PROGRAMME OUTCOME, PROGRAMME SPECIFIC OUTCOME
&
COURSE OUTCOME

WEST GOALPARA COLLEGE

PROGRAMME OUTCOME, PROGRAMME SPECIFIC OUTCOME & COURSE OUTCOME

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West Goalpara College is affiliated to Gauhati University, Guwahati and follows the curricula prescribed by the University. The College has clearly stated the Programme Outcome, Programme Specific Outcome and Course Outcome of all the programs and courses.

Programme Outcomes: BA

After completing BA the students are expected to acquire:

- Acquire the knowledge with facts and figures concerned with the subjects such as History, Geography, 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 economical 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 more happy and 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 inexpressing ideas and views clearly

Program Outcomes: BSc

After completing BSc the students are expected to acquire:

- Acquire the knowledge with facts and figures related to various subjects in pure sciences.
- Understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevancies in the day-to-day life.
- Acquire the skills in handling scientific instruments, planning and performing in laboratory experiments
- The skills of observations and drawing logical inferences from the scientific experiments.
- Analyse the given scientific data critically and systematically and the ability to draw the objective conclusions.
- Be able to think creatively to propose novel ideas.
- Realize how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable development.
- Develop scientific outlook not only with respect to science subjects but also in all aspects related to life.
- Imbibed ethical, moral and social values in personal and social life leading to highly cultured and civilized personality.
- Develop various communication skills such as reading, listening, speaking, etc., which we will help in expressing ideas and views clearly and effectively.
- Realise that pursuit of knowledge is a lifelong activity and in combination with untiring efforts and positive attitude and other necessary qualities leads towards a successful life.
- Develop flair by participating in various social and cultural activities voluntarily, in order to spread knowledge, creating awareness about the social evils, blind faith, etc. and effectively.

Department of Arabic

PROGRAMME SPECIFIC OUTCOME (BA Arabic)

Specific outcome of studying the syllabus prescribed for the students of Arabic Major Class is cited below:

- The literary part of the syllabus of Arabic Major incorporates classical, modern and Indo-Arab prose and poetry, which gives an opportunity to the learners to know the glorious chapter of Arabic literature.
- The syllabus containing the compositions based on moral and spiritual values guide the students to play a responsible role in the family as well as in the society.
- History of Arabs especially the political, literary and Indo- Arab literary history contained in the syllabus is totally informative. This part of the syllabus gives information to the learners about the multidimensional characteristics of the Arabic literature.
- Functional Arabic has a great importance as it acquaints the learners with the language and its use in day to day life.
- Project paper included in the syllabus enhances the students‘ writing capability, self-confidence, which help the business to explore more and more new conceptions.
- The knowledge of philosophy gives the opportunity to the learners to know the linguistic pattern as well as the socio-cultural condition of a country.
- Arabic literature included in the syllabus contains the translations of other languages like English, Sanskrit etc, which acquaints the learners with these literatures and helps in broadening their outlook towards life.

COURSE OUTCOME

BA Arabic (Honours) Syllabus (CBCS)

1st Semester (Honours)

Paper Name: Arabic Prose And Poetry-I
Paper Code: **ARA-HC-1016**

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have the knowledge and skills on Arabic Prose, Poetry, conversation of modern standard Arabic and biography of famous poets and their achievements in the domain of Arabic literature.	Unit I: Prose	Remember, understand, apply
	Unit II: Prose	Remember, understand, apply
	Unit III: Poetry	Remember, understand, Analysis
	Unit IV: Poetry	Remember, understand, Analysis

Paper Name: Political History of Arabs-I
Paper Code: ARA-HC-1026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have to know about the humanity, brotherhood, nationalism, liberalism and patriotism etc. of Prophet Muhammad.	Unit I: Early life of prophet Muhammad	Remember, understand, apply
	Unit II: The Prophet at Makkah	Remember, understand, apply
	Unit III: The Prophet at Madinah	Remember, understand, Analysis
	Unit IV: Administration under the Prophet	Remember, understand, Analysis

2nd Semester (Honours)

Paper Name: Arabic Prose and Poetry-Ii
Paper Code: ARA-HC-2016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have the Knowledge and skills on Arabic Prose, Poetry, conversation of modern standard Arabic and biography of famous poets in the domain of Arabic literature.	Unit I: Prose	Remember, understand, apply
	Unit II: Prose	Remember, understand, apply
	Unit III: Poetry	Remember, understand, Analysis
	Unit IV: Poetry	Remember, understand, Analysis

Paper Name: Applied Grammar-I
Paper Code: ARA-HC-2026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
After successful completion, students will have the knowledge and skills on Arabic grammar and composition in the latest and revised form, to speak, read and write in Arabic.	Unit I: Verbs and its kinds (conjugation and training_	Remember, understand, apply, Analysis
	Unit II: Present and future tense, kinds, (conjugation and training)	Remember, understand, apply, Analysis
	Unit III: Command verb, forbidding verb etc. (conjugation and training)	Remember, understand, apply, Analysis
	Unit IV: Preference noun, suspicious adjective etc. (conjugation and training)	Remember, understand, apply, Analysis

3rd Semester (Honours)

Paper Name: Classical Arabic Prose and Poetry-I
Paper Code: ARA-HC-3016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful comple-tion, students will have to learn Arabic classical Prose, Poetry and biography of famous poets and their achievements in the domain of Arabic literature.	Unit I: Prose	Remember, understand, apply
	Unit II: Prose	Remember, understand, apply
	Unit III: Poetry	Remember, understand, Analysis
	Unit IV: Poetry	Remember, understand, Analysis

Paper Name: Political History of Arabs-II
Paper Code: ARA-HC-3026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful comple-tion, students will have to know about the first and second pious Caliph of Islam namely- Abu Bakkar and Umar as a great administrator, reformer and nation builder etc.	Unit I: Abu Bakkar (R.A.)	Remember, understand, apply
	Unit II: Abu Bakkar (R.A.)	Remember, understand, apply
	Unit III: Umar Farooq (R.A.)	Remember, understand, apply
	Unit IV: Umar Farooq (R.A.)	Remember, understand, apply

Paper Name: Applied Grammar-II
Paper Code: ARA-HC-3036

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
After successful comple-tion, students will have the knowledge and skills to learn Arabic grammar in the latest and revised form, which design to learn Arabic speaking, reading and writing.	Unit I: Demonstrative pronoun, Relative pronouns, Nominal sentence, Verbal sentence	Remember, understand, apply
	Unit II: the detached pronouns, the genitive phrase, the adjectival phrase, the preposition	Remember, understand, apply
	Unit III: Definite & indefinite noun, Genders, Numbers etc.	Remember, understand, apply, Analysis
	Unit IV: the noun according to origin, gender, Definite& Indefinite, Number	Remember, understand, apply, Analysis

Paper Name: Spoken Arabic-I
Paper Code: ARA-SE-3014

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful comple-tion, students will have the knowledge and practice on fundamentals of Arabic language, reading, writing, vocabulary and conversa-tion etc. in the latest form.	Unit I: Fundamental of Arabic language	Remember, understand, apply, Analysis
	Unit II: Development of reading and writing skill	Remember, understand, apply, Analysis
	Unit III: Vocabulary enrichment	Remember, understand, apply
	Unit IV: Basic grammar and conversation practice	Remember, understand, apply

4th Semester (Honours)

Paper Name: Modern Arabic Prose And Poetry-I
Paper Code: ARA-HC-4016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
After successful completion, students will have the knowledge and skills on Modern Arabic Prose, Poetry, and biography of famous poets and their achievements in the domain of Arabic literature.	Unit I: Prose	Remember, understand, apply
	Unit II: Prose	Remember, understand, apply
	Unit III: Poetry	Remember, understand, Analysis
	Unit IV: Poetry	Remember, understand, Analysis

Paper Name: Political History of Arabs-III
Paper Code: ARA-HC-4026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have to know about the Third and Fourth pious Caliph of Islam namely- Caliph Uthman and Caliph Ali. Their services, administra-tions, characters, and achievements etc.	Unit I: Caliph Uthman (R.A.)	Remember, understand, apply
	Unit II: Caliph Uthman (R.A.)	Remember, understand, apply
	Unit III: Caliph Ali (R.A.)	Remember, understand, apply
	Unit IV: Caliph Ali (R.A.)	Remember, understand, apply

Paper Name: Applied Grammar-III
Paper Code: ARA-HC-4036

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have the knowledge and skills on Applied Arabic grammar and composition in the latest form to learn Arabic speaking, reading and writing.	Unit I: Words-Noun, Verb, the practice etc.	Remember, understand, apply, Analysis
	Unit II: Subject and predicate, particles of integration, conditional tools, vocative particles etc.	Remember, understand, apply, Analysis
	Unit III: Coordinative particles, relative adjectives, the diminutive noun, Masculine and feminine etc.	Remember, understand, apply, Analysis
	Unit IV: Present tense accusative, inna and her sisters, kana and her sisters etc.	Remember, understand, apply, Analysis

Paper Name: Spoken Arabic-II
Paper Code: ARA-SE-4014

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have the knowledge and practice on Arabic speaking, reading, writing and conversation etc.	Unit I: Basic grammar	Remember, understand, apply, Analysis
	Unit II: Development of reading and writing skill	Remember, understand, apply, Analysis
	Unit III: Vocabulary enrichment	Remember, understand, apply
	Unit IV: Conversation practice	Remember, understand, apply

5th Semester (Honours)

Paper Name: Classical Arabic Prose And Poetry-II
Paper Code: ARA-HC-5016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have the skills to learn Classical Arabic Prose, Poetry, conversation, and biography of famous poets and their achievements in the domain of Arabic literature.	Unit I: Prose	Remember, understand, apply
	Unit II: Prose	Remember, understand, apply
	Unit III: Poetry	Remember, understand, Analysis
	Unit IV: Poetry	Remember, understand, Analysis

Paper Name: History of Arabic Literature-I (Pre- Islamic Period)
Paper Code: ARA-HC-5026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have to know the History of Arabic literature-background of Arabic language & literature, growth and development of Pre-Islamic Arabic prose and poetry, sources and characteristics of pre-Islamic Arabic prose and poetry literature, Some Prominent figures of Pre-Islamic period.	Unit I: Background of Arabic language and literature	Remember, understand,
	Unit II: Growth and development of Pre-Islamic Arabic prose and poetry	Remember, understand,
	Unit III: Sources and characteristics of Pre-Islamic Arabic prose and poetry	Remember, understand,
	Unit IV: Prominent figure of Pre-Islamic Arabic prose and poetry	Remember, understand, Analysis

Paper Name: Functional Arabic-I
Paper Code: ARA-HE-5016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
After successful completion, students will have to learn Arabic language in easy method in the latest and revised form, And to learn Arabic speaking, reading and writing.	Unit I: Biladi, jazaul walidain etc.	Remember, understand, apply, Analysis
	Unit II: eidul ajha, aqimatuj jaman etc.	Remember, understand, apply, Analysis
	Unit III: Jajaul ma'ruf, Qimatul waqt etc.	Remember, understand, apply, Analysis
	Unit IV: Ma'rafatul waqt bissa't, auqatul firag etc.	Remember, understand, apply, Analysis

