. Chakrabihu-Dorga Prasad Ghimire. Mero Janmabhumi-Chabilal Upadhyaya	Remember, understand, apply
	Unit 4: Mo Kohile Buro Hunu-Manprasad Subba.Berozgar Yubok ko Identity Card-Rajendra Bhandari.Ahban-Yudravir rana.Jandagal-Ek salilki-Abhinash srestha.Madhyaratko Sahar-Bichandra	Remember, understand, Evaluate

Paper Name **Bhasa Sixsan ro Prabidhi**

Paper Code **NEP-SE-4014**

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
• To know about the development of *Devonagari* Lipi and Nepali language. • To enhance the spoken and writing competence in Nepali Grammer. • To develop the basic knowledge of grammar and its different components. • To know comparative literature. *Sekesphere, Kalidas and Homer*	Unit 1: Bhasa Sixkan-Artha, Prayujan, Mahatta ra Uddesya. Bhasa Sixsan Tah-Matribhasako Rupma, Dosro Bhasako Rupma. Bidesi Bhasako Rupma, Anya Samanya ra Bisista Prayujanka Rupma	Remember, understand, Evaluate
	Unit 2: Sixsan Bidhi-Sraban, Bhasan, Bachan ra Lekhan	Remember, understand, Evaluate
	Unit 3: Bhasa Sixsanka Prabriti ra Abhyash.	Remember, understand, apply
	Unit 4: Bhasa Parikshan ka Bivinna Prakarhoru-Bhasa Mulyanka Bivid Prakarhoru.	Remember, understand, Evaluate

5th Semester (Regular)

Paper Name **Nepali Sahityama Chelaka Promukh Andolon ra Badharu.**

Paper Code **NEP-RE-5016**

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
• To know about the different language movements in india. • To know about major nepali literary movements and critical theories.	Unit 1: Jharobadi Andolon, Halanta Bahiskar andolon	Remember, understand, Evaluate
	Unit 2: Ralfali AndolonTaralbadi Andolon,	Remember, understand, Evaluate
	Unit 3: Pragatibadi Andolon,Ayamik Andolon	Remember, understand, apply
	Unit 4: Lilalekhan, Kolaz Andolon, Sankraman Lekhan	Remember, understand, Evaluate

Paper Name **Nepali Anubad Sahitya**

Paper Code **NEP-SE-5014**

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
• In this course, the students can learn translation of nepali into other languages and/or translation of other languages into nepali language.	Unit 1: Anubad-artha,paribhasa, anubadko prayujan ra mahatta, anubadka prakarharu-sabdanubad, bhabanubad,chayanubad, saranubad, kabyanubad.	Remember, understand, Evaluate
	Unit 2: Srotbhasa, Madhyam bhasa, lakhsya	Remember,

	bhasa, anibadma artho sampression, arthaantaran ra arthograhanko prakria.	understand, Evaluate
	Unit 3: Bhasako baishik paripekhsyama anudabko abashyakata nepali anibad sahityako Parampara-sarbekshyan nepali anubad sahityaka bivid prakarharu.	Remember, understand, apply
	Unit 4: Nepalibhasama anyabhasabato voyaka anubad karya anyabhasama nepali bhasabato bhoyeka anibad karya.	Remember, understand, Evaluate

Paper Name **Shodhpatra abom pariyujanapatra lekhan**

Paper Code **NEP-GE-5016**

Course Outcome	**Unit No. & Name**	**Bloom's Taxonomy Level**
● In this course, the students can learn introduction of research, its meaning, definition, nature and significance, ● They may also learn classification of research and literary research. ● Also, the students can learn collection materials to choose research topic,	Unit 1:Shodh-artha, paribhasa ra Swarup shodhpatrako Swarup ra saili sahitic sodhka khetra ra bisesota, shodhpatra, sangusti patra, karyapatra ra pariyujana patra.	Remember, understand, Evaluate
	Unit 2: Shodhko bisya Chayan, tathya bisleson ra mulyankan. Sodhsambandhi samasya ra chunoti, sodhka upakaran rat into prayug, Shodhpatra lekhan ra bhavharan	Remember, understand, Evaluate

writing of research paper and research article	Unit 3: Shodhko udyashya, shodhko prayujan, shodhka prakarhoru.	Remember, understand, apply
	Unit 4: Shodhpatra, pariyujana patra lekhan ra prastuti	Remember, understand, Evaluate

6th Semester (Regular)

Paper Name **Nepali Bhasako Pristabhumi ra Bikash**

Paper Code **NEP-RE-6016**

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
● In this course, the students can learn introduction of chronology of development of Nepali Language, its scripts. ● Development of nepali language in other countries.	Unit 1:Nepali Bhasa ra Likipo Parichay.Nepali Bhasako Bikashko Pristabhumi	Remember, understand, Evaluate
	Unit 2: Nepali Bhasako Bikashka Bibid Charanharu. Pratyek Charanma Nepali Bhasako Swaruo ra Bishesatahoru	Remember, understand, Evaluate
	Unit 3: Nepali Bhasako Antarastriya Bistar. Bharatma Nepali Bhasa Manyata Andolon-Aitihashik Sarbenkhyan.	Remember, understand, apply
	Unit 4: Bharat tatha Nepal Bayek Anytra Nepali Bhasa Adhyan-Adhyanko Parampara.	Remember, understand, Evaluate

Paper Name **Nepali Shahittik Patrakarita**

Paper Code **NEP-SE-6014**

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
• On completion of this course, the students will learn about the nature of newspapers in nepali, contribution of news papers in literature • In this course, the students can learn about different newspapers of Nepali languages prevailing in India. Nepali Language, its scripts	Unit 1:Shahittik patrakarita-artha ra prabriti, Nepali Shahittik Patrakaritako Sarbekhan. Nepali shatyako Bikashoma Patra-patrikako yugdaan.	Remember, understand, Evaluate
	Unit 2: Kehi pramukh Patra-patrikako Parichay. Gorkha patra, Gorkhe khabar kakat, Sundari, Madhabi.	Remember, understand, Evaluate
	Unit 3: Chandrika, Khoji, Sarada, Diyalo.	Remember, understand, apply
	Unit 4: Gorkha Sebak, Bindu, Hamro Dhwani, Deshbarta, Saparibar, Suman, Spandan.	Remember, understand, Evaluate

Principal
Chaiduar College