



MANGALDAI COLLEGE, DARRANG, ASSAM

**PROGRAMME OUTCOMES, PROGRAMME SPECIFIC
OUTCOMES**

**&
COURSE OUTCOMES**

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Mangaldai College College is affiliated to Gauhati University, Guwahati and follows the curricula prescribed by the University. The college has, hereby, stated in details the Programme Outcomes, Programme Specific Outcomes and Course Outcomes of all its programmes and courses.

1. Programme Outcomes: BA

After completing the BA Programme, a student is expected to achieve the below-mentioned programme outcomes:

- A student should be able to think critically: A student should be able to take informed actions after identifying the assumptions that frame their thinking and deeds, checking the degree to which these assumptions are accurate and valid, and assessing their ideas and decisions (intellectual, organizational, and personal) from different perspectives.
- A student should learn effective communication: A student should acquire the ability to listen, speak, read, and write clearly in person and through electronic media in English and in at least one official language of Assam, and make meaning of the world by connecting people, ideas, books, media, and technology.
- A student should learn social interaction: A student should elicit views of others, mediate disagreements, and help reach conclusions in group settings.
- A student should acquire the knowledge of effective citizenship: A student should demonstrate empathetic social concern, knowledge of equity-centred national development, and the abilities to act with an informed awareness of issues and participate in civic life through volunteering.
- A student should learn ethics: A student should recognize different value systems including their own, understand the moral dimensions of their decisions, and accept responsibility for them.
- A student should acquire the knowledge of environment and sustainability: A student should understand the issues of environmentalism and sustainable development.

- A student should acquire the knowledge of self-directed and life-long learning: A student should acquire the ability to engage in independent and life-long learning in the broad contexts of socio-technological changes.
- A student should understand the basic concepts, fundamental principles, and theories in the taught subjects.
- A student should realize the importance of literature in terms of aesthetic, mental, moral, and intellectual development of an individual and accordingly of the society.

A student should understand how issues in the social sciences get influenced by literature and how literature can provide solutions to social issues

i. BA Assamese

Programme Specific Outcomes

After the completion of the programme, a student will be able to:

1. Acquire the basic knowledge of the Assamese language, literature, and culture.
2. Know about the development of the Assamese language and its relations with other Indian languages.
3. Understand the historical growth of Assamese literature.
4. Develop a refined taste for literature and art and build the capacity of making judgments on classic and popular literatures.
5. Become familiar with literary canons and critical methods.
6. Read and assess Assamese literature from comparative and pan-Indian perspectives.
7. Associate themselves with literary practice, both in the creative and critical genres.
8. Acquire grammatical knowledge.
9. Introduce themselves to basic linguistics.
10. Apply their competence in and systemic knowledge of linguistics in analyzing the Assamese language and its dialectical variations.
11. Become familiar with multi-lingual and multi-cultural realities of Assam through both theoretical and textual knowledge as well as through visiting certain places and gathering direct experience.
12. Know about and practice performing arts like theatre, film and dance.

13. Develop human values.
14. Cultivate the ideals of patriotism, pacifism, optimism, and humanitarianism.
15. Respect democratic and secular values.
16. Love nature, culture and heritage.
17. Work towards preserving the biodiversity of earth and building a sustainable future.
18. Become morally strong to face adverse realities of life.

Course Outcomes

SL. NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOMES	PSOs ADDRESSED	BLOOM'S TAXONOMY LEVEL
BA (Honours) Assamese					
1	I	ASM- HC-1016 History of Assamese Literature from (Charyapadato Sankara Era)	<ul style="list-style-type: none"> • Conceptual ideas on the development of Assamese literature. • Knowledge on the major writers of the concerned period. • Knowledge on the major literary works of the concerned period. 	PSO 1 and PSO 3	Knowledge, Understanding

2	I	ASM-HC-1026 History of Assamese Literature from Post-Sankarito Arunoday Era)	<ul style="list-style-type: none"> • Conceptual ideas on the development of Assamese literature. • Knowledge on the major writers of the concerned period. • Knowledge on the major literary works of the concerned period. 	PSO 3	Knowledge, Understanding
3	II	ASM-HC- 2016 Introduction to Linguistics	<ul style="list-style-type: none"> • Primary Knowledge on Phonetics, Morphology and Syntax. • Knowledge on Linguistic, Grammar and their various divisions and trends. 	PSO 9	Knowledge, Understanding
4	II	ASM- HC- 2026 Literary Criticism	<ul style="list-style-type: none"> • Introduction to Basic Concepts of Literary Criticism, Genre, Western and Indian Criticism etc. 	PSO 4 and PSO 7	Knowledge, Understanding
5	III	ASM- HC- 3016 Entrance Course to Assamese Literature	<ul style="list-style-type: none"> • Development of literary taste through intense study of selected literary texts. 	PSO 4 and PSO 5	Analyse, Understanding

6	III	ASM- HC- 3026 Specimens of Assamese Poetry	<ul style="list-style-type: none"> • Introduction to history of Assamese Poetry. • Knowledge on methodology of critical analysis and evaluation of poetry. • Development of refined taste for poetry. 	PSO 4, PSO 5, PSO 13, PSO 14, PSP 16	Knowledge, Understanding, Analyse
7	III	ASM- HC- 3036 Culture of Assam	<ul style="list-style-type: none"> • Knowledge on multi-ethnic, composite culture of Assam, and its modernization. • Understanding on Assamese culture. 		Understanding
8	IV	ASM- HC- 4016 Comparative Indian Literature	<ul style="list-style-type: none"> • Comparative perspectives on Literature. • Conception of Indian and World Literature. • Study of selected texts of multilingual Indian literature. 	PSO 1, PSO 11 and PSO 15, PSO 16	Understanding, Analyse
9	IV	ASM- HC- 4026 Assimilation in Assamese: Aryan and Non-Aryan Languages	<ul style="list-style-type: none"> • Concept of Language Family- Indo- European, Sino-Tibetan and Austric. • Conceptualising Assamese as an Aryan Language with elements of Non-Aryan Languages. 	PSO 1 and PSO 2	Knowledge, Understanding

10	IV	ASM- HC- 4036 Assamese Prose Literature	<ul style="list-style-type: none"> • Knowledge on lineage of Assamese Prose. • Knowledge on various Prose styles in Assamese. 	PSO 1, PSO 4 and PSO 7	Understanding
11	V	ASM- HC- 5016 Assamese Drama and their Production	<ul style="list-style-type: none"> • Concept of drama- plot, character, dialogue, dramatic conflict etc. • Concepts on Ankiya, historical, realistic, absurd drama. • Stage art and craft. 	1, 3 and 12	Understanding
12	V	ASM- HC- 5026 Assamese Grammar	<ul style="list-style-type: none"> • Knowledge on Assamese Phonology, Morphology and Syntax. 	8 and 9	Understanding
13	V	ASM- HE- 5016 Study of Assamese Folk Literature	<ul style="list-style-type: none"> • Knowledge on Assamese folk literature- its varieties like lullaby, ballads, religious songs, folktales etc. 	1, 2 and 3	Knowledge, Understanding

14	V	ASM- HE- 5026 Assamese Romantic Poetry	<ul style="list-style-type: none"> Conceptualising Romanticism, and its impact on Assamese poetry, major Romantic poets and poems in Assamese. 	3, 14, 15, 16	Understanding, Analyse
15	V	ASM- HE- 5036 Sankardeva	<ul style="list-style-type: none"> Reading Sankardeva as an author, his merits and demerits, his contributions to Assamese literature. 	1, 3, 4	Understanding, Analyse
16	V	ASM- HE- 5046 Assamese Science Fiction	<ul style="list-style-type: none"> Understanding the meaning of science fiction. Study of exemplary texts of science fiction in Assamese. 	4	Understanding, Analyse
17	VI	ASM- HC- 6016 Assamese Short-story and Novel	<ul style="list-style-type: none"> Introduction with Assamese Short- story and Novel-their Trends, Styles, importance etc. 	1, 4, 15 and 18	Understanding, Analyse

18	VI	ASM- HC- 6026 History of Assamese Script	<ul style="list-style-type: none"> • Knowledge on development of Assamese script through ages in Indian context. • Introduction with prescribed samples of Assamese script. 	1 and 2	Knowledge, Understanding
19	VI	ASM- HE- 6016 Lakshminath Bezbaroa	<ul style="list-style-type: none"> • Knowledge on Lakshminath Bezbaroa's contribution to Assamese literature. • Study of prescribed texts. 	3, 4 and 7	Knowledge, Understanding, Analyse
Generic and Skill Courses					
20	I	ASM-HG-1016 & ASM-RC-1016 History of Assamese Literature	<ul style="list-style-type: none"> • Introduction with the emergence of Assamese literature with special reference to certain texts. 	1, 3 and 4	Knowledge, Understanding
21	I	ASM-AE- 1014 Communicative Assamese	<ul style="list-style-type: none"> • Ability to write formal letters, quotation, social media posts in Assamese 	8, 11	Knowledge, Understanding
22	II	ASM-HG- 2016 & ASM-RC- 2016 History of Assamese	<ul style="list-style-type: none"> • Same as the ASM-HG- 1016 	1, 3, and 4	Knowledge, Understanding

		Literature			
23	III	ASM-HG- 3016 & ASM-RC- 3016 Assamese Plays and Stage Art	<ul style="list-style-type: none"> • Same as ASM- HC- 5016 • Assamese Drama and theirProduction 	3, 7 and 12	Knowledge, Understanding, Analyse
24	III	ASM-SE-3014 FunctionalAssamese	<ul style="list-style-type: none"> • Skill in application of Assamese in practical and professional lives- Useof Assamese in Advertising, anchoring, public speech, debating, script writing etc. 	8 and 10	Understanding, Apply, Cognitive
25	III	ASM-CC- 3016 Ancient Assamese Literature	<ul style="list-style-type: none"> • Knowledge on prescribed Assamesetexts in historical perspectives. 	1, 2, 3	Understanding, Analyse
26	IV	ASM-SE- 4014 Creative Literature	<ul style="list-style-type: none"> • Story and Poetry writing in practice. 	5, 7, 12	Apply, Cognitive
27	IV	ASM-HG- 4016 & ASM-RC- 4016 Modern Assamese Lyrics	<ul style="list-style-type: none"> • Acquaintance with Assamese musicand its lyrical beauty. 	3, 7 and 12	Knowledge, Understanding, Analyse
28	IV	ASM- CC- 4016 Modern Assamese Literature	<ul style="list-style-type: none"> • Conceptualization of Modernity, andKnowledge on prescribed Assamese texts in historical perspectives. 	1, 2,3	Understanding, Analyse,Cognitive
29	V	ASM-SE- 5014 Recitation	<ul style="list-style-type: none"> • Skill on Recitation- theory andpractice. 	8, 10, 11	Apply, Analyse
30	V	ASM-RE- 5016	<ul style="list-style-type: none"> • Knowledge on varieties of 	1, 2	Knowledge, Understanding