Paper Name: Applied Grammar-IV
Paper Code: ARA-HE-5026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have to learn Arabic grammar as well as language in the latest and revised form, as such the students learn Arabic speaking, reading and writing.	Unit I: Case Ending and Indeclinable, Condition word, Doer, Separated verb	Remember, understand, apply, Analysis
	Unit II: Agreement between subject and predicate, Agreement between agent and verb, Approximate verb, Verbs of praise and blame	Remember, understand, apply, Analysis
	Unit III: Distinctiveness, Replace, the Number and the limit, Electives noun	Remember, understand, apply, Analysis
	Unit IV: confirmation, Metonymy, Verbs of surprise, Verbs of beginning	Remember, understand, apply, Analysis

6th SEMESTER (Honours)

Paper Name: Modern Arabic Prose And Poetry-II
Paper Code: ARA-HC-6016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have the skills to learn Modern Arabic Prose, Poetry and biography of famous poets, writers and their achievements in the domain of Arabic literature.	Unit I: Prose	Remember, understand, apply
	Unit II: Prose	Remember, understand, apply
	Unit III: Poetry	Remember, understand, Analysis
	Unit IV: Poetry	Remember, understand, Analysis

Paper Name: History Of Arabic Literature-II (Early Islamic Period)
Paper Code: ARA-HC-6026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have the knowledge and skills on History of Arabic literature of Early Islamic period-sources, development and character-istics of Arabic prose	Unit I: Sources of Early Islamic Arabic literature	Remember, understand,
	Unit II: Development of Arabic poetry during early Islamic period	Remember, understand,
	Unit III: Characteristics of Early Islamic Arabic prose and poetry	Remember, understand, Analysis

and poetry. Some Prominent figures of that period.	Unit IV: Prominent figure of Arabic literature during early Islamic period	Remember, understand, Analysis

Paper Name: Functional Arabic-II
Paper Code: ARA-HE-6016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have the knowledge and skills on functional Arabic in the latest and revised form such as speaking, reading and writing.	Unit I: Schools, Environmental health, Pharmacy	Remember, understand, apply
	Unit II: Olive tree, Ants, Child's intelligence	Remember, understand, apply
	Unit III: Doctors advice, At the clinic, Time management	Remember, understand, apply
	Unit IV: In the break, Freedom, Smart student	Remember, understand, apply

Paper Name: Translation, Comprehension And Composition
Paper Code: ARA-HE-6026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have the knowledge and skills on translation from Arabic to English and vice versa, comprehension and composition and essay writing etc.	Unit I: Translation	Remember, understand, apply
	Unit II: Translation	Remember, understand, apply
	Unit III: Comprehensive text	Remember, understand, apply
	Unit IV: Essay	Remember, understand, apply

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 ‗charyapada' 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) 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, • 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-I : Ashomiya Sahityar Yug Bibhazon	Remember, Understand, Analysis
	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

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 to, • Describe different varieties of the Assamese Language in the Context of contemporary Linguistics. • Organize geographical and social varieties of Assamese Language.	Unit-I : Bhasha Bigyanar Sadharan Parichay	Remember, Understand, Analysis
	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

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. • 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- II : Prabandha aru Somalochana	Remember, Understand, Analysis
	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 Paribeshya Kola aru Paramporagato Khel-Dhemali	Remember, Understand, Analysis
	Unit-IV : Axomor Sthapattya, Bhaskajya aru Chitrakola	Remember, Understand, Analysis

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

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.	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

• Compare and contrast the social history of early Assamese form of language with that of the Modern Assamese language.	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

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

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,	Unit-I : Ashomiya Natokor Chomu Itihash	Remember, Understand, Analysis

• Reconstruct the history of Assamese drama and performance. • Describe the experience of viewing a play. Enumerate the trends of Assamese Drama.	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 Loko-Sahitya Adhyayan
Paper Code: ASM-HE-5016

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 Folk-literature. • Categorise Assamese Folk-Literature of Ancient Phases. • Categorise the Assamese folk-literature and folk- culture into different trends.	Unit-I : Ashomiya Loko-Sahityar Prakriti Bichar	Remember, Understand, Analysis
	Unit- II : Prabad-Patantar, Jansruti aru Shadhukotha	Remember, Understand, Analysis
	Unit-III: Malita aru Kahini Geet	Remember, Understand, Analysis
	Unit-IV: Onusthanmulok Loko-Geet	Remember, Understand, Analysis,

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 Romantic Phases. D • escribe experience of reading Romantic Assamese Poetry.	Unit-I: Laxminath Bezbaruah, Chandrakumar Agarwala, Mofizuddin Ahmad Hazarika aru Hemchandra Goswamir Kabita	Remember, Understand, Analysis
	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

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: 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, Biography etc. • 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

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 Context of contemporary Linguistics. • Organize geographical and social varieties of Assamese Language.	Unit-I: Upabhashar Sangya aru 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

Department of Economics

PROGRAMME SPECIFIC OUTCOME (BA Economics)

Specific outcome of studying the syllabus prescribed for the students of Economics major 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 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

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

Course Outcome	Course Outline	Bloom's Taxonomy Level
• This course exposes students to the	**Unit - 1** : Money	Remember, Understand, Analyze and Apply

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 - 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

Semester – VI

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 Education

PROGRAMME SPECIFIC OUTCOME (BA Education)

Specific outcome 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 relation between education and psychology and different methods of educational psychology.
- To acquaint the students with the development of education system in ancient, medieval, colonial and post-colonial period in India along with Assam.
- To acquaint the students with education as a social process and how it can be understood from the social perspective.
- To acquaint the learner with the emerging issues in education like different literacy programmes, women empowerment, Human rights, globalization, 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 familarise with the Indian schools of philosophical thought — Vedic, Buddhist and Islamic thought.
- To acquaint the students with the teaching learning process, the principles, maxims fundamental of teaching.
- To enable the students to understand the basic concepts related to development 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 of 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	Unit No and Name	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, democratic idea of modern education.	Unit 1: Meaning and Concept of Education	Remember, understand, analyze
	Unit 2: Aims of Education,	Remember, understand, analyze
	Unit 3: Curriculum, Correlation of Studies, Co-curricular Activities	Remember, understand, apply
	Unit 4: Discipline and Freedom	Remember, understand, analyze, apply
	Unit 5: Democracy and Education	Remember, understand, analyze, apply

Paper Name: Principles of Education
Paper Code: EDU-HC-1026

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

2nd Semester (Honours)

Paper Name: Philosophical and Sociological Foundation of Education
Paper Code: EDU-HC-2016

Course Outcome	Unit No. and Name	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.	1.Philosophy and Education	Remember, understanding, evaluate
	2.Various Indian Schools of Philosophy and Education	Remember, understanding apply, evaluate
	3.Variouis Western Schools of Philosophy and Education	Remember, understanding apply, evaluate
	4.Sociology and Education	Remember, understanding apply, evaluate
	5.Socio-cultural Context of Education	Remember, understanding apply, evaluate

Paper Name: Development of Education In India -2
Paper Code: EDU-HC-2026

Course Outcome	Unit No. and Name	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 analyze the education during British Period	1.Education in Ancient and Medieval India	Remember, understanding, evaluate
	2. Education in British India : The Beginning	Remember, understanding apply, evaluate
	3. Education in British India : In 19th Century	Remember, understanding apply, evaluate
	4. Rise of Nationalism and its impact on Education	Remember, understanding apply, evaluate
	5. Education in British India : A Period of Experiment	Remember, understanding apply, evaluate

3rd Semester (Honours)

Paper Name : Development of Education In India -2
Paper Code : EDU-HC-3016

Course Outcome	Unit No. and Name	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 educational importance of different Education Commission and Committee in post-Independence India, analyze the National Policy on Education in different times, Accustom with the recent Educational Development in India	1.Development of Indian Education- the post-Independence period	Remember, understanding, evaluate
	2. Development of Secondary Education in the –post Independence period	Remember, understanding apply, evaluate
	3.Indian Education Commission-1964-66	Remember, understanding apply, evaluate
	4.National Policy on Education in post-Independence period	Remember, understanding apply, evaluate
	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	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have the knowledge and skills to identify the objectives of educational technology in teaching learning process, innovation in the field of education through technology, various methods and devices of teaching, to acquaint the students with levels, effectives of teaching and classroom management, strategies of effective teaching as a profession.	1.Educational Technology	Remember, understanding, evaluate
	2.Information and Communication Technology in Teaching-Learning	Remember, understanding apply, evaluate
	3.Models of Teaching	Remember, understanding apply, evaluate
	4.Methods and Techniques of Teaching	Remember, understanding apply, evaluate
	5.Lessopn Planning and Micro Teaching	Remember, understanding, apply, evaluate

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

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have the knowledge and skills to	1.Value	Remember, understanding, evaluate

identify the concept of values, role of educational institutions in building a value based society, importance of peace in human life and its relevance at national and international level, challenges in imparting peace education, strategies and skills in promoting peace education at institutional level	2.Types of Values, their characteristic , function and educational significance	Remember, understanding apply, evaluate
	3.Value Education	Remember, understanding apply, evaluate
	4.Peace Education	Remember, understanding apply, evaluate
	5.Challanges 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 Outcome	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 probabi-lity 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 Outcome	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
	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 Outcome	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, analyze
	Unit 2. Test construction	Understand, apply
	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 Outcome	Unit No and Name	Bloom's Taxonomy Level
• Help the students to understand the concepts, need and importance of guidance and Counselling	UNIT 1. Introduction to guidance	Understand, application
	Unit.2 introduction to counselling	Analyze, application

• 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: 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: Continue Education
Paper Code: EDU-HE-5016

Course Outcome	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 continue education in the context of present scenario • Understand about different aspect and agencies of continue education • Realise different method and techniques as well as issue of continue education • Know the meaning of open education and realize the importance of open school and open university in continue education • Understand the development of adult education in India, kinds of adult education and different problems of adult Education	Unit 1: Continue Education	Remember, understand
	Unit 2: Methodologies and issues of continue 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 Outcome	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	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

• 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 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	Unit No and Name	Bloom's Taxonomy Level
The completion of the course will enable the students to: • Understand the relation 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 educa-tion.	Unit 1-Basic 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
	Unit5- Education and developing political awareness.	Understanding and Application

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

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

Paper Name: Special Education
Paper Code: Edu-He-6026

Course Outcome	Unit No and Name	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
	Unit3- Children with intellectual Disability (Mental Retardation) and Gifted	Understanding
	Unit 4-Children with Learning Disability.	Understanding, Remember
	Unit 5- Policies, Legislation and Services	Remember, Understanding

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

Course Outcome	Unit No and Name	Bloom's Taxonomy Level
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 the financial resources and financial management in education.	Unit 1- Introduction to Educational Management	Understanding, remembering
	Unit 2- Resources in education	Understanding, remember
	Unit3- Educational Planning	Understanding, remember
	Unit 4- Institutional planning	Understanding
	Unit 5- Financial education and recent trends in management	Understanding, remember

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 European Classical 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 the knowledge 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 the relationship 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 varied experiences of women articulated in 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 texts through a reading of texts beginning from William Wordsworth's Preface to such Modern and Post-Modern texts as Derrida'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 such as 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 different locations 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 evaluate human 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 of select 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 Goegraphy

PROGRAMME SPECIFIC OUTCOME (BA Geography)

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

- Geography mainly concerns changes in spatial attributes from a temporal perspective.
- The Honours program in geography is tailored to meet the students' specific educational and professional goals in mind. It focuses on spatial studies, qualitative as well as quantitative, and emphasizes the human environment relationship.
- During the first year of the program, the students are trained on advanced concepts of physical and human geography. The third-year allows them to concentrate on specific areas of the subject, on which they complete their field reports.
- After completing the course, the students will be amply prepared for professional careers in geography and allied disciplines like GIS and Remote Sensing. They will also be able to pursue M.A. /M.Sc. Course in Geography.