		Assamese Folk Literature	Assamese Folk Literature.		
31	V	ASM-RE- 5026 Sankardeva	<ul style="list-style-type: none"> Study of prescribed texts by Sankardeva in details, and knowledge on Sankardeva's contribution to Assamese. 	1, 2, 16	Knowledge, Understanding, Analyse
32	VI	ASM-SE-6014 Assamese Spelling	<ul style="list-style-type: none"> Knowledge and Skill on Assamese spelling. 	8, 10, 11	Knowledge, Apply
33	VI	ASM-RE- 6016 Meter and Prosody	Acquaintance with basic principles and divisions of Assamese meter and prosody.	1, 2, 7	Knowledge, Understanding, Analyse.
34	VI	ASM-RE-6026 Adaptation	Adaptation of literary works within the same and different genre, e.g. from story to film, from poem to story.	6, 7, 12	Understanding, Analyse, Apply, Cognitive

ii. 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
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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 completion, 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 completion, 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: <u>Umar Farooq</u> (R.A.)	Remember, understand, apply
	Unit IV: <u>Umar Farooq</u> (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 completion, 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 completion, students will have the knowledge and practice on fundamentals of Arabic language, reading, writing, vocabulary and conversation 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, administrations, 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	Unit I: Basic grammar	Remember, understand, apply, Analysis

the knowledge and practice on Arabic speaking, reading, writing and conversation etc.	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	Unit I: Background of Arabic language and literature	Remember, understand,

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 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 bis'sa'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
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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 characteristics 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
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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

iii. BA Bengali

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

- The literature of medieval period incorporated in the syllabus gives an opportunity to the learners to know the glorious chapter of History, religion & socio-cultural conditions etc of the people of the country especially of Bengal.
- The Golden age of Bengali literature (Reminiscence /Biography / children literature of 19th-20th century), based on the values that guide the students to discriminate between right and wrong. It is very important for the students to understand the basic principles of morality so that the students may play a responsible role in any kind of undesirable situations of the society. Child literature that included in the course opens up the world of fantasy that are already in young age.
- History of Bengali literature: Old, Medieval, Modern is totally informative. The multidimensional knowledge of the subject contained in this part of the syllabus has a great importance in today's society.
- History of language and modern Bengali poems incorporated in the syllabus has a tranquilising effect which generates peace in the minds of the readers.
- Project paper included in the syllabus enhances students writing capacity, self-confidence, which helps the learners to explore more and more new ideas.
- The talents of the writers reflected in their compositions of the Bengali, Assamese and Oriya poets acquaint the learners with the life and literature of the neighboring states.

COURSE OUTCOME

BA Bengali (Honours) Syllabus (CBCS)

Semester	Course Code	Course Name	Unit & Topic	Course Outcome	Bloom's Taxonomy Level
I	BEN-HC-1016	Pragadhunik Sahitya path-1	I: Charyapada	After Completion of this course students know the social picture of Bengali Community of old period along with philosophical views.	Remember, Understand.
			II: ShriKrishnakirtan Kavya	Students are able to know Mythology, Social life depicted here.	Remember, Understand
			III: Baishnab Padavali (Pre-Chaitanya Era)	Students are able to understand about Baisnavism, Significance of Padavali Literature.	Remember, Understand
	BEN-HC-1026	Pragadhunik Sahitya path-2	I: Baishnab Kabita (Chaitanya /Post-Chaitanya Era)	Students are able to understand about Baisnavism, Significance of Padavali Literature.	Remember, Understand
			II: Annada Mangal Kavya	After Completion of this course students know about the Social Economic life, Political Knowhow of Medieval Bengal.	Remember Understand
			III: Shakta Padavali	Students are able to know about Mythology, Shakti Cult and significance of Shakta Padavali.	Remember, Understand

II	BEN- HC-2016	Bangla Bhasa Parichay	I: History of Bengali Language.	After Completion of this course students Know about Bengali Language, its origin, dialect, Sound Variation etc.	Remember, Understand, Apply
			II: Sound Variation		
			III: Semantics and Change of Meaning		
	BEN – HC-2026	Bangalir Samajik O Sanskritik Parichay	I: Bangalir Itihas	Demographical position, historical background, psychology of Bengali race in national level be learned and be helpful in many ways.	Understand
			II: Banglar Jana jiban	Geographical identity, lifestyle of Bengali be known.	Remember, Understand
			III: Bangalir Sanskriti Parichay	Here, learners know about Bengali culture under colonial era.	Remember, Understand
III	BEN- HC-3016	Lokosanskriti O Loko Sahitya.	I: Lokosahityer Songa, O Swarup, Probad, Chara, Dadha, Lokokotha.	After Completion of this course students learn about Bengali Folk-lore. Folk- culture and folk literature of Bengali gives ample	Remember, Understand
			II: Loko Gaan	opportunity to learners in many ways.	
			III: Brotokotha		
	BEN- HC- 3026	Chanda, Alamkar, O Prachya Kavyatatta	I: Chhanda	Rhetoric and prosody idea rises writing and reading skill of learners	Remember, Understand, Apply
			II: Alamkar	Rhetoric and prosody idea rises writing and reading skill of learners.	Remember, Understand, Apply

			III: Prachya Kavya Tattwa.	Poetic Theory learning helps the student for critical analysis of it.	Remember, Understand, Apply
III	BEN- HC-3036	Bangla Sahitter Itihas (Prachin O Madhya Yug)	I: Sadharan Parichay	Detail history with chronology valuable pieces of works of writers can be known by the learners.	Remember, Understand
			II: Bangla Mongolkabyer Dhara-PrakChaitanno theke ChaityanottorYug	The core of Bengali socio – economic and cultural life of medieval period depicted here.	Remember, Understand
			III: Bangla Anubad kabyer Dhara-PrakChaitanno theke ChaityanottorYug	Translation work from Sanskrit literature by Bengali scholars is helpful in many ways.	Remember, Understand
IV	BEN- HC-4016	Bangla Sahitter Itihas (Modern Yug)	I: Bangla Gadyer Bikash O Samayik Patra	Bengali Prose in 19th century and contemporary society are solid document; learners Profited.	Remember, Understand
			II: Bangla Kobita o Natak Dhara	Learners know about history of Bengali poetry and drama of Modern era.	Remember, Understand
			III: Bangla Upanyas o Chhotogolper Dhara	Students know about history of modern Bengali novel and short stories.	Remember, Understand
	BEN- HC-4026	Unish SatakerBangla Sahitya Path	I: Meghnadbadh Kavya	Contribution of Michal Madhusudhan Dutta in literature through his works can be known by the students. They can also evaluate human values.	Remember, Understand, Evaluate

			II: Kamalakanter Daptar Hutom Penchar Naksha	Mentality of the people of 19th century depicted here helps the learners more. They know about socialism and can also evaluate human values.	Remember, Understand, Analysis, Evaluate
			III: Geetikobita	Poetry of this period had taken a turn here which are necessary to know for the learners where women emancipation is viewed.	Remember, Understand.
	BEN- HC-4036	Rabindra Sahitya	I: Sanchayita	Tagorean poems enhance the learners' literary taste. They also know about Tagore's Philosophy and evaluate human values.	Remember, Understand Evaluate
			II: Jogajog	Modern psychology, especially of woman can be studied here. Learners also evaluate Gender equality and Human values.	Remember, Understand, Analysis, Evaluate
			III: Golpoguchha	After Completion of this course students Know Tagore's short stories. They also learn about impact of nature on human life.	Remember, Understand, Evaluate.
V	BEN- HC-5016	Adhunik Bangla Sahitya: Suchana Parba	I: Kabita	Students here introduce themselves with poems of Pre-independent era. They also know about communism.	Remember, Understand, Analysis.

		II: Rajani	The great novelist Bankim Chandra Chatterjee and his noble expand learners' knowledge.	Remember, Understand.
		III: Prabandha	Essays of different topics also raise learners' idea etc. Learners also informed Gender equality and scientific thinking.	Remember, Understand, Analysis, Evaluate
BEN- HC-5026	Adhunik Bangla Sahitya: Sadhinottor parbo	I: Bangla Adhunik Kabita	After Completion of this course students know about complexity of modern times, conflicts between individuals and groups, conflicts between ancient and modern, crisis of relationship between men and women. Also Students will have an idea about the various trends in modern life and their critical analysis ability will increase.	Remember, Understand, Analysis, Evaluate
		II: Adhunik Bangla Chhotogolpo		Remember, Understand, Analysis, Evaluate
		III: Sajano Bagan		Remember, Understand, Analysis, Evaluate
BEN- HE-5016	Shishu O Kishor Sahitya	I: Chhara (Abol tabol)	After completing this course, students will know about Bengali children's literature and child psychology.	Remember, Understand, Analysis.
		II: Rupkatha (ksirer putul)		
		III: Upanyas (Padipisir Barmi Baksa)		
BEN- HE-5026	Jiboni Sahitya	I: Achena Ajana Bibekananda	Students know about Vivekananda's philosophy and also unknown incidents of his life. They can evaluate human values also.	Remember, Understand, Evaluate.

VI	BEN-	Sahitter Sangaa O	II: Chhelebel	Students know about Tagore’s childhood and 19 th century’s socio-cultural life of Bengal.	Remember, Understand
			III: Nirbasiter Atmakatha	Students will know about the contribution of Bengalis in India's freedom movement.	Remember, Understand
	BEN-	Sahitter Sangaa O	I: Mahakavya	Here learners can understand	Remember,
	HC-6016	Swarup		about the branches of literature which grows the thirst for higher studies.	Understand, Apply
			II: Gitikavya O Ballad	Here learners can understand about the branches of literature which grows the thirst for higher studies.	Remember, Understand, Apply
			III: Upanyas, Chhotogolpo, Natak	Here learners can understand about the branches of literature which grows the thirst for higher studies.	Remember, Understand, Apply
	BEN-HC-6026	Pashchatya Sahityatattwa O Samalochona	I: Pashchatya Sahityatattwa-I	Students can know about the western literature theory and learners’ knowledge goes higher.	Remember, Understand, Apply
			II: Pashchatya Sahityatattwa-II	Students can know about work of various western critics and different methodology of research.	Remember, Understand, Apply
			III: Samalochok O Somalochona Paddhati	Students can know about work of various western critics and different methodology of research.	Remember, Understand, Apply

BEN-HE-6016	Uttarpurber Bangla Sahitya	I: Natak	Students can know the Bengali literature of Northeast India and also to be acquainted with socio- cultural life and life-struggle of Bengalis of the Northeast India.	Remember, Understand, Analysis
		II: Chhotogolpo		Remember, Understand, Analysis
		III: Upanyas		Remember, Understand
BEN-HE-6036	Gabeshanamulak Sandarbha likhon	I: Unish O Kuri shataker bangla samayik patra	After Completion of this course students learn research Methodology and also capable to write Research Paper.	Understand, Apply, Evaluate
		II: Kuri shataker Sahitya byaktittwa: Kabita, Prabandha		
		III: Kuri shataker Sahitya byaktittwa: golpo, upanyas		

iv. BA Education

Programme Specific Outcomes

After the completion of the programme, a student will be able to:

1. Develop an understanding of the historical development of education in the contexts of pre-independence and post-independence India.
2. Acquire the ability to understand various eastern and western schools of philosophy.
3. Acquire knowledge about the philosophical foundations of various theories and principles of education.
4. Understand human psychology from infancy to adulthood.
5. Acquire knowledge of emerging issues and current trends in the education system of India.
6. Undertake research or project work in the future.
7. Acquaint themselves with concepts of statistics.
8. Become well-equipped with the concepts of “guidance” and “counselling service”.
9. Develop efficient communication and public speaking skills and become well-trained in writing CV, resume and bio-data.
10. Acquire the ability to create and develop curriculum according to the needs and requirements of society.
11. Acquire knowledge and practice of various techniques and methods used in the teaching-learning process.
12. Become excellent teachers who are well-versed in diverse areas like individual differences and developmental psychology of a child.
13. Explore the possibility and acquire the necessary skills of becoming a teacher-trainer.
14. Become familiar with clinical psychology as a career option.
15. Know about career options as a text-book content writer.
16. To enter the field of social science research.

Course Outcomes:

SL. NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOMES	UNIT /CHAPTER	BLOOM'S TAXONOMY LEVELS
1	I	EDU-HC-1016 PRINCIPLES OF EDUCATION	1.Acquaint the sound principles of education. 2. Acquaint the important concepts of education, curriculum, democracy, discipline, and freedom. 3. Develop knowledge about different aims of education, various types of curriculums, correlation of studies, and forms of discipline. 4. Familiarize with democratic idea of modern education	Unit 1 Meaning and Concept of Education.	Remembering, Understanding
				Unit 2 Aims of Education.	Remembering, Understanding, Analysing
				Unit 3 Curriculum	Understanding, Analysing, Evaluating
				Unit 4 Discipline and Freedom.	Understanding, Analysing
				Unit 5 Democracy and Education	Understanding, Analysing
2	I	EDU-HC-1026 PSYCHOLOGICAL FOUNDATIONS OF EDUCATION	1.Explain the need of educational psychology in teaching learning process. 2. Describe the nature and theories of learning and role of motivation in learning. 3. Understand the concept of memory, forgetting, attention and interest, and understand the relationship between education and	Unit 1 Psychology and Education	Remembering, Understanding
				Unit 2 Learning and Motivation	Understanding, Analysing, Application
				Unit 3 Memory, Attention, and Interest.	Understanding, Analysing, Application

			psychology. 4. Understand intelligence, its theories and measurement.		
3	II	EDU-HC-2016 PHILOSOPHICAL AND SOCIOLOGICAL FOUNDATION OF EDUCATION	1. Know the concept of philosophy and its relationship with education. 2. Understand the educational implications of different Indian schools of philosophy. 3. Understand the educational implications of different Western schools of philosophy. 4. Know the concept of sociology and its relationship with education. 5. Develop understanding about the concept of educational sociology, social groups, and socialization.	Unit 1 Philosophy and Education	Remembering, Understanding, Analysing, Evaluating
				Unit 2 Various Indian Schools of Philosophy and Education	Understanding, Evaluating, Analysing
				Unit 3 Various Western Schools of Philosophy and Education	Understanding, Evaluating
				Unit 4 Sociology and Education	Understanding, Analysing
				Unit 5 Socio-Cultural Context of Education.	Understanding, Evaluating, Analysing
4	II	EDU-HC-2026: DEVELOPMENT OF EDUCATION IN INDIA-I	1. Recount the concept of Ancient Indian education system. 2. Describe the education system in Ancient India, particularly Vedic Education. 3. Examine the education system in Medieval India. 4. Analyse the education system during the British Period.	Unit 1 Education in Ancient and Medieval India	Remembering, Understanding, Evaluating
				Unit 2 Education in British India: The Beginning	Understanding
				Unit 3 Education in British India: In 19th Century	Understanding, Analysing, Evaluating
				Unit 4 Rise of Nationalism and its Impact on Education	Understanding, Analysing

				Unit 5 Education in British India: A Period of Experiment	Understanding ,Analysing, Evaluating
5	III	EDU-HC-3016: DEVELOPMENT OF EDUCATION IN INDIA-II	1. Understand the educational situation during the time of Independence. Explain the recommendations and educational importance of different Education Commission and Committees in post Independent India. 3. Analyze the National Policy on Education in different times. 2. Acquaint with the recent Educational Development in India.	Unit 1 Development of Indian Education in the Post Independence Period.	Remembering, Understanding, Analysing Evaluating
				Unit 2 Development of Secondary Education in the Post Independent Period	Understanding , Analysing, Evaluating
				Unit 3 Education Commission: 1964-66	Understanding, Evaluating
				Unit 4 National Policies on Education in Post Independent Period	Understanding
				Unit 5 Recent Developments and Programmes in Indian Education	Understanding, Analysing
6			1. Understand the objective of educational technology in teaching learning process. 2. Acquaint with	Unit 1 Educational Technology	Remembering, Understanding

			<p>innovations in the field of education through technology.</p> <p>3. Understand about various methods and devices of teaching.</p> <p>4. Acquaint with levels, effectiveness of teaching and classroom management.</p> <p>5. Understand the strategies of effective teaching as a profession.</p>	Unit 2 Information and Communication Technology in Teaching-Learning	Understanding, Analysing, Application
				Unit 3 Models of Teaching	Understanding
				Unit 4 Methods and Techniques of Teaching	Understanding, Analysing, Application.
				Unit 5 Lesson Planning and Micro Teaching	Understanding, Application.
7	III	EDU-HC-3036: VALUE AND PEACE EDUCATION	<p>1. Understand the concept and meaning of value.</p> <p>2. Aware about the role of educational institutions in building a value-based society.</p> <p>3. Understand the meaning and concept of peace and its importance in human life, the importance of peace education and its relevance at national and international level.</p> <p>4. Identify the different issues/challenges in imparting peace education.</p> <p>Identify the strategies and skills in promoting peace education at institutional level.</p>	Unit 1 Value	Understanding, Evaluation.
				Unit 2 Types of Values, their characteristics, functions and educational significance	Understanding, Analysing.
				Unit 3 Value Education	Understanding, Analysing, Evaluation.
				Unit 4 Peace Education	Understanding, Analysing, Evaluation

				Unit 5 Challenges of Peace Education and Role of Different Organisations	Understanding, Analysing.
8	IV	EDU-HC-4016: GREAT EDUCATIONAL THINKERS	1. Learn about the views of thinkers in an educational context. 2. Learn about the relevance of some of their thoughts in the present-day context. 3. Learn the Philosophy of life of different Educational Thinkers and their works.	Unit 1 Educational thoughts of Srimanta Sankardeva	Remembering, Understanding, Analysing
				Unit 2 Educational thoughts of Mahatma Gandhi and Rabindranath Tagore	Understanding, Analysing
				Unit 3 Educational thoughts of A.P.J. Abdul Kalam.	Understanding, Analysing
				Unit 4 Educational thoughts of Rousseau and Froebel	Understanding, Analysing
				Unit 5 Educational thoughts of John Dewey and Madam Maria Montessori	Understanding, Analysing
9	IV	EDU-HC-4026: EDUCATIONAL STATISTICS AND PRACTICAL	1. Develop the basic concept of Statistics. 2. Be acquainted with different statistical procedures used in Education. 3. Develop the ability to represent educational data	Unit 1 Basics of Educational Statistics	Understanding, Application
				Unit 2 Graphical presentations of data	Understanding, Application

			through graphs. 4. Familiarize about the Normal Probability Curve and its applications in Education.	Unit 3 Co-efficient of correlation and percentiles	Understanding , Application
				Unit 4 Normal Probability Curve and its applications	Understanding , Application
				Unit 5 Statistical Practical	Understanding , Application
10	IV	EDU-HC-4036: EMERGING ISSUES IN EDUCATION	1. Acquaint with major emerging issues national, state, and local. 2. Acquaint with the various issues in education that are emerging in the recent years in the higher education system. 3. Address the various problems and challenges of education in India at all levels.	Unit 1 Social Inequality in Education and Constitutional Safeguards	Remembering, Understanding
				Unit 2 Liberalization, Privatization and Globalization of Education	Understanding , Analysing, Evaluating
				Unit 3 Issues related to students	Understanding , Analysing,
				Unit 4 Environmental Education and Population education	Understanding Analysing, Evaluating
				Unit 5 Multi-cultural education and Alternative Education	Understanding, Analysing
11	V	EDU-HC-5016: MEASUREMENT AND EVALUATION IN EDUCATION	1. Understand the concept of measurement and evaluation in education. 2. Acquaint with the general procedure of test construction and characteristics	Unit 1 Measurement and Evaluation in Education.	Understanding, Analysing.
				Unit 2 Test Construction	Understanding.