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 Philosophy

PROGRAMME SPECIFIC OUTCOME (BA Philosophy)

- The programme helps students to analyze the ways in which humans experience the world and to develop a sense of value
- The study of philosophy is intrinsically as well as extrinsically valuable. The students of philosophy can develop the ability in critical thinking skills.
- They understand the concept of right and wrong, understand the moral principles and their application in everyday life.
- They develop the ability to summarize and explain difficult ideas and concepts in their own.
- The students also develop the ability to understand reality from different perspectives and examine different sides of an issue as well as students learn to improve their analytical writing skills through this programme.
- The programme helps student to develop the creative and independent thinking.
- The student of philosophy develops ability in research methodology, specifically stating and defending a clear and substantive thesis.
- The programme helps student to carefully and insightfully analyzed argument, rhetoric expressed in various media like print, television, radio and social media.

COURSE OUTCOME

BA Philosophy (Honours) Syllabus (CBCS)

1st Semester (Honours)

Paper- PHI-HC-1016- Indian Philosophy- I

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
After completion of the course the students will be able to • Understand basic concepts of Indian philosophy. • understand various philosophical problems such as nature of the world, nature of reality, nature of knowledge, logic, ethics and the philosophy of religion. • Indian philosophy creates awareness about the spiritual aspects of individual as well as ancient philosophical traditions of India. • Apply concepts like- value, spiritualism etc. in day to day life.	**Unit- I:** The Vedas, Upanishads and Bhagavad Gita. Development of Indian Philosophy- Meaning and Scope. Schools of Indian Philosophy- Common characteristics	Remember, understand, apply
	Unit- II: Carvaka Materialism. Jainism	Remember, understand, apply
	Unit- III: Four Noble Truths of Buddhism. Dependent Origination. No Soul Theory	Remember, understand, apply
	Unit- IV: Schools of Buddhism	Remember, understand, apply

Paper- PHI-HC-1026-Logic-1

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
Upon completion of the course students should be able to: • Convert an argument from its original context into standard argument form and construct valid arguments of their own and accurately evaluate the arguments of others. • Translate ordinary language statements and arguments into symbolic form. • Use formal methods of propositional logic for determining the validity of deductive arguments. • Use basic logical concepts and techniques for disclosing ill-conceived ideas and irrational arguments.	Unit-I Argument and Argument Form; Truth and Validity; Deduction and Induction	Remember, understand, apply, evaluate
	Unit-II Categorical Propositions; Translating Ordinary Proposition into Standard Form; Square of Opposition; Categorical Syllogism; Immediate Inference	Remember, understand, evaluate
	Unit-III Venn Diagrammatic Representation of Propositions and Arguments; Idea of Existential Import; Testing Validity by Venn Diagram	Remember, understand, apply, evaluate
	Unit-IV	Remember, understand, evaluate

• Development of strong critical thinking skills, which will be helpful in specialized studies in philosophy or any other field that requires mature critical thinking skills. • Contribute to the intellectual, artistic and spiritual inheritance of our society.	Concept of Set; Operations of Set-Union, Intersection and Difference; Symbolization of Sentences by Set Notation	

2nd Semester (Honours)

Paper- PHI-HC-2016- Greek Philosophy

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
After completion of the course on Greek philosophy students will be able to • Understand with wide variety of subjects like political philosophy, ontology, aesthetic etc. • It helps a student to know about the social, philosophical and political conditions prevailed during that period.	**Unit- I:** Pre-Socratic School	Remember, Understand, Apply, Evaluate
	Unit- II: Socrates	Remember, Understand, Apply, Evaluate
	Unit- III: Plato	Remember, Understand, Apply, Evaluate
	Unit- IV: Aristotle	Remember, Understand, Apply, Evaluate

Paper- PHI-HC-2026-Logic-II

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
Upon completion of the course students should be able to: • Convert an argument from its original context into standard argument form and construct valid arguments of their own and accurately evaluate the arguments of others. • Use formal methods of propositional and predicate logic for analysing the logical structures of ordinary language statements, and for determining the validity of deductive arguments. • Use formal methods of propositional logic for determining the validity of deductive arguments. • Use basic logical concepts and techniques for disclosing ill-conceived ideas and irrational arguments.	**Unit-I** Symbolic Logic and its characteristics, Uses of Symbols; Relation between Traditional Logic and Symbolic Logic; Modern Classification of Propositions	Remember, understand, apply, evaluate
	Unit-II Logical Connectives and Variables; Symbolization of Arguments	Remember, understand, evaluate
	Unit-III Truth Tables for Logical Connectives; Direct Truth-Table for testing validity of arguments; Indirect Truth-Table for testing validity of arguments	Remember, understand, apply, evaluate
	Unit-IV Formal Proof of Validity; Rules of Inference; Rules of Replacement	Remember, understand, evaluate

• Development of strong critical thinking skills, which will be helpful in specialized studies in philosophy or any other field that requires mature critical thinking skills.		

3rd Semester (Honours)

Paper- PHI-HC-3016-Descartes to Hegel

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
On successful completion of this course a student will be able to: • Introduce the origin of knowledge in modern western philosophy starting from Descartes to Hegel. • To orient the students with the fundamental characteristics of rationalism, empiricism, scepticism and another important school of modern western philosophy. • To familiarize the learners with the critical philosophy of Kant who attempted to reconcile the two conflicting theories, empiricism and rationalism. • Understand the dialectic method of Hegel.	**Unit-I** Rationalism Descartes: Cartesian method, Mind body dualism Spinoza: God and substance Leibnitz: Theory of monads, pre-established harmony	Remember, understand, analyze
	Unit-II Empiricism Locke: Critique of innate ideas, substance, qualities Berkeley: Esse Est Percipi Hume: Impression and ideas, Concept of self	Remember, understand, analyze
	Unit-III Kant Possibility of synthetic a priori judgement, Space and time Categories	Remember, understand, analyze
	Unit-IV Hegel Dialectic method Absolute idealism Master-slave dialectic	Remember, understand, analyze

Paper- PHI-HC-3026- Indian Philosophy- II

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
After completion of the course the students will be able to • Understand basic concepts of Indian philosophy.	**Unit- I:** Samkhya, Yoga	Remember, Understand, Apply
	Unit- II: Nyaya, Vaishishika	Remember, Understand, Apply

• understand various philosophical problems such as nature of the world, nature of reality, nature of knowledge, logic, ethics and the philosophy of religion. • Indian philosophy creates awareness about the spiritual aspects of individual as well as ancient philosophical traditions of India. • Apply concepts like- value, spiritualism etc. in day to day life.	**Unit- III:** Mimamsa	Remember, Understand, Apply
	Unit- IV: Vedanta. Philosophy of Sankardeva	Remember, Understand, Apply

Paper- PHI-HC-3036-Ethics

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
On successful completion of this course a student will be able to: • Use specific capacities and skills to make moral decisions. • Examine and compare major historical normative theories and assess the strengths and weaknesses of these theories. • Critically reflect on a variety of ethical perspectives on Environmental issues. Professional Ethics helps students understand practically the importance of trust, mutually satisfying human behavior, ability to develop management patterns to create harmony in professional and personal life. • Understand the ethical concept in Indian tradition.	**Unit-I** Nature, Scope and Utility of study of Ethics; Object of Moral judgement, Moral Obligation; Postulates of Morality	Remember, understand, apply, evaluate
	Unit-II Virtue Ethics: Aristotle; Deontological Ethics: Kant; Utilitarianism: Bentham, Mill	Remember, understand, apply, evaluate
	Unit-III Theories of Punishment; Professional Ethics; Environmental Ethics	Remember, understand, apply, evaluate
	Unit-IV Law of Karma, Varna and Asrama Dharma, Purusartha; Buddhist Pancasila, Brahmavihara; Jaina Triratna, Anuvrata and Mahavrata	Remember, understand, apply, evaluate

4th Semester (Honours)

Paper- PHI-HE-4016-Contemporary Indian Philosophy

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
On successful completion of this course a student will be able to: • Understand the features of contemporary Indian Philosophy. • Identify some of the foundational problems and issues of modern	**Unit-I** Aurobindo: Evolution, Super mind, Synthesis of yoga	Remember, understand
	Unit-II	Remember, understand

Indian Philosophy and its social context. • Understanding the thoughts of the Neo- Vedantist like Sri Aurobindo, Vivekananda, and Radhakrishnan. • Relate some of the core concepts and theories of modern Indian philosophy to concepts and ideas in Classical Indian philosophy and Contemporary European thought. • Develop the idea regarding Gandhian philosophy. The aim of this course is to motivate the students towards the non-violence action.	Radhakrishnan: Religious experience, Intellect and intuition, Man and his destiny	
	Unit-III Gandhi: Religion, Truth, Non-violence, Satyagraha, Sarvodaya, Swadeshi, Critique of industrialisation, trusteeship	Remember, understand, apply, evaluate
	Unit-IV Vivekananda: Universal religion, Practical Vedanta, philosophy of education	Remember, understand, apply

Paper- PHI-HC-4026- Philosophy of Religion

Course Outcome	Unit No. And Name	Bloom's Taxonomy Level
After completion of the study of Philosophy of Religion students will be able to • Understand and analyze philosophically various religious views. • Make comparative studies of religion which brings tolerant attitude in one's life. • Have some basic concepts of both religious and Anti-religious views and thereby make comparison among those theories.	**Unit- I:** Nature and Scope of Philosophy of religion. It's relation to science. Religious experience	Remember, understand, analyze, compare
	Unit- II: Arguments for the existence of God	Remember, understand
	Unit- IV: Religious Language, Symbolism, Anti-religious theories, Religious theories of Sankardev	Remember, Understand, compare, analyse

Paper- PHI-HC-4036-Political and Social Philosophy

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
After completion of this course, the students will be able to • Identify the major issues of social and political philosophy • Identify the major philosophers who have contributed to a discussion of the problems of social philosophy and their	**Unit-I** Rights and duties Justice Equality and liberty	Remember, understand, apply, evaluate
	Unit-II Anarchism Socialism Marxism	Remember, understand apply

proposed solution to these problems. • The study of Social Philosophy makes a student aware about their social behaviours, duties and responsibilities. • The study of political philosophy allows student to examine the complex nature of political power. • By studying Political Philosophy student can know what makes a government legitimate, what rights and freedoms it should protect, what form it should take etc.	**Unit-III** Monarchy Theocracy Democracy	Remember, understand, apply, evaluate
	Unit-IV Humanism Secularism Multiculturalism	Remember, understand, apply

5th Semester (Honours)

Paper- PHI-HC-5016-Analytic Philosophy

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
On successful completion of this course a student will be able to: • Understand analytic trend of philosophy basically the philosophy of Moore, Russell and Wittgenstein. • Enabling students to reduce complex issues into simpler components that will facilitate clear understanding. • Inculcating young minds with the basic knowledge of the logic of language associated with the tradition, such that it is prepared to engage in critical and reflective thinking. • Acquainting students with the proposition, theory of description as introduced by the analytic philosopher.	**Unit-I** Moore: The analytic Turn of Philosophy, Refutation of idealism, defence of common sense	Remember, understand, analyze
	Unit-II Russell: Logical atomism, General proposition and existence Theory of description	Remember, understand, analyze
	Unit-III Wittgenstein: The world as a totality of facts Picture theory of meaning, Verification theory and Rejection of metaphysics	Remember, understand, analyze
	Unit-IV Wittgenstein: Meaning and use Language game Critique of private language	Remember, understand, analyze

Paper- PHI-HC-5026-Phenomenology and Existentialism

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
On successful completion of this course a student will be able to: • Understand core issues of Existentialism and Phenomenology. To develop and understanding of some of the key issues. • Existentialism and Phenomenology move the focus away from the fact about the world towards facts about the human self. • To critical awareness on Philosophical discussion.	**Unit-I** Kierkegaard – Three Stages of Human Existence, Subjectivity and Truth.	Remember, understand, apply, evaluate
	Unit-II Sartre – Existence and Essence, Freedom and Choice.	Remember, understand, apply, evaluate
	Unit-III Heidegger – Authentic Existence, Being-in-the-world and Temporality.	Remember, understand, apply, evaluate
	Unit-IV Husserl – Theory of Essence, Intentionality and Bracketing.	Remember, understand, apply, evaluate

Paper- PHI-HC-5016- Philosophy of Upanishad

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
After completion of the study of the Upanishads, the students will be able to • Know about the origin of Indian Philosophy. • Understand the basic concept about the creation of the universe. • Know the social conditions of that period. • Learn about the status of women during that time. • Know oneself through the Upanishadic teaching- 'Atmanam Bidhi'.	**Unit- I:** Relation to vedas, outline of upanisadic philosophy, general social conditions	Remember, understand, apply
	Unit- II: Different theories of creation	Remember, understand, apply
	Unit- III: Relation of brahman with the world	Remember, understand, apply
	Unit- IV: Individual destiny	Remember, understand, apply

Paper- PHI-HE-5026-Philosophy of Gita

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
• An immediate effect to sanctity and strengthening of faith. • Improved clarity of the mind, better focus, calm and content disposition in general. • Long-term effect on personality traits like development of	**Unit-I** Law of Karma; Concept of Karma, Akarma, Vikarma; Freedom and Choice	Remember, understand, apply, evaluate
	Unit-II Ksetra-Ksetrajna, purusa-prakrti: UttamPurusa and	Remember, understand

leadership and problem-solving abilities. • Better perception of life, clarity of thought, positive attitude. • Inner peace and ability to better deal with stress and satisfaction with themselves. • Other effects: sense of well-being, physical fitness. • The philosophy of Bhagavat Gita can help students fight issues like anxiety and self-doubt in student life. • Helps students attain freedom from superstition and false beliefs. • Gives a different perspective of life.	Ultimate Reality; Relation of individual self and Ultimate Reality	
	Unit-III Conception of Yoga; Karma Yoga,Jnana Yoga, Bhakti Yoga; Reconciliation of the Yogas	Remember, understand, apply, evaluate
	Unit-IV Svabhava ,Svakarma, Svadharma; Niskamakarmayoga; Lokasamgraha; Liberation	Remember, understand, apply

6th Semester (Honours)

Paper- PHI-HC-6016- Philosophy of Mind

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
On successful completion of this course a student will be able to: • Understand and Articulate some of the prominent issues in Philosophy of Mind. • Able to analyse and critically evaluate theories, arguments and pre-suppositions of prominent figures in Philosophy of Mind. • Philosophy of Mind is the philosophical study of the nature of mind, mental events, mental functions, mental properties and consciousness and of the nature of their relationship with the physical body; the So called Mind-body problem.	**Unit-I** Psychology and Philosophy of Mind Cartesian Dualism, Problems of Cartesian Dualism.	Remember, understand.
	Unit-II Parallelism, Occasionalism, Epiphenomenalism.	Remember, understand.
	Unit-III Behaviourism, Identity Theory, Functionalism.	Remember, understand, apply, evaluate
	Unit-IV Problem of Personal Identity, Physical Criterion, Memory Criterion.	Remember, understand, apply, evaluate

Paper- PHI-HC-6026-Meta Ethics

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
• On successfully completing the course the students will able to understand the topics in contemporary metaethics and	**Unit-I** Normative Ethics; Ethical Concepts and Evaluation-Good and Right; Meta Ethics	Remember, understand,
	Unit-II	Remember, understand, apply

be able to apply central questions, concepts and philosophical argumentation, and engage in scientific debate on modern meta ethics. Students will be able to use this knowledge in writing their Master's thesis. • The primary goal of this course is to develop the critical and analytical thinking skills of the students. Excelling in the course will demonstrate student's growing precision in thought, an ability to interpret a text generously and reconstruct the arguments found in that text.	G.E.Moore: Indefinability of 'Good', Naturalistic Fallacy, Autonomy of Morals	
	Unit-III A.J.Ayer: Ethical Terms as Pseudo Concepts; C.L.Stevenson: Characteristics of Moral Discourse, Persuasive Definition	Remember, understand, apply
	Unit-IV R.M. Hare: Universal Prescriptivism, Nature of Moral Arguments, Weakness of the Will	Remember, understand, apply

Paper- PHI-HE-6026- Philosophy of Language

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
• Identify the major issues of philosophy of language • Identify the major philosophers who have contributed to a discussion of the problems of the philosophy of language • The study of Philosophy of language makes a student aware about what role language plays for knowledge, for grounding and for how we perceive the world around us. • The study of Philosophy of language makes a student aware about their social behaviors, duties and responsibilities.	**Unit-I** Language and world Frege's sense and reference Russell's definite description	Remember, understand, apply, evaluate
	Unit-II Ideational theory of meaning Referential theory of meaning Use theory of meaning	Remember, understand apply
	Unit-III Correspondence theory of meaning Coherence theory of meaning Pragmatic theory of meaning	Remember, understand, apply, evaluate
	Unit-IV Performative and constative utterances Locutionary. Illocutionary and perlocutionary acts Theory of illocutionary forces	Remember, understand, apply

Paper- PHI-HE-6036- Applied Ethics

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
After completion of the course, students will be able to • Understand significance of values in one's life. • Understand the relation between individuals with the nature and other animals. • Know about cybercrimes and its legal and ethical aspects. • Understand ethical aspects related to different professions.	**Unit- I:** Nature and Scope of applied ethics, it's relation to human values	Remember, Understand, Apply, Evaluate
	Unit- II: Use and exploitation of nature, animal rights	Remember, Understand, Apply, Evaluate
	Unit- III: Cybercrime, it's legal and ethical aspects	Remember, Understand, Apply, Evaluate
	Unit- IV: Professional ethics	Remember, Understand, Apply, Evaluate

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 idea of political theory and its relevance. ii) To enable the students to assess the contemporary trends of political theory – feminism and post-modernism iii) To reconcile 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 studentsto: i) To acquaint students with constitutional design of state structures and institutions. ii) To understand the conflicts in constitutional provisions iii) To make them comprehend 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 understand the various concepts in political theory and appreciate how they can be helpful to analyse crucial political issues. ii) To understand the significance of debates in political theory in exploring multiple perspective to concepts, ideas and issues. iii) To appreciate 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 major political institutions in India ii) To understand the major debates in Indian politics iii) To examine issues of caste, gender, region and religion iv) To understand 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 studentsto: i) To understand the basic concepts in comparative politics ii) To classify the different political systems and historical context of modern governments iii) To enable 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 enable the students to: i) To enable students to learn the basic concepts related to public administration and its importance ii) To make students learn the major theories of public administration, iii) To enable students to have an understanding of public policy and its formulation, iv) To familiarize 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 make students understand the key theoretical approaches in International relations, ii) To familiarize 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) To make students aware of the key theoretical debates in International relations iv) To enable 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 understand, comprehend and analyse the complex nature and functioning 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 demonstrate critical thinking about key issues of political system of different forms, political process and public policy. iii. to use the contents and sub-units of the course as yardsticks for comparing these political systems and processes.	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 be familiarized with and gain knowledge about the processes of public policy making 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 develop the ability to assess the functioning of the government and the 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 Adminis-tration	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 understand the wide range of important global political and economic policy problems ii) To have knowledge of the essential theoretical assumptions underlying globalisation's conceptual frameworks *iii)* To understand issues of globalisation that decides the international relations- *political, economic and security relations*-among the nations.	Unit1: Globalization: Conceptions and Perspectives	Remember, Understand,analyse & evaluate
	Unit 2: Contemporary Global Issues	Remember, Understand,analyse & 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 enable the students to: i) To interpret ideas underlying traditions in classical political philosophy ii) To analyze the debates and arguments of leading political philosophers belonging to different traditions of the period. iii) To appraise the relevance of classical political philo-sophy 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 enable the students to: i) To underline 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 evaluate 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-5016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the students to: i) To interpret ideas underlying traditions in classical political philosophy ii) To analyze the debates and arguments of leading political philosophers belonging to different traditions of the period iii) To appraise the relevance of classical political philosophy in understanding contemporary politics	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 understand the importance of constitutions. ii) To introduce various types of constitutions different parts of the world. iii) To know 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 interpret 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 underline themes and issues in political 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 assess 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-6016

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

Paper Name: Select Constitutions
Paper Code: POL-HE-6016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
This course will enable the studentsto: i. To understand the importance of constitution. ii. To introduce various types of constitutions of different parts	Unit 1: Peoples Republic of China: Revolutionary Legacy	Remember, Understand,analyse
	Unit2: Peoples Republic of China: Rights and Duties of Citizens	Remember, Understand, evaluate

of the world. iii. To know the various forms of governments from different parts of the world.	Unit 3: Switzerland: Political Traditions, Federalism	Remember, Understand, evaluate
	Unit 4: Switzerland: Direct Democracy	Remember, Understand, evaluate

Department of Botany

PROGRAMME SPECIFIC OUTCOME (BSc Botany)

- Critically evaluation of ideas and arguments by collection relevant information about the plants, so as recognize the position of plant in the broad classification and phylogenetic level.
- Acquire depth and breadth of knowledge/expertise in the field of Plant Identification.
- Iinterpretation of collected information and use taxonomical information to evaluate and formulate a position of plant in taxonomy.
- Students will be able to collect datas, formulate and analyse the collecting data but applying scientific methods.
- Students will be able to present scientific hypotheses and data both orally and in writing in the formats.
- Students will be able to access the primary literature, identify relevant works for a particular topic, and evaluate the scientific content of these works.
- Students will be able to use physical principles (physics, chemistry) for bio- chemical analysis and also analyse data by using statistical and mathematical formulas.
- Students will be able to identify the major groups‘ plants and be able to classify them within a phylogenetic framework. They will be able to compare and contrast the characteristics of plants, algae, and fungi that differentiate them from each other and from other forms of life.
- Students will be able to use the evidence of comparative biology to explain the theory of evolution for the unity and diversity of life on earth. They will be able to use specific examples to explain how modification has shaped plant morphology, physiology, and life history.
- Students will be able to explain the functions at the level of gene, genome, cell, tissue, flower development of plants. They can also be able to give specific examples of physiological adaptations, reproductions, development and mode of life cycle of different forms of plants.
- Students will be able to explain the ecological interconnections among different life forms on earth by tracing nutrient and energy flow through environment and structure of populations, communities and ecosystems.
- Students will be able to explain the experimental techniques and methods of analysis for their area of specialization within biology.