		AND PRACTICAL	of a good test. 3. Develop an understanding of different types of educational tests and their uses. 4. Acquaint about personality test, and aptitude tests.	Unit 3 Educational Achievement Test	Understanding , Analysing, Application.
				Unit 4 Personality Test	Understanding Analysing.
				Unit 5 Laboratory Practical	Understanding, Analysing, Creating.
12	V	EDU-HC-5026: GUIDANCE AND COUNSELLING	1. Understand the concept, need and importance of Guidance and Counselling. 2. Know the different types and approaches to Guidance and Counselling. 3. Acquaints with the organization of guidance service and school guidance clinic. 4. Understand the challenges faced by the teacher as guidance worker.	Unit 1 Introduction to Guidance	Remembering, Understanding.
				Unit 2 Introduction to Counselling	Understanding, Analysing.
				Unit 3 Organisation of Guidance Service	Understanding, Analysing.
				Unit 4 Guidance needs of Students	Understanding, Evaluation.
				Unit 5 School Guidance Programme	Understanding , Analysing, Evaluating.
13	V	EDU-HE-5016: CONTINUING	1. Know the concept, objectives, scope, and significance of continuing education in the context of present	Unit 1 Continuing Education.	Remembering, Understanding, Analysing.

		NG EDUCATIO N	scenario. 2. Understand about different aspects and agencies of continuing education. 3. Realize different methods and techniques as well as issues of continuing education. 4. Know the meaning of open education and realize the importance of open school and open universities in continuing education. 5. Understand the development of adult education in India, kinds of adult education and different problems of adult education.	Unit 2 Methodologies and Issues of Continuing Education	Understanding, Analysing.
				Unit 3 Open Education.	Understanding, Analysing.
				Unit 4 Adult Education	Understanding, Analysing, Evaluating.
				Unit 5 Recent Literacy Programmes in India	Understanding
14	V	EDU-HE-5026: DEVELOPMENTAL PSYCHOLOGY	1. Understand the basic concepts relating to development. 2. Acquaint about heredity and environmental factors affecting pre-natal development. 3. Understand the development aspects during infancy and childhood. 4. Understand the development aspects of adolescence, importance of adolescence period and problems associated with this stage.	Unit 1 Introduction to Developmental Psychology	Remembering, Understanding, Evaluating.
				Unit 2 Infancy	Understanding, Evaluating.
				Unit 3 Childhood	Understanding, Evaluating.
				Unit 4 Adolescence	Understanding, Analysing.
				Unit 5 Social, Emotional and Personality Development of Adolescence	Understanding, Analysing.
15	V	EDU-HE-5036: HUMAN RIGHTS EDUCATION	1. Explain the basic concept, nature, and scope of human rights.	Unit 1 Basic Concept of Human Rights	Remembering, Understanding, Analysing.

			2. Describe the meaning, nature, principles, curriculum, and teaching methods of human rights education at different levels of Education. 3. Know the role of United Nations on human rights. 4. Understand enforcement mechanism in India and know the role of advocacy groups.	Unit 2 United Nations and Human Rights	Understanding.
				Unit 3 Human Rights-Enforcement Mechanism in India	Understanding , Analysing.
				Unit 4 Role of Advocacy Groups for Promotion of Human Rights	Analysing.
				Unit 5 Human Rights and Marginalised Sections	Analysing, Evaluating.
16	V	EDU-HE-5046: TEACHER EDUCATION IN INDIA	1. Explain the concept, scope, aims and objectives and significance of teacher education. 2. Acquaint with the development of Teacher Education in India. Acquaint with the different organizing bodies of teacher education in India and their functions in preparation of teachers for different levels of education. 4. Acquaint with the innovative trends and recent issues in teacher education, and be able to critically analyse the status of teacher education in India. 5. Understand and conceive the	Unit 1 Conceptual Framework and Historical Perspectives of Teacher Education in India	Remembering, Understanding, Analysing.
				Unit 2 Teacher Education for Different Levels of Education	Understanding, Analysing.
				Unit 3 Structure and Organisations of Teacher Education in India	Understanding.
				Unit 4 Status of Teacher Education in India: Trends, Issues and Challenges	Understanding, Evaluating.

			qualities, responsibilities, and professional ethics of teachers	Unit 5 Quality, Responsibility and Professional Ethics of Teachers	Understanding, Analysing, Evaluating.
17	VI	EDU-HC-6016: EDUCATION AND DEVELOPMENT	1. Relation between education and development. 2. Educational development in the post globalization era. 3. Role of education in community development. 4. Education for human resource development. 5. Economic and political awareness through education.	Unit 1 Basic Concepts of Education and Development	Remembering, Understanding, Evaluating.
				Unit 2 Education and Community Development	Understanding, Analysing.
				Unit 3 Education and Human Resource Development	Understanding, Analysing.
				Unit 4 Education and Economic Development	Understanding, Analysing, Evaluating.
				Unit 5 Education and Developing Political Awareness	Understanding, Analysing.
18	VI	EDU-HC-6026: PROJECT	1. Explain the process of conducting a Project. 2. Prepare a project report.		Understanding, Applying, Evaluating, Analysing, Creating.
19	VI	EDU-HE-6016: MENTAL HEALTH AND HYGIENE	1. Acquaint with the fundamentals and development of mental health and the characteristics of a mentally healthy person. 2. Understand the concept and	Unit 1 Fundamentals of Mental Health	Understanding.
				Unit 2 Mental Hygiene- Meaning and Definitions	Understanding, Analysing.

			importance of mental hygiene and its relationship with mental health. 3. Acquire knowledge about the principles, factors promoting mental health and the role of home, school, and society in maintaining proper mental health. 4. Learn the meaning and problem of adjustment and the different adjustment mechanisms. 5. Familiarize with the concept and issues of positive psychology, mental health of women, role of WHO and stress management.	Unit 3 Education and Mental Health	Understanding , Analysing, Evaluating.
				Unit 4 Preservation of Mental Health and Hygiene	Understanding, Analysing
				Unit 5 Mental Health and Yoga	Understanding, Analysing
20	VI	EDU-HE-6026: SPECIAL EDUCATION	1. Understand the meaning and importance of special education. 2. Acquaint with the different policies and legislations of special education. 3. Familiarize with the different types of special children with their characteristics. 4. Know about different issues, educational provisions, and support services of special education.	Unit 1 Special Education	Understanding , Analysing, Evaluating
				Unit 2 Physically Challenged Children	Understanding , Analysing, Evaluating
				Unit 3 Children with Intellectual Disability (Mental Retardation) and	Understanding, Analysing

				gifted	
				Unit 4 Children with Learning Disability	Understanding, Analysing, Evaluating
				Unit 5 Policies, Legislation and Services	Understanding, Analysing, Application
21	VI	EDU-HE-6036: EDUCATIONAL MANAGEMENT	1. Develop an understanding of the basic concept of educational management. 2. Know about the various resources in education. 3. Understand the concept and importance of educational planning. 4. Know about the financial resources and financial management in education.	Unit 1 Introduction to Educational Management	Understanding, Analysing
				Unit 2 Resources in Education	Understanding, Analysing
				Unit 3 Educational Planning	Understanding
				Unit 4 Institutional Planning	Understanding, Analysing, Application
				Unit 5 Financing of Education and Recent Trends in Management	Understanding, Analysing
22	VI	EDU-HE-6046: WOMEN AND SOCIETY	1. Know the changing role of women in India. 2. Understand gender discrimination	Unit 1 Status and Role of Women	Understanding, Analysing

			in Indian society. 3. Understand the constitutional provisions for women and their rights. 4. Understand women empowerment. 5. Develop an awareness and sensitivity towards women.	Unit 2 Constitutional Provisions and Rights of Women	Understanding
				Unit 3 Gender Inequalities in School and Society	Understanding, Evaluating
				Unit 4 Women Empowerment	Understanding, Analysing
				Unit 5 The Roles of Men and Women and its Implications	Understanding, Analysing

v. BA English

Programme Specific Outcomes

After the completion of the programme, a student will be able to:

1. Understand various literatures and cultures by studying European, African, American, and other texts in the syllabus.
2. Obtain a broader view of the origin of literatures of the world and the possibility of cultural exchange by studying classical literatures.
3. Acquaint themselves with latest developments in the field of literature not only from Britain but also from other parts of the world by reading and analyzing modern English literature.
4. Acquire multidimensional knowledge of the subjects contained in texts that are contextualised in different socio-cultural and political events and movements.
5. Learn about the interrelation of life and literature via the wide variety of optional papers in the syllabus.
6. Explore new ideas and become motivated to undertake comparative studies by means of exposure to various texts from around the world in the curriculum.
7. Hone their moral and ethical values based on literary texts, characters and themes.
8. Access an appropriate platform to carry out extra-literary analyses, viz., discussion of socio-environmental issues, societal inequalities, and structural hierarchies.

Course Outcomes

SL. NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOMES	UNIT/CHAPTER	BLOOM'S TAXONOMY LEVELS
1	I	ENG-HC-1016 Indian Classical Literature	After completion of the course, learners will: <ul style="list-style-type: none"> acquire knowledge about the classical literature of India by reading and understanding texts in English translation. familiarise themselves with diverse classical genres like drama and epic. understand the diversity of the category "literature". 	Kalidasa: <i>Abhijnana Shakuntalam</i>	Remember, Understand, Analyse
				Vyasa: "The Dicing", "The Sequel to Dicing", "The Book of the Assembly Hall", "The Temptation of Karna", "The Book of Effort" in <i>The Mahabharata</i>	Remember, Understand, Analyse
				Sudraka: <i>Mrcchakatika</i>	Remember, Understand, Analyse
				Ilango Adigal: "The Book of Banci" in <i>Cilappatikaram</i>	Remember, Understand, Analyse
2	I	ENG-HC-1026 Western Classical Literature	After completion of the course, learners will: <ul style="list-style-type: none"> become familiar with classical European texts across genres like drama, epic and poetry. 	Homer: <i>The Odyssey</i>	Remember, Understand, Analyse
				Sophocles: <i>Oedipus the King</i>	Remember, Understand, Analyse
				Plautus: <i>The Pot of Gold</i>	Remember, Understand, Analyse