COURSE OUTCOME

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 among Algae. 2. Know the systematic, morphology and structure of Algae. 3. Understand the life cycle pattern of Algae. 4. Understand the useful and harmful activities of Algae. 5. Understand the Microbial world and their diversity. 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 nature of biomolecules. 2. Understand the different types of interaction in Biomolecules. 3. Structure and general features of enzymes. 4. Concept of enzyme activity and enzyme inhibition. 5. Understand the Biochemical nature of cell and cell organelles. 6. Know about the cell divisions: mitosis & meiosis. 7. know the endomembrane system and protein transport.	**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; Triacyl glycerols structure, functions and properties; Phosphoglycerides. **Proteins:** Structure of amino acids; Levels of protein structure-primary, secondary, tertiary and quarternary; 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; Characteristics of 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 of Fungi. 3. Know the terminologies in plant pathology. 4. Understand the scope and importance of Plant Pathology. 5. Know the prevention and control measures of plant diseases and its effect on economy of crops.	**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
	Unit 2: Mastigomycotina (Chytridiomycetes and Oomycetes) Characteristic features; Reproduction; Life cycle with reference to *Synchytrium*, *Phytophthora* and *Albugo.*	Remember, understand, apply
	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 spot of 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 seed habit, 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 and economic 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 communities and ecological adaptations in plants. 2. Understand the tissues and tissue systems of Plants. 3. Know the wood anatomy. 4. Know the anatomical difference of dicot and monocot. 5. Know the origin, development, arrangement and diversity in size and shape of 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 tissue systems, types of cells and tissues. Development of plant body: 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 and monocot 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

	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 the major introduced plant species, concept of centre of origin and their importance. 2. Know about crop domestication and loss of genetic diversity. 3. Understand the evolution of new crops /varieties. 4. Know about the germplasm diversity. 5. Understand the economic importance of various plant species.	**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
	Unit 2: Cereals Wheat and Rice (origin, morphology, processing & uses); Brief account of millets.	Remember, understand, apply
	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
	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
	Unit 6: Beverages Tea, Coffee (morphology, processing & uses).	Remember, understand, apply
	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
	Unit 8: Natural Rubber Para-rubber: tapping, processing and uses.	Remember, understand, apply

	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, Coir and 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. Know about the genomic organization or living organisms, study of genes genome, chromosome etc. 2. Gain knowledge on Mendel's genetics and its extensions. 3. Know about variation in chromosome number and structure. 4. Understand about population and evolutionary genetics.	**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 chromosome mapping 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); Detection of 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 genomic organization or living organisms, study of genes genome, chromosome etc. 2. Gain knowledge on Mendel's genetics and its extensions. 3. Know about variation in chromosome number and structure. 4. Understand about population and evolutionary genetics.	**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 of lactose 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 I and 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. Understands the inter-relationship between the living world and environment. 2. Know the soil profile and role of climate in soil development. 3. Understand the concept of ecology and its specification. 4. Understands Ecosystem and its components. 5. Understands the principles, endemism, biomes and phytogeographical divisions of India.	**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
	Unit 2: Soil Importance; Origin; Formation; Composition; Physical; Chemical and Biological components; Soil profile; Role of climate in soil development.	Remember, understand, apply
	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
	Unit 4: Adoptation of plants to various environmental factors Light, temperature, wind and fire	Remember, understand, evaluate
	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
	Unit 6: Population ecology Population characteristics, Growth curve, population regulation, r and k selection. Ecological speciation: Allopatric/ Sympatric and Parapatric speciation.	Remember, understand, apply
	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
	Unit 8: Ecosystem Structure; Processes; Trophic organisation; Food chains and Food webs; Ecological pyramids.	Remember, understand, evaluate
	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
	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 Systematics
Paper Code: BOT-HC-4036

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
1. Gain knowledge of plant identification, concept of classify-cation, principle and rules of nomenclature. 2. Gain knowledge of origin and evolution of angiosperm and their evolutionary relationship. 3. Know biometrics, numerical taxonomy and cladistics. 4. 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 reproductive develop-ment of Angiospermic	**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

plant. 2. Understand the poll-ination and fertili-zation mechanism. 3. Gain knowledge embryo, endosperm, seed, structure and their development. 4. Know about apomixes and polyembryony.	**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 (a brief 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
1. Gain knowledge of Plant water relation-ship. 2. Gain knowledge of mineral nutrition, nutrient uptake and	**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

translocation. 3. Gain knowledge of plant growth regulators, Physiology of flowerings. 4. Gain knowledge of phytochromes and phototropins.	**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
1. Comprehensive knowledge on different types of natural resources and their ecological, economical and socio-cultural values. 2. Basic understandings of land, water and forest resources. 3. Overall knowledge on resource degradation, their judicious use and management for sustainability.	**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

4. Knowledge on biodiversity- its importance management and Bioprospecting. 5. Knowledge on IPR, and global arena on resource management, conservation and benefit sharing. 6. Hands on experience on the domestic solid waste estimation and determining its impact on land degradation. 7. Hands on experience on forest study using tools like GPS/GIS, and understanding of ecological importance of forest resources	**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 Technology
Paper Code: BOT-HE-5026

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
1. Basic understandings on Horticultural science and its importance in employment genera-tion and socio-economic development. 2. Classification of horticultural crops, identification of potential horticultural crops – their cultivation, production,	**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
	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

management and commercialization. 3. Knowledge on horticultural techniques, landscaping and gardening. 4. Overall knowledge on post-harvest technology, disease management, and germplasm management for horticulture. 5. Field knowledge of gardening, nurseries, standing crops of horticultural importance	**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 handling of 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 Metabolism
Paper Code: BOT-HC-6016

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
1. Detailed knowledge of metabolic events of	**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	Remember, understand

photosynthesis and nutrient metabolism. 2. Knowledge of signalling molecules and pathways in the plant cell. 3. Practical knowledge on different types of chromatographic techniques. 4. Estimation of TAN, sugar and protein contents in plant sample	coenzyme, apoenzyme and prosthetic group; enzyme inhibition (allosteric, covalent modulation and Isozymes).	
	Unit 2: Carbon assimilation Historical background, photosynthetic pigments, role of photosynthetic pigments (chlorophylls and 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 Biotechnology
Paper Code: BOT-HC-6026

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
1. Knowledge on applications of tissue culture techniques, construction of recombinant DNA and transformation into	**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,	Remember, understand, apply

hosts, construction of DNA libraries. 2. Knowledge on development of transgenic plants for agricultural or industrial use. 3. Practical utility on isolation of plasmid DNA, its digestion and separation of fragments through gel electrophoresis. 4. Preparation of media for tissue culture techniques and photographic study of plant tissue culture. 5. Photographic study of generating transgenic plants for agriculture.	triploids and hybrids; Cryopreservation; Germplasm Conservation).	
	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 selection of 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 (RoundUp 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 Microbiology
Paper Code: BOT-HE-6016

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
1. Understanding the roles of microbes in industries and environment. 2. Basic knowledge of different kinds of bioreactors and fermentation processes. 3. Knowledge on production processes of some microbial	**Unit 1: Scope of microbes in industry and environment**	Remember, understand
	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,	Remember, understand, apply

products in industries through site visits. 4. Knowledge on application of enzymes in industries. 5. Diversity and distribution of microbes in air, water and soil. 6. Basic understandings on water microbiology and water analysis methods. 7. Usefulness of microbes in agriculture and bioremediation of contaminated soils. 8. Practical experiences on basic microbiological techniques and handlings	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).	
	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 Sciences

Paper Code: BOT-HE-6026

Course Outcome	Unit No. and Topics	Bloom's Taxonomy Domain
1. Knowledge on microscopy and imaging in plant science. 2. Principles and application of centrifuge, spectroscopy and chromatography in biology. 3. Basic knowledge on biostatistics including measures of central tendency and dispersions, statistical data analysis and representations.	**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. Practical knowledge on microscopy, chromate-graphy, centrifugation and spectroscopy	**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

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 & reactionsn (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, graviometric, nedox 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-1024 Physical Chemistry

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 Ionic of	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

the 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 of x-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 equili-brium, 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 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	General Principles of Metallurgy	Remember, understand
	Acids and Bases	Remember, understand, apply
	Chemistry of s and p Block Elements	Remember, understand, apply

structure, bonding, properties and	Noble Gases	Remember, understand

uses. Experiments in this course will boost their quantitative estimation skills and introduce the students to preparative methods in inorganic chemistry.	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 approximation etc. in chemical kinetics unit. After attending this course, the students will be able to understand different types of surface adsorption processes and basics of catalysis including enzyme catalysis, acid base catalysis and particle size effect on catalysis.	Phase Equilibria	Remember, understand, apply, evaluate
	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 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. Through the experiments students not only will be able 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.	Coordination Chemistry:	Remember, understand, apply
	Transition Elements:	Remember, understand.
	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 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.	Conductance	Remember, understand, apply, evaluate
	Electrochemistry	Remember, understand, apply, evaluate
	Electrical & Magnetic Properties of Atoms and Molecules	Remember, understand, apply, evaluate
	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 critically assess 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 techniques and photochemistry.	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
	Electronic spectroscopy:	Remember, understand, apply, evaluate
	Photochemistry	Remember, understand, apply

	Lab: • UV/Visible spectroscopy • Verify Lambert-Beer's law • Determine the conc. of $KMnO_4$ and $K_2Cr_2O_7$ 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 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	Mechanism of Inorganic Reactions	Remember, understand, apply
	Organometallic Compounds	Remember, understand
	Metal Carbonyls	Remember, understand
	Metal Alkyls	Remember, understand
	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