			<ul style="list-style-type: none"> ● obtain an overview of the beginnings of European/English literature. ● acquire tools and methods to carry out literary analyses of texts. ● acquire knowledge of human character and develop moral values. ● form the foundation of studying literature as a mode of cultural exchange 	Ovid: Selections from <i>Metamorphoses</i> ; Horace: Satires I:4 in <i>Horace: Satires and Epistles and Persius: Satires</i>	Remember, Understand, Analyse
3	II	ENG-HC-2016 Indian Writing in English	After completion of the course, learners will: <ul style="list-style-type: none"> ● become acquainted with the category of Indian Writing in English and its place vis-à-vis British/English as well as global literatures. ● read and understand a variety of Indian texts in English across genres and from different time periods. ● be able to analyse issues of language, gender, nationalism and modernity in the Indian colonial and postcolonial contexts. 	H.L.V. Derozio: “Freedom to the Slave”, “The Orphan Girl”	Remember, Understand, Analyse
				Kamala Das: “Introduction”, “My Grandmother’s House”	Remember, Understand, Analyse
				Nissim Ezekiel: “Enterprise”, “Night of the Scorpion”, “Very Indian Poem in English”	Remember, Understand, Apply, Analyse
				Robin S. Ngangom: “The Strange Affair of Robin S. Ngangom”; “A Poem for Mother”	Remember, Understand, Apply, Analyse,

				Mulk Raj Anand: “The Two Lady Rams”	Remember, Understand, Analyse
				R.K. Narayan: <i>Swami and Friends</i> ; Salman Rushdie: “The Free Radio”	Remember, Understand, Analyse
				Anita Desai: <i>In Custody</i>	Remember, Understand, Analyse
				Shashi Deshpandee: “The Intrusion”	Remember, Understand, Analyse
				Manjula Padmanabhan: <i>Lights Out</i>	Remember, Understand, Analyse
				Mahesh Dattani: <i>Tara</i>	Remember, Understand, Analyse, Evaluate
4	II	ENG-HC-2026 British Poetry and Drama: 14 th to 17 th Centuries	After completion of the course, learners will: <ul style="list-style-type: none"> understand the beginnings of modern British literature. develop an awareness of the interconnections between the medieval and the modern. become acquainted with two major genres of English literature, poetry and drama. be able to evaluate 	Geoffrey Chaucer: <i>The Wife of Bath’s Prologue</i> Edmund Spenser: Selections from <i>Amoretti</i>	Remember, Understand, Analyse Remember, Understand, Analyse
				John Donne: “The Sunne Rising”, “Batter My Heart”, “Valediction: Forbidding Mourning”	Remember, Understand, Analyse
				Christopher Marlowe: <i>Doctor Faustus</i>	Remember, Understand, Analyse, Evaluate
				William Shakespeare: <i>Macbeth</i>	Remember, Understand, Analyse, Evaluate

			the socio-historical-cultural aspects of the Renaissance and the Elizabethan period		Create
				William Shakespeare: <i>Twelfth Night</i>	Remember, Understand, Analyse, Evaluate, Create
5	III	ENG-HC-3016 History of English Literature and Forms	After completion of the course, learners will: <ul style="list-style-type: none"> • become familiar with the broad and specific periods of British English literature. • acquire a sense of the historical development of literary forms and genres. • gain an understanding of the contexts in which literary forms and individual texts emerge. • learn to analyse texts by applying interpretive methods as representative of broad generic explorations. 	Poetry from Chaucer to the Present	Remember, Understand, Apply, Analyse, Evaluate
				Drama from Everyman to the Present	Remember, Understand, Apply, Analyse, Evaluate
				Fiction	Remember, Understand, Apply, Analyse, Evaluate
				Non-Fictional Prose	Remember, Understand, Apply, Analyse, Evaluate
6	III	ENG-HC-3026 American Literature	After completion of the course, learners will: <ul style="list-style-type: none"> • become familiar with the main trends of American literature in its social, 	Mark Twain: <i>The Adventures of Huckleberry Finn</i>	Remember, Understand, Analyse, Evaluate
				Edgar Allan Poe: "The Purloined Letter"	Remember, Understand, Analyse

			<p>cultural and historical contexts.</p> <ul style="list-style-type: none"> • get an overview of American society and its evolutionary stages. • gain knowledge about the various generic innovations and developments in American literature. • be able to attempt a comparative analysis of American and British literatures. <p>be able to expand their cultural understanding of the world.</p>	F. Scott Fitzgerald: “The Crack-up”	Remember, Understand, Analyse
				Anne Bradstreet: “The Prologue”	Remember, Understand, Analyse
				Emily Dickinson: “A Bird Came Down the Walk”, “Because I Could not Stop for Death”	Remember, Understand, Analyse, Evaluate
				Walt Whitman: Selections from <i>Leaves of Grass</i> : “O Captain, My Captain”, “Passage to India” (Lines: 1-68)	Remember, Understand, Apply, Analyse
				Langston Hughes: “I too”	Remember, Understand, Analyse
				Robert Frost: “Mending Wall”	Remember, Understand, Analyse
				Sherman Alexie: “Crow Testament”, “Evolution”	Remember, Understand, Analyse
7	III	<p>ENG-HC-3036</p> <p>British Poetry and Drama: 17th and 18th Centuries</p>	<p>period, viz., the shifts from the Puritan Age to the Restoration and Neoclassical Periods.</p> <ul style="list-style-type: none"> • acquire the ability to analyse larger contexts that generated the literature of the period and the effects of 	<i>of Malfi</i>	
				Aphra Behn: <i>The Rover</i>	Remember, Understand, Analyse, Evaluate, Create
				John Dryden: <i>Mac Flecknoe</i>	Remember, Understand, Apply, Analyse

			<p>such literature on society.</p> <ul style="list-style-type: none"> gain knowledge about significant phenomenon of the period like the scientific revolution in relation to literary production. 	Alexander Pope: <i>The Rape of the Lock</i>	Remember, Understand, Apply, Analyse
8	IV	ENG-HC-4016 British Literature: The 18 th Century	<p>After completion of the course, learners will:</p> <ul style="list-style-type: none"> acquire knowledge about British literature in the 18th century. learn about the reasons the period is known as the age of reason and rationality. gain insight into the rise of the novel and the development of satire. become acquainted with a particular kind of drama, namely, sentimental comedy. 	Jonathan Swift: <i>Gulliver's Travels</i> (Books III and IV)	Remember, Understand, Analyse
				Samuel Johnson: "London"	Remember, Understand, Analyse
				Thomas Gray: "Elegy Written in a Country Churchyard"	Remember, Understand, Analyse
				Daniel Defoe: <i>Moll Flanders</i>	Remember, Understand, Analyse
				Joseph Addison: "Pleasures of the Imagination", <i>The Spectator</i> , 411	Remember, Understand, Analyse, Evaluate
				Oliver Goldsmith: <i>She Stoops to Conquer</i>	Remember, Understand, Analyse
9	IV	British Romantic Literature	<ul style="list-style-type: none"> become familiar with the Romantic Movement in British literature. be able to comprehend Romanticism's relation with socio-historical developments like industrialism. 	to <i>The Songs of Innocence</i>	
				Robert Burns: "A Bard's Epitaph", "Scots Wha Hae"	Remember, Understand, Analyse
				William Wordsworth: "Tintern Abbey", "Upon Westminster Bridge"	Remember, Understand, Apply, Analyse

			<ul style="list-style-type: none"> understand some key notions of Romanticism, viz., the role of imagination in literature, the poet as an individual, critique of neoclassical ideals, etc. be able to apply the above-mentioned insights in understanding the prescribed texts. be able to evaluate the interrelations between human beings and nature. 	Samuel Taylor Coleridge: “Kubla Khan”, “Dejection: An Ode”	Remember, Understand, Apply, Analyse
				Percy Bysshe Shelley: “Ode to the West Wind”, “Hymn to Intellectual Beauty”, <i>The Cenci</i>	Remember, Understand, Analyse
				John Keats: “Ode to a Nightingale”, “To Autumn”, “On First Looking into Chapman’s Homer”	Remember, Understand, Analyse, Evaluate
				Mary Shelley: <i>Frankenstein</i>	Remember, Understand, Analyse, Evaluate
10	IV	ENG-HC-4036 British Literature: The 19 th Century	<p>After completion of the course, learners will:</p> <ul style="list-style-type: none"> become acquainted with British literature of the middle and later parts of the 19th century. learn about the novel’s coming into its own by reading and analysing pathbreaking novels of the time. become familiar with the significant poetic efforts and achievements of the period. develop human values. 	Jane Austen: <i>Pride and Prejudice</i>	Remember, Understand, Analyse, Evaluate
				Charlotte Bronte: <i>Jane Eyre</i>	Remember, Understand, Analyse
				Charles Dickens: <i>The Pickwick Papers</i> (Chapters: 1, 2, 23, 56, 57)	Remember, Understand, Analyse, Evaluate
				Thomas Hardy: “The Three Strangers”	Remember, Understand, Analyse
				Alfred Tennyson: “The Defence of Lucknow” among the Ruins”	Remember, Understand, Analyse
				Christina Rossetti: “Goblin Market”	Remember, Understand, Analyse

11	V	ENG-HC-5016 British Literature: The 20 th Century	<p>After completion of the course, learners will:</p> <ul style="list-style-type: none"> acquire knowledge about socio-politico-economic as well as aesthetic shifts in the world with the breaking of the world wars, through an understanding of 20th century British texts. become familiar with the voice of modernism in arts and literature. get an opportunity to evaluate the chief tenets of modernism, viz., desire to break with the codes and conventions of the past, experiment with new forms and idioms, etc. get acquainted with the ethos of postmodernism through a reading of recent poetic and fictional works. 	Joseph Conrad: <i>Heart of Darkness</i>	Remember, Understand, Analyse
				Virginia Woolf: <i>Mrs Dalloway</i>	Remember, Understand, Apply, Analyse
				W.B. Yeats: “The Second Coming”, “Sailing to Byzantium”	Remember, Understand, Analyse
				T.S. Eliot: “The Love Song of J. Alfred Prufrock”; “Journey of the Magi”	Remember, Understand, Apply, Analyse, Evaluate
				W.H. Auden: “In Memory of W.B. Yeats”	Remember, Understand, Analyse
				Hanif Kureishi: <i>My Beautiful Laundrette</i>	Remember, Understand, Analyse, Evaluate
				Phillip Larkin: “Church Going”	Remember, Understand, Analyse
				Ted Hughes: “Hawk Roosting”	Remember, Understand, Analyse
				Seamus Heaney: “Casualty”	Remember, Understand, Analyse
12		ENG-HC-5026 Women’s Writing	women from different geographical and socio-cultural settings.	Carol Ann Duffy: “Standing Female Nude”	Remember, Understand, Analyse, Evaluate
				Rassundari Debi: Excerpts from <i>Amar Jiban</i>	Remember, Understand, Analyse
				Katherine Mansfield: “Bliss”	Remember, Understand, Analyse