Paper CHE-HE-6036: **Inorganic Materials Of Industrial Importance**

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
This course will establish the basic foundation of industrial inorganic chemistry among the students. This will be helpful for pursuing further studies of industrial chemistry in future. Experiments will help the students to gather the experience of qualitative and quantitative chemical analysis. Students will be capable of doing analysis of the inorganic materials which are used in our daily life. They will have insight of the industrial processes.	Silicate Industries: Glass	Remember, understand
	Cements and ceramics	Remember, understand
	Fertilizers	Remember, understand, apply
	Surface Coatings	Remember, understand, apply
	Batteries	Remember, understand, apply
	Alloys	Remember, understand,
	Catalysis	Remember, understand, apply, evaluate
	Chemical explosives	Remember, understand, apply

	Lab: 1. Determination of free acidity in ammonium sulphate fertilizer. 2. Estimation of Calcium in Calcium ammonium nitrate fertilize 3. Estimation of phosphoric acid in superphosphate fertilizer. 4. Electroless metallic coatings on ceramic and plastic material. 5. Determination of composition of dolomite (by complexometric titration). 6. Analysis of (Cu, Ni); (Cu, Zn) in alloy or synthetic samples. 7. Analysis of Cement. 8. Preparation of pigment	Remember, understand, apply

Paper CHE-HC-6024: Organic Chemistry

Course Outcome	Unit No. And Name	Bloom's Taxonomy Level
Students will be able to explain/describe basic principles of different spectroscopic techniques and their importance in chemical/organic analysis. Students shall be able to classify/identify/critically examine carbohydrates, polymers and dye materials.	UV Spectroscopy	Remember, understand, apply
	IR Spectroscopy	Remember, understand, apply
	NMR Spectroscopy	Remember, understand, apply
	Carbohydrates	Remember, understand, apply
	Dyes	Remember, understand, apply
	Polymers	Remember, understand
	Fabrics	Remember, understand, apply

	Lab: • Extraction of caffeine from tea leaves. • Preparation of sodium polyacrylate. • Preparation of urea formaldehyde. • Analysis of Carbohydrate: • Qualitative analysis of unknown organic compounds • Identification of simple organic compounds by IR spectroscopy and NMR spectroscopy • Preparation of methyl orange.	Remember, understand, apply

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, aydrostatics 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, evaluate
	UNIT 2: Reduction formulas for integration and application of integration in geometry	Remember, Understand, apply, evaluate
	UNIT 3: Vector functions and its applications	Remember, Understand, apply, 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.	Unit1: Generalisation of complex numbers	Remember, Understand, evaluate
	Unit 2: Statements and Logic, Functions	Remember, Understand, evaluate
	Unit 3: Relations Induction Principle and number system	Remember, Understand, evaluate

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	Unit 4: System of linear equations and matrix operations	Remember, Understand, 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, evaluate
	UNIT-2: Real sequences	Remember, Understand, evaluate
	UNIT 3: Infinite series	Remember, Understand, 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) 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, evaluate
	UNIT 3: Solutions and properties of Differential equations.	Remember, Understand, apply, 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, evaluate
	UNIT 2: Continuous functions	Remember, Understand, evaluate
	UNIT 3: Differentiability of a function and related properties.	Remember, Understand, 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, evaluate
	Unit2: Quotient groups and related properties	Remember, Understand, evaluate
	Unit3: Group Homomorphisms, its properties and related theorems.	Remember, Understand, 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, evaluate
	Unit2: Study of Planes	Remember, Understand, 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, evaluate
	UNIT 2: Extrema of functions of two variables, Method of Lagrange multipliers	Remember, Understand, apply, evaluate
	UNIT 3: Double integration over rectangular and nonrectangular regions,	Remember, Understand, evaluate
	UNIT 4: Line integrals and its applications	Remember, Understand, apply, 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.	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, evaluate

iii) Interpolation techniques to compute the values for a tabulated function at points not in the table. iv) iv) Applications of numerical differentiation and integration to convert differential equations into difference equations for numerical solutions.	UNIT 3: Numerical differentiation: forward difference, backward difference and central difference. Integration: trapezoidal rule, Simpson's rule, Euler's method.	Remember, Understand, 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
	Unit 2: Polynomial Rings, PID, homomorphism isomorphism and related theorems	Remember, Understand, 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.	UNIT 1: Properties of Complex Numbers	Remember, Understand
	UNIT 2: Analytic Functions	Remember, Understand, Evaluate

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 3: Contours, Contour Integrals and Its Examples	Remember, Understand, Evaluate
	UNIT 4: Antiderivatives, Proof of Antiderivative Theorem and Other Related Theorems	Remember, Understand, Apply, 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. iv) v) Find the adjoint, normal, unitary and orthogonal operators.	Unit 1: Vector spaces and subspaces	Remember, Understand
	Unit 2: Eigenvectors and eigenvalues of a matrix, the characteristic equation, diagonalization, eigen-vectors of a linear transformation, complex eigenvalues,	Remember, Understand, 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, 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) iii) Solve linear, quadratic and system of linear congruence equations.	Unit 1: Linear Diophantine equation, prime counting function and related theorems	Remember, Understand, evaluate
	Unit 2: Number theoretic functions, sum and number of divisors, totally multiplicative functions and other functions	Remember, Understand, 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, evaluate
	Unit 2: Control Statements	Remember, Understand, apply, evaluate
	Unit 3: Arrays and subscripted variables, Functions	Remember, Understand, apply, 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) vii) Learn about the two important topological properties, namely connectedness and compactness of metric spaces.	Unit 1: Riemann integration	Remember, Understand, evaluate
	Unit 2: Metric spaces and their properties	Remember, Understand, evaluate
	Unit 3: Continuous mappings in metric spaces and other mappings related to metric spaces	Remember, Understand, 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, evaluate
	Unit 2: Canonical form of first order PDE, Method of separation of variables for first order PDE.	Remember, Understand, evaluate
	Unit 3: Reduction to canonical forms, Equations with constant coefficients, General solution.	Remember, Understand, 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. ii) 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, evaluate
	Unit2: Laplace transform and inverse transform, application to initial value problem up to second order.	Remember, Understand, evaluate
	Unit 3: Monte Carlo Simulation Modelling, Generating Random Numbers	Remember, Understand, apply, evaluate

Department of Physics

PROGRAMME SPECIFIC OUTCOME (BSc Physics)

- Knowledge of mathematical methods for vector analysis, vector differentiation, integration of vectors, curvilinear co- ordinate system, Matrix, differential equations, Algebric operation etc.
- Ability to understood mechanics.
- Ability to understood waves & oscillation.
- Knowledge of ray optics wave optics and modern optics.
- Ability to understand the properties of matter: elasticity, surface tension & viscosity.
- Ability to understand electrostatic and magneto statics.
- Knowledge of classical, quantum and statistical mechanics.
- Knowledge of computer and ability to apply computer language.
- Know Understanding the edge of astrophysics and nuclear physics.
- Understanding the theory of relativity.
- Ability to understand thermodynamics and the laws of thermodynamics and their applications.
- Understand the Solid-state Physics, Crystal and its internal composition and external behaviour
- Understand electronics, Circuit construction and critical circuit analysis.
- Understand the basic instrumental skills and their usages through hand on mood.
- Ability to undertake project work.

Course Outcome

B.Sc. Physics (Honours) Syllabus (CBCS)

Semester I

Paper Name: Mathematical Physics I
Paper Code: PHY-HC-1016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Successful students should be able to understand vector and its applications in various fields, differential equations and its applications, different coor-dinate systems, concept of probability and error.	Unit I: Vector Calculus	Remember, Understand, Apply, Analyze, Evaluate
	Unit II: First and Second order Differential Equations	Remember, Understand, Apply, Analyze, Evaluate
	Unit III: Orthogonal Curvilinear Coordinates	Remember, Understand, Apply, Analyze, Evaluate
	Unit IV: Dirac Delta function and its Properties	Remember, Understand, Apply, Analyze, Evaluate
	Unit V: Introduction to Probability	Remember, Understand, Apply, Analyze, Evaluate
	Unit VI: Theory of Errors	Remember, Understand, Apply, Analyze, Evaluate

Paper Name: Mechanics
Paper Code: PHY-HC-1026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
On successful completion of the course students should be able understand Inertial and non-inertial reference frames, Newtonian motion, Galilean transformations, projectile motion, work and energy, Elastic and inelastic collisions, motion under central force, simple harmonic oscillations, special theory of relativity.	Unit I: Fundamentals of Dynamics	Remember, Understand, Apply, Evaluate
	Unit II: Work and Energy	Remember, Understand, Apply, Analyse, Evaluate
	Unit III: Collisions	Remember, Understand, Apply, Evaluate
	Unit IV: Rotational Dynamics	Remember, Understand, Apply, Analyse, Evaluate
	Unit V: Elasticity	Remember, Understand, Apply
	Unit VI: Fluid Motion	Remember, Understand, Apply
	Unit VII: Gravitation and Central Force Motion	Remember, Understand, apply, analyse, evaluate
	Unit VIII: Oscillations	Remember, understand, apply
	Unit IX: Non-Inertial Systems	Remember, Understand, Apply, Analyse
	Unit X: Special Theory of Relativity	Remember, Understand, Apply

Semester II

Paper Name: Electricity & Magnetism
Paper Code: PHY-HC-2016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
After successful completion of this course, students will be able to Understand superposition of harmonic oscillations, different types of wave motions, superposition of harmonic waves, interference and interferometer, diffraction, holo-graphy	Unit I: Superposition of Collinear Harmonic Oscillations	Remember, Understand, Analyse, Apply
	Unit II: Superposition of Two Perpendicular Harmonic Oscillations	Remember, Understand, Analyse, Evaluate, Apply
	Unit III: Wave Motion	Remember, Understand, Analyse, Evaluate, Apply
	Unit IV: Velocity of Waves	Remember, Understand, Analyse, Apply
	Unit V: Superposition of Two Harmonic Waves	Remember, Understand, Analyse, Evaluate, Apply
	Unit VI: Wave Optics	Understand, Analyse, Evaluate, Apply
	Unit VII: Interference	Understand, Analyse, Evaluate, Apply
	Unit VIII: Interferometer	Understand, Analyse, Evaluate, Apply

Paper Name: Electricity & Magnetism
Paper Code: PHY-HC-2026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
After successful completion of this course, students will be able to Understand electric and magnetic fields in matter, Dielectric properties of matter magnetic properties of matter, electromagnetic induction, applications of Kirchhofff's law in different circuits, applications of network theorem in circuits.	Unit I: Electric Field and Electric Potential	Remember, Understand, Analyse, Evaluate, Apply
	Unit II: Dielectric Properties of Matter	Remember, Understand, Analyse, Evaluate, Apply
	Unit III: Magnetic Field	Remember, Understand, Analyse, Evaluate, Apply
	Unit IV: Magnetic Properties of Matter	Remember, Understand, Analyse, Evaluate, Apply
	Unit V: Electromagnetic Induction	Remember, Understand, Analyse, Evaluate, Apply
	Unit VI :Electrical Circuits	Remember, Understand, Analyse, Evaluate, Apply
	Unit VII : Network Theorems	Remember, Understand, Analyse, Evaluate, Apply
	Unit VIII: Ballistic Galvanometer	Remember, Understand, Analyse, Evaluate, Apply