			<ul style="list-style-type: none"> ● get acquainted with the distinct experiences of women articulated in a variety of genres, namely, poetry, novel, short story, and autobiography. ● gain an understanding of the earliest feminist treatises of the western world. ● get an opportunity of reading and analysing texts as a mode of cultural exchange. 	Sylvia Plath: “Daddy”; “Lady Lazarus”	Remember, Understand, Analyse, Evaluate
				Alice Walker: <i>The Color Purple</i>	Remember, Understand, Analyse, Evaluate
				Mahashweta Devi: “Draupadi”	Remember, Understand, Analyse, Evaluate
				Nirupama Bargohain: “Celebration”	Remember, Understand, Apply, Analyse
				Adrienne Rich: “Orion”	Remember, Understand, Analyse
				Eunice De Souza: “Adviceto Women”, “Bequest”	Remember, Understand, Analyse
13	V	ENG-HE-5016	After completion of the course, learners will:	Lewis Carroll: <i>Alice in Wonderland</i>	Remember, Understand, Analyse
		Popular Literature	<ul style="list-style-type: none"> ● be able to understand the nature of popular literature as a genre. ● become equipped to engage with the critical ideas underlying the theorization of popular literature. ● gain insight into the high/low culture debate. ● be able to investigate the move of popular literature from the margins to an important 	Agatha Christie: <i>The Murder of Roger Ackroyd</i>	Remember, Understand, Apply, Analyse, Evaluate, Create
				Durgabai Vyam and Subhash Vyam: <i>Bhimayana: Experiences of Untouchability/ Autobiographical Notes on Ambedkar</i> (for visually challenged students)	Remember, Understand, Analyse

			place in the literary and critical consciousness.		
14	V	ENG-HE-5026 Modern Indian Writing in English Translation	<p>After completion of the course, learners will:</p> <ul style="list-style-type: none"> • become familiar with Indian literature written in the regional languages. • be able to explore the diverse cultural and regional contexts of the prescribed texts. • gather insight into socio-political issues of the present times. • be able to carry out comparative studies of texts from different regions and in multiple languages. • delve into the debates surrounding Indian writings in English vis-à-vis Indian writings in the regional languages. 	Premchand: “The Shroud”	Remember, Understand, Apply, Analyse
				Ismat Chughtai: “The Quilt”	Remember, Understand, Apply, Analyse
				Bhabendranath Saikia: “Celebration”	Remember, Understand, Apply, Analyse, Evaluate
				Fakir Mohan Senapati: “Rebati”	Remember, Understand, Apply, Analyse
				Rabindra Nath Tagore: “Light, Oh Where is the Light?”, “When My Play was with thee”	Remember, Understand, Apply, Analyse, Create
				G.M. Muktibodh: “The Void”, “So Very Far”	Remember, Understand, Apply, Analyse
				Amrita Pritam: “I Say Unto Waris Shah”	Remember, Understand, Apply, Analyse
				Thangjam Ibopishak Singh: “Dali, Hussain, or Odour of Dream, Colour of Wind”, “The Land of the Half- Humans”	Remember, Understand, Apply, Analyse

				Dharamveer Bharati: <i>Andha Yug</i>	Remember, Understand, Apply, Analyse
				Hiren Bhattacharyya: “What Is It That Burns in Me?”	Remember, Understand, Apply, Analyse, Evaluate, Create
15	V		After completion of the course, learners will: <ul style="list-style-type: none"> • become familiar with important texts on literary criticism and literary theory. • grasp the differences between literary theory and literary criticism. • understand the shifts in literary interpretations and critical approaches. • become equipped with analytical and interpretive tools to read texts across genres. apply the above-mentioned tools in the theoretical and practical criticism of texts.	Preface to the <i>Lyrical Ballads</i>	Analyse
				S.T. Coleridge: <i>Biographia Literaria</i> (Chapters: IV, XIII and XIV)	Remember, Understand, Apply, Analyse, Evaluate
				Virginia Woolf: “Modern Fiction”	Remember, Understand, Analyse
				T.S. Eliot: “Tradition and the Individual Talent”	Remember, Understand, Analyse
				I.A. Richards: <i>Principles of Literary Criticism</i> (Chapters: 1, 2 and 34)	Remember, Understand, Apply, Analyse
				Cleanth Brooks: “The Language of Paradox”	Remember, Understand, Apply, Analyse
				Terry Eagleton: “Introduction” to <i>Marxism and Literary Criticism</i>	Remember, Understand, Apply, Analyse, Evaluate
				Elaine Showalter: “Twenty Years on: A Literature of	Remember, Understand,

				<i>Their Own Revisited</i> ”	Analyse, Evaluate
				Toril Moi: “Introduction” to <i>Sexual/Textual Politics</i>	Remember, Understand, Analyse
				Jacques Derrida: “Structure, Sign and Play in the Discourse of the Human Science”	Remember, Understand, Apply, Analyse
				and Power”	Analyse, Evaluate
				Mahatma Gandhi: “Passive Resistance”, “Education”	Remember, Understand, Analyse, Evaluate
				Edward Said: “The Scope of Orientalism”	Remember, Understand, Apply, Analyse
				Frantz Fanon: <i>Black Skin, White Masks</i> (Chapter 4)	Remember, Understand, Analyse
16	VI	ENG-HC-6016 Modern European Drama	After completion of the course, learners will: <ul style="list-style-type: none"> • get acquainted with innovative dramatic works of playwrights from different parts of Europe. • develop an understanding of the emergence of avant-garde movements and trends in reference to drama. • learn about dramatic devices and techniques 	Henrik Ibsen: <i>Ghosts</i>	Remember, Understand, Analyse
				Anton Chekhov: <i>The Cherry Orchard</i>	Remember, Understand, Analyse
				Bertolt Brecht: <i>The Caucasian Chalk Circle</i>	Remember, Understand, Analyse
				Samuel Beckett: <i>Waiting for Godot</i>	Remember, Understand, Analyse, Evaluate

			<p>used during the period of modernism in Europe which influenced theatrical practices in other parts of the world.</p> <ul style="list-style-type: none"> be able to analyse literary-social-intellectual movements like existentialism, absurdism, nihilism, etc. 		
17	VI	ENG-HC-6026 Postcolonial Literatures	<ul style="list-style-type: none"> familiarize themselves with European colonialism since the 15th century. learn about the effects of the experience of colonialism around the world. get acquainted with texts from postcolonial literatures across the world. delve into the conditions of postcolonial peoples and societies. acquire an introduction to regional/cultural peculiarities as well as shared experiences of the postcolonial condition. 	Gabriel Garcia Marquez: <i>Chronicle of a Death Foretold</i>	Remember, Understand, Analyse
				Bessie Head: “The Collector of Treasures”; Ama Ata Aidoo: “The Girl who Can”	Remember, Understand, Analyse
				Grace Ogot: “The Green Leaves”	Remember, Understand, Analyse
				Shyam Selvadurai: <i>Funny Boy</i>	Remember, Understand, Analyse, Evaluate
				Pablo Neruda: “Tonight I can Write”; “The Way Spain Was”	Remember, Understand, Analyse
				Derek Walcott: “A Far Cry from Africa”; “Names”	Remember, Understand, Analyse
				David Malouf: “Revolving Days”; “Wild Lemons”	Remember, Understand, Analyse
				Easterine Kire: <i>When the River Sleeps</i>	Remember, Understand,

					Analyse, Evaluate
18	VI	ENG-HE-6036 Partition Literature	After completion of the course, learners will: <ul style="list-style-type: none"> learn about the far-reaching impact of partition on people. view partition as leading not only to momentary but also continual changes in human lives, emotions and values. comprehend the trauma and sufferings of people as a result of partitions in the Indian subcontinent. analyse and evaluate how writers across regions deal with partition and its aftermath. develop human values like empathy and sensitivity. 	Intizar Husain: <i>Basti</i> Amitav Ghosh: <i>The Shadow Lines</i> Manik Bandhopadhyaya: "The Final Solution"	Remember, Understand, Analyse Remember, Understand, Analyse, Evaluate Remember, Understand, Analyse
				Sa'adat Hasan Manto: "Toba Tek Singh"	Remember, Understand, Analyse, Evaluate
				Lalithambika Antharajanam: "A Leaf in the Storm"	Remember, Understand, Analyse
				Faiz Ahmad Faiz: "For Your Lanes, My Country"	Remember, Understand, Analyse
				Jibananda Das: "I Shall Return to This Bengal"	Remember, Understand, Analyse
				Gulzar: "Toba Tek Singh"	Remember, Understand, Analyse, Evaluate
19	VI	ENG-HE-6066 Writings from North East India	After completion of the course, learners will: <ul style="list-style-type: none"> understand the latest trends in writings from Northeast India. learn about the ways in which writers from the 	Mamang Dai: "On Creation Myths and Oral Narratives" Tachyscope: "The Story of Creation" Kynpham Sing Nongkynrih: "U Thlen: The Man-Eating Serpent"	Remember, Understand, Analyse Remember, Understand, Analyse, Evaluate Remember, Understand,

			<p>northeast represent the region in the national/global scenario.</p> <ul style="list-style-type: none"> • be able to analyse region-specific features and concerns of Northeast India. • evaluate the similarities and differences between the various cultures of the northeast. 		Analyse
				Deva Kanta Barua: “And we open the Gates”	Remember, Understand, Analyse, Evaluate
				Ajit Barua: “Lovely is Our Village”, Parts I & II	Remember, Understand, Analyse, Evaluate
				Rajendra Bhandari: “Time Does Not Pass”	Remember, Understand, Analyse
				Homen Borgohain: “Spring in Hell”	Remember, Understand, Analyse, Evaluate
				Temsula Ao: “An Old Man Remembers”	Remember, Understand, Analyse
				Mahim Bora: “Audition”	Remember, Understand, Analyse, Evaluate
				Gopinath Bardoloi: “Reminiscences of Gandhiji”	Remember, Understand, Analyse, Evaluate
				Moji Riba: “Rites, In Passing”	Remember, Understand, Analyse, Evaluate
				Arun Sarma: <i>Aahar</i>	Remember, Understand, Analyse

Vii. BA/BSc Economics

After the completion of the programme, a student will be able to:

9. Acquire the ability to explain core economics terms, concepts, and theories.
10. Explain the functions of market and prices as allocative mechanisms.
11. Apply the concept of equilibrium to both microeconomics and macroeconomics.
12. Identify key macroeconomics indicators and measures of economic changes with respect to growth and development.
13. Acquire knowledge of economic systems.
14. Inculcate the ability to understand economic theories and the functioning of basic microeconomic and macroeconomic systems.
15. Acquaint themselves with statistical and mathematical skills like collection, organization, tabulation, and analysis of empirical data.
16. Assess sector-specific policies and their impact on trends in key economic indicators of India.
17. Learn about major policy debates and latest empirical data.
18. Acquire in-depth knowledge of regression analysis, its associated problems and other related issues which will help them understand and analyse causal relationships in an empirical context.
19. Develop the skill of estimation and testing of empirical data-based models with the help of the OLS method.