Semester III

Paper Name: Mathematical Physics II
Paper Code: PHY-HC-3016

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
After successful completion of the course, students will be able to solve differential equation using power series solution method, solve differential equation using separation of variables method, special integrals, different properties of matrix, Fourier series.	Unit I: Frobenius Method and Special Functions	Remember, Understand, Analyse, Evaluate, Apply
	Unit II: Partial Differential Equations	Remember, Understand, Analyse, Evaluate, Apply
	Unit III: Some Special Integrals	Remember, Understand, Analyse, Evaluate, Apply
	Unit IV: Matrix	Remember, Understand, Analyse, Evaluate, Apply
	Unit V: Fourier Series	Remember, Understand, Analyse, Evaluate

Paper Name: Thermal Physics
Paper Code: PHY-HC-3026

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
Upon successful completion, students will have the knowledge and skills to identify and describe the statistical nature of concepts and laws in thermodynamics, in particular: entropy, temperature, Thermo-dynamics potentials, Free energies, Maxwell's relations in thermo- dynamics, behaviour of real gases.	Unit I: Zeroth and First Law of Thermodynamics	Remember, understand, apply
	Unit II: Second Law of Thermodynamics	Remember, understand, apply, evaluate
	Unit III: Entropy	Remember, understand, apply, evaluate
	Unit IV: Thermodynamic Potentials	Remember, understand, apply, evaluate
	Unit V: Maxwell's Thermodynamic Relations	Remember, understand, apply, evaluate
	Unit VI: Distribution of Velocities	Understand, apply, evaluate
	Unit VII: Molecular Collisions	Remember, understand, apply, evaluate
	Unit VIII: Real Gases	Remember, understand, apply, evaluate

Paper Name: **Digital Systems & Applications**
Paper Code: **PHY-HC-3016**

Course Outcome	Unit No. and Name	Blooms Taxonomy Level
After successful completion of the course student will be able to understand the working principle and application of CRO, Integrating circuits, develop a digital logic and apply it to solve real life problems, Analyze, design and implement combinational Logic circuits, Classify different semiconductor memories, Analyze, design and implement sequential logic circuits. Also students will be able to analyze digital system design using PLD, Simulate and implement combinational and sequential circuits.	Unit I: Introduction to CRO	Remember, Understand, Apply & Analyze.
	Unit II: Integrated Circuits	Remember & Understand.
	Unit III: Digital Circuits	Understand, Apply & Analyze.
	Unit IV: Boolean Algebra	Remember, Understand, Apply, Analyze & Evaluate.
	Unit V: Data Processing Circuits	Understand & Apply.
	Unit VI: Arithmetic Circuits	Understand, Apply & Analyze.
	Unit VII: Sequential Circuits	Understand, Apply & Analyze.
	Unit VIII: Timers - IC 555	Understand & Apply.
	Unit IX: Shift Registers	Understand, Apply & Analyze.
	Unit X: Counters (4 bits)	Understand & Apply.
	Unit XI: Computer Organization	Remember, Apply & Analyze.
	Unit XII: Intel 8085 Microprocessor Architecture	Understand, Apply & Analyze.
	Unit XIII: Introduction to Assembly Language	Remember, Understand & Apply.

Semester IV

Paper Name: Mathematical Physics III
Paper Code: PHY-HC-4016

Course Outcome	Unit No. and Name	Blooms Taxonomy Level
On successful completion of the course students will able to solve complex integrals using residue theorem, apply Fourier and Laplace transforms in solving differential equations, understand properties of Tensor like Transformation of coordinates, contravariant and co-variant tensors, indices rules for combining tensors.	Unit I: Complex Analysis	Remember, Understand, Analyse, Evaluate
	Unit II: Complex Integration	Remember, Understand, Analyse, Evaluate
	Unit III: Fourier Transforms	Remember, Understand, Analyse, Evaluate, Apply
	Unit IV: Laplace Transforms	Remember, Understand, Analyse, Evaluate, Apply
	Unit V: Tensor Algebra	Remember, Understand, Analyse, Evaluate, Apply

Paper Name: Elements of Modern Physics
Paper Code: PHY-HC-4026

Course Outcome	Unit No. and Name	Bloom Taxonomy Level
After completion of the course students will be able to learn modern development in Physics, Starting from Planck's law, it development of the idea of probability interpretation and the Schrodinger equation. Students will also get preliminary idea of structure of nucleus, radioactivity, Fission and Fusion, Gas filled Detectors and Laser.	Unit I: Quantum Theory and Blackbody Radiation	Remember, Understand, Apply, Analyze, Evaluate
	Unit II: Uncertainty and Wave-Particle Duality	Remember, Understand, Apply, Evaluate
	Unit III: Schrödinger Equation	Remember, Understand, Apply, Evaluate
	Unit IV: One-dimensional Box and Step Barrier	Remember, Understand, Apply, Evaluate
	Unit V: Structure of the Atomic Nucleus	Remember, Understand, Apply, Evaluate
	Unit VI: Radioactivity	Remember, Understand, Apply, Evaluate
	Unit VII : Detection of nuclear radiation	Remember, Understand, Apply, Evaluate
	Unit VIII: Fission and Fusion	Remember, Understand, Apply, Evaluate
	Unit IX: Lasers	Remember, Understand, Apply, Evaluate

Paper Name: **Analog Systems & Applications**
Paper Code: **PHY-HC-4036**

Course Outcome	Unit No. and Name	Bloom's Taxonomy Level
On successful completion of the course, students will be able to understand about the physics of semiconductor p-n junction and devices such as rectifier diodes, Zener diode, photodiode etc. and bipolar junction transistors. Students will also learn transistor biasing and stabilization circuits, the concept of feedback in amplifiers and the oscillator circuits, students will also have an understanding of operational amplifiers and their applications.	Unit I: Semiconductor Diodes	Remember, Understand, Apply, Analyze.
	Unit II: Two-terminal Devices and their Applications	Remember, Understand, Analyze, Evaluate.
	Unit III: Bipolar Junction Transistors	Understand, Apply, Analyze.
	Unit IV: Amplifiers	Remember, Understand, Apply, Analyze, Evaluate.
	Unit V: Coupled Amplifier	Understand, Apply, Analyze.
	Unit VI: Feedback in Amplifiers	Remember, Apply, Analyze.
	Unit VII: Sinusoidal Oscillators	Understand, Apply, Analyze.
	Unit VIII: Operational Amplifiers	Understand & Apply.
	Unit IX: Applications of Op-Amps	Understand, Apply, Analyze.
	Unit X: Conversion	Remember, understand, Apply.

Semester V

Paper Name: Quantum Mechanics and Applications
Paper Code: PHY-HC-5016

Course Outcome	Unit No. and Name	Bloom Taxonomy Level
On successful completion of the course students will be able to understand the principles in quantum mechanics, such as the Schrödinger equation, the wave function, the uncertainty principle, stationary and non-stationary states, time evolution of solutions, as well as the relation between quantum mechanics and linear algebra. Students will be able to solve the Schrödinger equation for hydrogen atom. Students will have the concepts of angular momentum and spin, as well as the rules for quantization and addition of these, spin-orbit coupling and Zeeman Effect.	Unit I: Time Dependent Schrödinger Equation	Remember, Understand, Apply, Analyze, Evaluate
	Unit II: Time Independent Schrödinger Equation	Remember, Understand, Apply, Analyze, Evaluate
	Unit III: Bound States	Remember, Understand, Apply, Analyze, Evaluate
	Unit IV: Hydrogen-like Atoms	Remember, Understand, Apply, Analyze, Evaluate
	Unit V: Atoms in Electric & Magnetic Fields	Remember, Understand, Apply, Analyze, Evaluate
	Unit VI: Many Electron Atoms	Remember, Understand, Apply, Analyze, Evaluate

Paper Name: Solid State Physics
Paper Code: PHY-HC-5026

Course Outcome	Unit No. and Name	Bloom Taxonomy Level
On successful completion of the course students should be able to explain the main features of crystal lattices and phonons, understand the elementary lattice dynamics and its influence on the properties of materials, describe the main features of the physics of electrons in solids; explain the dielectric ferroelectric and magnetic properties of solids and understand the basic concept in superconductivity.	Unit I: Crystal Structure	Remember, Understand, Analyse, Evaluate, Apply
	Unit II: Elementary Lattice Dynamics	Remember, Understand, Analyse, Evaluate, Apply
	Unit III: Magnetic Properties of Matter	Remember, Understand, Analyse, Evaluate, Apply
	Unit IV : Dielectric Properties of Materials	Remember, Understand, Analyse, Evaluate, Apply
	Unit V : Ferroelectric Properties of Materials	Remember, Understand, Analyse, Evaluate, Apply
	Unit VI : Free Electron Theory of Metals	Remember, Understand, Analyse, Evaluate, Apply
	Unit VII : Superconductivity	Remember, Understand, Analyse, Evaluate, Apply

Paper Name: Advanced Mathematical Physics I
Paper Code: PHY-HE-5036

Course Outcome	Unit No. and Name	Bloom Taxonomy Level
Upon completion of this course, students will be able to solve problems in Physics related to Linear Vector space, Matrix algebra, Tensor.	Unit I: Linear Vector Spaces	Remember, Understand, Analyse, Evaluate, Apply
	Unit II: Matrix	Remember, Understand, Analyse, Evaluate, Apply
	Unit III: Cartesian Tensors	Remember, Understand, Analyse, Evaluate, Apply
	Unit IV :General Tensors	Remember, Understand, Analyse, Evaluate, Apply

Paper Name: Nuclear and Particle Physics
Paper Code: PHY-HE-5056

Course Outcome	Unit No. and Name	Bloom Taxonomy Level
Upon completion of this course, students will have the understanding of the sub atomic particles and their properties. They will gain knowledge about the different nuclear techniques and their applications in different branches of Physics and societal application. The course will develop problem based skills and the acquire knowledge can be applied in the areas of nuclear, medical, archeology, geology and other interdisciplinary fields of Physics and Chemistry.	Unit I: General Properties of Nuclei	Remember, understand, apply
	Unit II: Nuclear Models	Remember, understand, apply,
	Unit III: Radioactivity decay	Remember, understand, apply, analyse, evaluate
	Unit IV: Nuclear Reactions	Remember, understand, apply, analyse, evaluate
	Unit V: Interaction of Nuclear Radiation with matter	Remember, understand, apply, analyse
	Unit VI: Detector for Nuclear Radiations	Remember, understand, apply, analyse
	Unit VII: Particle Accelerators	Remember, understand, apply, analyse
	Unit VIII: Particle physics	Remember, understand, apply

Semester VI

Paper Name: Electromagnetic Theory
Paper Code: PHY-HC-6016

Course Outcome	Unit No. and Name	Bloom Taxonomy Level
On successful completion of the course students will acquire the concepts of Maxwell's equations, propagation of electromagnetic (EM) waves in different homogeneous-isotropic as well as anisotropic unbounded and	Unit I: Maxwell Equations	Remember, understand, Evaluate, apply
	Unit II: EM Wave Propagation in Unbounded Media	Remember, understand, Evaluate, apply
	Unit III: EM Wave in Bounded Media	Remember, understand, Evaluate, apply
	Unit IV: Polarization of Electromagnetic Waves	Remember, understand, Evaluate, apply

bounded media, production and detection of different types of polarized EM waves, general information as waveguides and fibre optics	Unit V: Rotatory Polarization	Remember, understand, Evaluate, apply
	Unit VI: Optical Fibres	Remember, understand, apply, Create

Paper Name: Statistical Mechanics
Paper Code: PHY-HC-6026

Course Outcome	Unit No. and Name	Bloom Taxonomy Level
On successful completion of the course students will be learn the techniques of Statistical Mechanics to apply in various fields including Astrophysics, Semi-conductors, Plasma Physics, Bio-Physics, Chemistry and in many other directions.	Unit I: Classical Statistics	Remember, understand, apply
	Unit II: Classical Theory of Radiation	Remember, understand, apply
	Unit III: Quantum Theory of Radiation	Remember, understand, apply
	Unit IV: Bose-Einstein Statistics	Remember, understand, apply
	Unit V: Fermi-Dirac Statistics	Remember, understand, apply

Paper Name: Advanced Mathematical Physics II
Paper Code: PHY-HE-6036

Course Outcome	Unit No. and Name	Bloom Taxonomy Level
After successful completion of the course, students will be able to apply the concepts of Calculus of Variations, Group Theory and Probability Theory to solve numerical problems in Physics.	Unit I: Calculus of Variations	Remember, Understand, Analyse, Evaluate, Apply
	Unit II: Group Theory	Remember, Understand, Analyse, Evaluate, Apply
	Unit III: Advanced Probability	Remember, Understand, Analyse, Evaluate, Apply

Paper Name: Classical Dynamics
Paper Code: **PHY-HE-6056**

Course Outcome	Unit No. and Name	Bloom Taxonomy Level
Upon completion of this course, students will have the overview of Newton's Laws of Motion, Special Theory of Relativity by 4-vectoer approach and fluids. Students will also have the understanding of the Lagrangian and Hamiltonian of a	Unit I: Classical Mechanics of Point Particles	Remember, understand, apply, analyse, evaluate
	Unit II: Small Amplitude Oscillations	Remember, understand, apply,

system. By the end of this course, students will be able to solve the seen or unseen problems/ numericals in classical mechanics.	Unit III: Special Theory of Relativity	Remember, understand, apply, analyse
	Unit IV: Fluid Dynamics	Remember, understand, apply, analyse, evaluate

Department of Zoology

PROGRAMME SPECIFIC OUTCOME (BSc Zoology)

- Broad understanding of animal diversity, including knowledge of the scientific classification; evolutionary relationships among the animals and the adaptations they show.
- Understanding of ecology and relationship between biological, chemical and physical factors of the environment; the need of wildlife conservation and management.
- Understanding of how organisms function at the level of the gene, genome, cell, tissue, organ and organ-system. Drawing upon this knowledge, they are able to study the histology and comprehend the comparative anatomy of the organisms.
- Understanding of the development, growth, reproduction, various structural and physiological adaptations as well as behaviour of different forms of animal life.
- Understanding the relationships between structure and functions at different levels of biological organization (e.g., molecules, cells, organs, organisms, populations, and species) in animals and their coordinated function (Physiological, Biochemical, Endocrine and Immune system).
- Understanding the Biological Techniques, Bioinformatics and the application of statistics in Biological science.
- Understanding of the applied biological sciences or economic Zoology such as sericulture, apiculture, aquaculture, lac culture, pest and its management for their career opportunities.
- Make able to think logically from the knowledge gathered undertaking research project, assimilate and analysis of the data and ideas and concluding in the form of project report.

COURSE OUTCOME

BSc Zoology (Honours) Syllabus (CBCS)

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,
II	ZOO-HC-2016	Non-Chordates II: Coelomates	Students are able to understand about the characters and classification, social life and evolutionary	Remember, Understand, apply

			significance Coelomates.	
		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
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

	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
IV	ZOO-HC-4016	Comparative Anatomy of Vertebrates	Students are able to understand about the comparative structures of heart, aoticarches, kidney, balancing organ, hearing organ, thyroid, respiratory organs, brain of different animals which give them a definite idea not only the structure but also the structural development of that organandhow they become modified according to the irneed and environment.	Remember, Understand, Apply
		Practical	Students are able to understand and learned various skeletal parts of different organisms and their structural component.	Remember, Understand
	ZOO-HC-4026	Animal Physiology: Life Sustaining Systems	The entire animal's functions of the body are studied in this part. It includes nutrition, Respiration, heart, excretion, nerve physiology etc in which all structure, function, process and control.	Remember, Understand

IV	ZOO-HC-4036	Animal Physiology: Biochemistry of Metabolic Processes	Students are able to understand metabolic process including carbo-hydrates, lipid and protein and also ATP production.	Remember, Understand, Apply
		Biochemistry of Metabolic Processes	Students are able to learn various essays from serum and tissues.	Remember, Understand
V	ZOO-HC-5016	Molecular Biology	Students are able to understand in details about the nucleic acid, DNA replication, Protein synthesis and its modification and gene regulation.	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 Mandelianinheritance, inter action of genes, mutation andi ts effects.	Remember, Understand, Apply
		Practical	Students are able to learn about the pedigreeanalysis, gene interaction study.	Remember, Understand, Apply
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-HC-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

Course Outcome

DEPARTMENT OF GEOGRAPHY

WEST GOALPARA COLLEGE

Paper Code	Course Name	Course Outcome
GGY-HC-1016	Geomorphology	➢ The students will learn that the earth is unstable and it is undergoing constant changes due to dynamic earth's processes. ➢ The students will come to know about the meaning and scope of geomorphology as a major branch of Physical Geography. ➢ After gaining knowledge based on the contents embodied in this paper, the students will be able to realize the importance of geomorphological knowledge as applied in various developmental activities executed in different areas.
GGY-HC-1026	Cartographic Techniques	➢ Understanding the importance of various cartographic techniques in geographical study ➢ General understanding of map type, map scale and map content. ➢ An acquaintance of different cartographic techniques for representation of various facets of physical and human geographic data of any area.
GGY-HC-2016	Human Geography	➢ The paper will be useful for students in developing ideas on human-environment issues that geographers usually address in the anthropocene ➢ The paper will be useful for students preparing for UGC NET/SLET exams and other competitive exams including the civil services.
GGY-HC- 2026	Climatology and Biogeography	➢ The paper will be useful for students in developing ideas on climate related aspects of geographical analyses. ➢ The paper will help provide theoretical insights and perspectives to students if they wish to pursue a research programme in future. ➢ Students will develop a basic understanding of the introductory concepts in biogeography. ➢ The paper be very useful for students preparing for UGC NET-JRF / SLET exam and other competitive exams including civil services.

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GGY-HC-3016	Economic Geography	➢ The paper will be useful for students in developing ideas on how geographical aspects organize economic space and will offer perspectives to students if they wish to pursue a research programme. ➢ The paper will be useful for students preparing for UGC NET/SLET exams and other competitive exams including the civil services.
GGY-HC-3026	Geography of India with special reference to N.E. India	➢ The paper will be useful for students in developing understanding on Indian geography and its various dimensions. ➢ It will also be useful for students preparing for UGC NET/SLET examinations along with civil services.
GGY-HC-3036	Quantitative Methods in Geography	➢ Thorough understanding of the statistical methods and techniques used in geographical studies; ➢ Understanding of tabulation, analysis and interpretation of geographical data.
GGY –HC-4016	Environmental Geography and Disaster management	➢ The paper will be useful for students in developing ideas on environmental issues including disasters that geographers usually address. ➢ The paper will be useful for students preparing for different competitive exams including the civil services.
GGY -HC -4026	Population and Settlement Geography	➢ The paper will be useful for students in developing ideas about spatio-temporal changes in the characteristics of population & settlement and the factors associated with them.
GGY -HC -4036	Remote Sensing Techniques and GIS	➢ The paper remains useful for students in developing skills in spatial data analysis if they wish to pursue a research programme. ➢ The paper will be useful for students preparing for UGC NET/SLET exams and other competitive exams including the civil services.

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GGY-HC-5016	Social and Political Geography	➢ This course will help equip the students to comprehend various social and political aspects of phenomena and their interface within the realm of Geography. ➢ This paper attempts to give an idea about space on the earth and different theories related to it. The part of Political Geography provides knowledge about World political phenomena and theories of Political geography.
GGY -HC -5026	Field Techniques in Geography	➢ This course will help students to proceed with a research problem and the steps she/he should adopt and the tools and craft to be employed which doing quality research. ➢ Students perceive fieldwork to be beneficial to their learning because through it they experience 'geographical reality', have deeper understanding of the subject, ➢ The students will have a chance to interact with respondents and collect data through questionnaire directly from the field. ➢ Develop understanding about designing and writing a field report.
GGY -HE -5026	Regional Development and Planning	➢ The paper will be useful for students in developing ideas on disparities within and between countries and their fallout. ➢ The paper will help provide theoretical insights and perspectives to students if they wish to pursue a research programme in future. ➢ The paper be very useful for students preparing for UGC NET-JRF / SLET exam and other competitive exams including civil services.
GGY -HE -5046	Agricultural Geography	➢ The paper will be useful for students in developing ideas about agricultural practices and their distribution and characteristics ➢ The paper will also be useful to students in understanding the world agricultural systems. ➢ This paper will help develop understanding of location of agricultural activities and associated contemporary problems and challenges. ➢ It will build skills for students seeking to enroll in a research programme and/or provide openings for them with agricultural /rural planning agencies

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GGY -HC -6016	**Geographical Thought**	➢ This course develops a comprehensive understanding of the discipline ➢ The paper will be useful for students in understanding perspectives on the development and contemporary trends in geography and its systematic study. ➢ The paper will be useful for students preparing for UGC NET/SLET exams and other competitive exams including the civil services.
GGY –HC-6026	**Research Methods and Project Work**	➢ This course will help students to proceed with a research problem and the steps she/he should adopt and the tools and craft to be employed which doing quality research.
GGY-HE-6026	**Hydrology**	➢ After completion of this course the student will be able to speak on the basic concepts of hydrology and its application in river basin studies. Students will also have a practical orientation of the concepts both in laboratory and in the field.
GGY- HE- 6046	**Geography of Resources and Development**	➢ Understanding the basic concept of resource and its various types and their utilities ➢ Acquiring basic information about potentials and management of resources like land, water, forest and power in global context.

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