Course Outcomes

SL. NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOMES	UNIT/CHAPTER	BLOOM'S TAXONOMY LEVELS
1	I	ECO-HC-1016 Introductory Microeconomics	This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyse real-life situations.	1. Exploring the subjectmatter of Economics	Knowledge, Understanding
				2. Supply and Demand: How Markets Work, Markets and Welfare	Knowledge, Understanding
				3. The Households	Knowledge, Understanding
				4. The Firm and PerfectMarket Structure	Knowledge, Understanding
				5. Imperfect MarketStructure	Knowledge, Understanding
				6. Input Markets	Knowledge, Understanding
2	I	ECO-HC-1026: Mathematical Methods In Economics–I	This is the first of a compulsory two-course sequence. 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, macroeconomic theory, statistics and econometrics set out in this syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of	1. Preliminaries	Knowledge, understanding, application
				2. Functions of one realvariable	Knowledge, understanding, application
				3. Differential calculus	Knowledge, understanding, application
				4. Single variable optimization	Knowledge, understanding, application

			sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook. This course examines sector-specific policies and their impact in shaping trends in key economic indicators in India. It highlights		
3	II	ECO-HC-2016: Introductory Macroeconomics	This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variables like savings, investment, GDP, money, inflation, and the balance of payments.	1. Introduction to Macroeconomics and National Income Accounting	Knowledge, Understanding
				2. Money	Knowledge, Understanding
				3. Inflation	Knowledge, Understanding
				4. The Closed Economy in the Short Run	Knowledge, Understanding
4	II	ECO-HC-2026: MATHEMATICS METHODS IN ECONOMICS – II	This course is the second part of a compulsory two-course sequence. This part is to be taught in Semester II following the first part in Semester I. The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level,	1. Linear algebra	Knowledge, understanding, application
				2. Functions of several real variables	Knowledge, understanding, application

			<p>specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this Syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook. This is the first of compulsory two-course sequence. 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, macroeconomic theory, statistics and econometrics set out in this syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook. This course examines sector-specific policies and their impact in shaping trends in key economic indicators in India. It</p>	3.Multi-variable optimization	Knowledge, understanding, application
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			highlights major policy debates and evaluates the Indian empirical evidence. Given the rapid changes taking place in the country, the reading list will have to be updated annually.		
5	III	ECO-HC-3016: INTERMEDIATE MICROECONOMIC S-I	The course is designed to provide a sound training in microeconomic theory to formally analyse the behaviour 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. This course looks at the behaviour of the consumer and the producer and also covers the behaviour of a competitive firm.	1. Consumer Theory	Knowledge, understanding
				2. Production, Costs and Perfect Competition	Knowledge, understanding
6	III	ECO-HC-3026 INTERMEDIATE MACROECONOMIC S I	This course introduces the students to formal modelling 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.	1. Aggregate Demand and Aggregate Supply Curves	Knowledge, Understanding
				2. Inflation, Unemployment and Expectations	Knowledge, Understanding
				3. Open Economy Models	Knowledge, Understanding

7	III	ECO-HC-3036: STATISTICAL METHODS FOR ECONOMICS	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	1. Introduction and Overview	Knowledge, understanding.
				2. Elementary Probability Theory	Knowledge, understanding, application, analysis
				3. Random Variables and Probability Distributions	Knowledge, understanding, application, analysis
				4. Random Sampling and Jointly Distributed Random Variables	Knowledge, understanding, application, analysis
				5. Sampling	Knowledge, understanding, analysis
8	IV	ECO-HC-4016: INTERMEDIATE MICROECONOMICS -II	This course is a sequel to Intermediate Microeconomics I. The emphasis will be on giving conceptual clarity to the student coupled with the use of mathematical tools and reasoning. It covers general equilibrium and welfare, imperfect markets and topics under information economics.	1: General Equilibrium, Efficiency and Welfare	Knowledge, understanding
				2: Market Structure and Game Theory	Knowledge, understanding
				3: Markets with Asymmetric Information	Knowledge, understanding

9			This course is a sequel to Intermediate Macroeconomics I. 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.	1. Economic Growth	Knowledge, understanding
				2. Microeconomic Foundations	Knowledge, understanding
				3. Fiscal and Monetary Policy	Knowledge, understanding
				4. Schools of Macroeconomic Thoughts	Knowledge, understanding
10	IV	ECO-HC-4036: INTRODUCTORY ECONOMETRICS	This course provides a comprehensive introduction to basic econometric concepts and techniques. 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.	1. Statistical Background	Knowledge, understanding, application
11	V	ECO-HC-5016: INDIAN ECONOMY-I	Using appropriate analytical frameworks, this course reviews major trends in economic	1. Economic Developments since Independence	Knowledge, understanding

			indicators and policy debates in India in the post-Independence period, with particular emphasis on paradigm shifts and turning points. Given the rapid changes taking place in India, the reading list will have to be updated annually.	2. Population and Human Development	Knowledge, understanding
				3. Growth and Distribution	Knowledge, understanding
				4. International Comparisons	Knowledge, understanding
12	V	ECO-HC-5026: DEVELOPMENT ECONOMICS-I	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.	1. Conceptions of Development	Knowledge, understanding
				2. Growth Models and Empirics	Knowledge, understanding
				3. Poverty and Inequality: Definitions, Measures and Mechanisms	Knowledge, understanding
				4. Political Institutions and the Functioning of the State	Knowledge, understanding

13	VI	ECO-HC-6016: INDIAN ECONOMY-II	This course examines sector-specific policies and their impact in shaping trends in key economic indicators in India. It highlights major policy debates and evaluates the Indian empirical evidence. Given the rapid changes taking place in the country, the reading list will have to be updated annually	1. Macroeconomic Policies and Their Impact	Knowledge, understanding
				2. Policies and Performance in Agriculture	Knowledge, understanding
				3. Policies and Performance in Industry	Knowledge, understanding
				4. Trends and Performance in Services	Knowledge, understanding
14	VI	ECO-HC-6026: DEVELOPMENT ECONOMICS-II	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	1. Demography and Development	Knowledge, understanding
				2. Land, Labour and Credit Markets	Knowledge, understanding
				3. Individuals, Communities and Collective Outcomes	Knowledge, understanding
				4. Environment and Sustainable Development	Knowledge, understanding

			questions of sustainable growth. The course ends with reflections on the role of globalization and increased international dependence on the process of development	5. Globalization	Knowledge, understanding
16	V	ECO-HE-5026: MONEY AND FINANCIAL MARKETS	This course exposes students to the theory and functioning of the monetary and financial sectors of the economy. It highlights the organization, structure and role of financial markets and institutions. It also discusses interest rates, monetary management and instruments of monetary control. Financial and banking sector reforms and monetary policy with special reference to India are also covered.	1. Money	Knowledge, understanding
17	V	ECO-HE-5036: PUBLIC FINANCE	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 centre, states and the local governments and the issues of fiscal federalism and decentralisation in India. The course will be useful for students aiming towards careers in the government sector, policy analysis, business and journalism.	1. Theory	Knowledge, understanding
				2: Issues from Indian Public Finance	Knowledge, understanding
18		ECO-HE-6016: ENVIRONMENT ALECONOMICS	This course focuses on economic causes of environmental problems. In particular, economic principles are	1. Introduction	Knowledge, understanding
				2. The Theory of Externalities	Knowledge, understanding

			applied to environmental questions and their management through various economics institutions, economic incentives and other instruments and policies. Economic implications of environmental policy are also addressed as well as valuation of environmental quality, quantification 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	3. The Design and Implementation of Environmental Policy	Knowledge, understanding
				4. International Environmental Problems	Knowledge, understanding
				5. Measuring the Benefits of Environmental Improvements	Knowledge, understanding
				6. Sustainable Development	Knowledge, understanding
19	VI	ECO-HE-6026: INTERNATIONAL ECONOMICS	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	1. Introduction	Knowledge, understanding
				2. Theories of International Trade	Knowledge, understanding
				3. Trade Policy	Knowledge, understanding
				4. International Macroeconomic Policy	Knowledge, understanding

			examples and case studies.		
20		ECO-HG-1016: Principles of Microeconomics–I	This course intends to expose the student to the basic principles in Microeconomic Theory and illustrate with applications.	1. Introduction	Knowledge, understanding
				2. Consumer Theory	Knowledge, understanding
				3. Production and Costs	Knowledge, understanding
				4. Perfect Competition	Knowledge, understanding
21	II	ECO-HG-2016: Principles of Microeconomics–II	This is a sequel to Principles of Microeconomics covered in the first semester	1. Market Structures	Knowledge, understanding
				2. Factor pricing	Knowledge, understanding
22	III	ECO-HG-3016: Principles of Macroeconomics–I	This course introduces students to the basic concepts in Macroeconomics. Macroeconomics deals with the aggregate economy. In this course the students are introduced to the definition, measurement of the macroeconomic variables like GDP, consumption, savings, investment and balance of payments. The course also discusses various theories of determining GDP in the short run.	1. Introduction	Knowledge, understanding
				2. National Income Accounting	Knowledge, understanding
				3. Determination of GDP	Knowledge, understanding
				4. National Income Determination with Government	Knowledge, understanding

				Intervention and Foreign Trade	
				5. Money in a Modern Economy	Knowledge, understanding
23	IV		This is a sequel to Principles of Macroeconomics–I. It analyses various theories of determination of National Income in greater detail. It also introduces students to concept of inflation, its relationship with unemployment and some basic concepts in an open economy.	1. IS-LM Analysis	Knowledge, understanding
				2. GDP and Price Level in Short Run and Long Run	Knowledge, understanding
				3. Inflation and Unemployment	Knowledge, understanding
				4. Balance of Payments and Exchange Rate	Knowledge, understanding
24		ECO-SE-3014: Data Collection and Presentation	This course helps students in understanding use of data, presentation of data using computer softwares like MS-Excel. Students will be involved practically to preparation of questionnaires /interview schedules, collection of both primary and secondary data and its presentation. Students will also be asked to prepare a report on collected data and will be evaluated accordingly.	1. Use of Data	Knowledge, understanding
				2. Questionnaires and Schedules	Knowledge, understanding, application, analysis

25	IV	ECO-SE-4014: Data Analysis	This course discusses how data can be summarized and analysed for drawing statistical inferences. The students will be introduced to important data sources that are available and will also be trained in the use of statistical softwares like SPSS/PSPP to analyse data.	1. Data entry in softwares	Knowledge, understanding, application, analysis
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vii. BA/BSc Geography

After the completion of the programme, a student will be able to:

1. Understand the basic principles of physical geography, human geography, economic geography, population and settlement geography, environmental geography, geography of resources and development, and geography of tourism.
2. Learn the basic principles of geomorphology, climatology, biogeography, environmental and disaster management, cartographic and quantitative methods, surveying techniques, remote sensing, GIS, and GPS.
3. Practice the application of theoretical principles through laboratory experiments and field studies.
4. Acquire in-depth knowledge of the geography of India with reference to Northeast India.
5. Gain theoretical and practical knowledge of regional development and planning as well as resource and development.
6. Develop the critical thinking ability in order to design, analyse, record, and map the various results that acquired through laboratory experiments and field studies.
7. Acquire knowledge about the safe handling of surveying instruments, computers, and GPS gadgets during laboratory experiments and field work.

Course Outcomes

SL. NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOMES	UNIT/CHAPTER	BLOOM'S TAXONOMY LEVELS
BA/BSc (Honours) Geography					
1	I	GGY-HG-1016 Physical	The students will learn that the earth is unstable	Physical Geography – Definition and Scope, Components of Earth System	Understand, Remember

		Geography	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, which 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 on the land and over the earth's surface.	Atmosphere – Composition and the vertical structure, Heat Balance	Understand, Remember
		Lithosphere– InternalStructureofEarthbasedonSeismicEvidence		Understand, Remember	
		Endogenetic and Exogenetic processes, Works of River, Fluvial Cycle of Erosion – Davis		Understand, Remember	
		Hydrosphere: hydrological cycle		Understand, Remember	
		Practical	Relief representation from the topographical sheet	Apply, Analyse and Evaluate	
			Profile Drawing		
			Rainfall-Temperature Graph, Climograph and Hythergraph		
2	II	GGY-HG-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 various competitive examinations including the civil services	Field of human geography	Understand, Remember
	Concepts of man-environment relationship	Understand, Remember			
	Impact of environment on man	Understand, Remember			
	Global patterns of racial, religious and linguistic composition of population	Understand, Remember			
	Origin, growth and characteristics of rural and urban settlements	Understand, Remember			
		Practical		Traditional house types of selected ethnic groups of North-East India, Trend of population growth in the world in relation to	Apply, Analyse and Evaluate

			.	five most populous countries of the world using line graph, Religious composition of population in the world and three most populous countries of the world using pie-graph, Spatial patterns of urban population in Assam and N.E. India at state level through choropleth map, Drawing of major rural settlement types/patterns; Morphological diagram of a village and a town	
3	III	GGY-HG-3016	This paper will be useful for the students in developing understanding on how geographical factors organize economic space, and to acquire knowledge about spatial patterns of various economic activities on the earth.	Meaning and scope of Economic Geograph	Understand, Remember
		Economic Geography		Economic activity	Understand, Remember
		Practical		Agriculture	Understand, Remember
				Manufacturing	Understand, Remember
				Transport system	Understand, Remember
				Trade	Understand, Remember
				Trend of rice, wheat and iron & steel production in the world/India since 1960 using moving average method, Trend of production of wheat, rice, maize and barley in the world/India since 1960 using Band-graph, Trend of balance of trade relations (export and import value) of India with Bangladesh, Nepal and Bhutan in respect of major commodities since 1990 using Bar-graph, Regional variation in fertilizer consumption and agricultural productivity in rice, wheat and barley in selected countries of the world using Bar- graph, . Inter-state	Apply, Analyse and Evaluate

				and Inter-nation volume of movement of selected commodities through flow cartogram	
4	III	GGY-HG-3026 Cartographic Methods	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.	Meaning of cartography and its need in geography	Understand, Remember
				Shape and size of the earth	Understand, Remember
				Map	Understand, Remember
				Map Projection	Understand, Remember
				Thematic map	Understand, Remember
		Practical		Construction of graphical scale; Computation work for conversion of map scale, Construction of graticule of map projection along with properties and uses: Zenithal polar gnomonic, Simple conical with one standard parallel, simple cylindrical and Gall's stereographic cylindrical, Representation of physical and human geographic data through Choropleth and Isopleth mapping and Pie cartogram	Apply, Analyse and Evaluate
5	IV	GGY-HG-4016 Geography of India with Reference 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 various	India's location and its significance; administrative divisions	Understand, Remember
				Physical setting	Understand, Remember
				Climate	Understand, Remember
				Population Growth and distribution	Understand, Remember

			competitive examinations including civil services.	Agriculture	Understand Remember
				Distribution and characteristics/potential of Natural Resources	Understand, Remember
				Factors influencing Industrial development in the country	Understand, Remember
				North-East India	Understand Remember
		Practical		Trend of population growth and growth rates in India and N.E. India, spatial variation in decennial population growth rate in India, Spatial variation in the patterns of religious composition of population in India, Trend of food grains production in India since 1950-51 using band- graph, Map showing distribution of major tribal groups in North-East India	Apply, Analyse and Evaluate
6	IV	GGY-HG-4026 Population and Settlement Geography	The paper will be useful for students in developing ideas about spatio-temporal changes in the characteristics of population and settlement and the factors associated with them. The paper will be useful for students preparing for various competitive exams including the civil services.	Defining the field of population geography	Understand, Remember
				Sources of population data	Understand, Remember
				Distribution and density of population	Understand, Remember,
				Population Growth	Understand, Remember
				Theories of population growth	Understand, Remember
				Population composition and associated characteristic patterns in global contexts	Understand, Remember

				Defining the field of settlement of geography	Understand, Remember
				Rural and urban settlements	Understand, Remember
			Practical	Population growth of Assam by line graph, choropleth map to show decadal variation in population growth, choropleth map to show density map, pie graph, Choropleth map showing spatial pattern of level of urbanization in Assam, Flow cartogram showing direction and volume of migration into Assam, Map showing distribution of towns and their varied population size with spheres in Assam	Apply, Analyse and Evaluate
7	V	GGY-RE-5016 Environmental geography and disaster management	This paper will be useful for students in developing ideas on environmental issues including disasters that geographers usually address. This paper will also be useful for students preparing for different competitive exams including the civil services.	Environmental Geography	Understand, Remember
				Meaning of hazard, disaster, risk and vulnerability	Understand, Remember
				Disaster management cycle and phases	Understand, Remember
				Major hazard and disaster and their management	Understand, Remember
				National Environmental Policy and National Disaster Management Plan	Understand, Remember
		Practical		Exploring satellite imageries and toposheets to observe bank line change of the Brahmaputra river, Mapping of major wetlands in a district and computation of	Apply, Analyse and Evaluate

				shape and size, Preparation of a map of a nearby wetland and to identify the changes in dimension, water level and encroachment it faced during the last one decade, Preparation of a long-term precipitation time series curve for any selected station of N.E. India using moving average method, Drawing of a diagram of disaster management cycle with reference to some disasters in North-East India, Drawing of a map of Assam showing the major fault lines thereon, Preparation of a disaster vulnerability map of Assam	
8	VI	GGY-RE-6026 Geography of Resources and Development	This paper will be useful to students in developing ideas on different aspects of resources, and the linkages with development issues that geographers usually address. This paper will also be useful for students preparing for different competitive examinations civil services.	Geography of Resources and Development	Understand, Remember
				Natural Resources for Development	Understand, Remember
				Development and Environment	Understand, Remember
				Global issues of Natural Resources and Development	Understand, Remember
				Pattern of Economic Development and Resource use	Understand, Remember
		Practical		Determination of levels of development in India using simple composite index and ranking method, Mapping of physiological density of population in Assam, Mapping of spatial variation of category-wise forest cover, Identification of important natural resources/ resource sites, Preparation of	Apply, Analyse and Evaluate

			resource potential map of North-East India at state level showing spatial variation in production of selected commodities, Correlation analysis of irrigation and intensity of cropping in Assam, Time series analysis of the trend of Coal production in India using moving average method	
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viii. BA History

Programme Specific Outcomes

After completion of the programme, a student will be able to:

20. Critically approach the study of history as a discipline by acquiring the ability to distinguish between fact and fiction.
21. Learn about the correlation of history with other disciplines which will enable them to adopt a multi-disciplinary approach in their work.
22. Expand their knowledge base of the history of Assam, India, and the contemporary world.
23. Develop perspectives on historical inquiry to understand different values systems like Buddhism, Jainism, Sufism, Islam, and Christianity that affected and shaped the lives of multiple cultures of the past.
24. Recognize continuity and change and sequences of historical events across civilizations in relation to any given period, viz., the Harappan, Greek, Roman, Anatolia, and Minoan.
25. Understand the concept of cause-and-effect relationship and to identify chains of events and developments, both short-term and long-term, which will enable them to identify, examine, and analyse reasons why events like important revolutions, world wars, and India's independence occurred and the resulting consequences.
26. Understand and acquire a historical perspective on important national and regional concerns such as identity, economy, polity, and culture.
27. Become sensitive to gender and social inequities.
28. Develop a range of historical skills, essential for historical inquiry and research.
29. Understand the origin, usefulness, and application of primary and secondary sources to prepare well-researched projects.

Course Outcomes

SL. NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOMES	UNIT/CHAPTER	BLOOM'S TAXONOMY LEVELS
1	I	HIS-HC-1016 History of India I	After the completion of this paper, the students will be able to explore and effectively 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
2	I	HIS-HC-1026 Social Formations and Cultural Patterns of the Ancient World	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	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

			Greece.		
3	II	HIS-HC-2016 History of India-II	On successful completion of this course the students will be able to explain 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 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
4	II	HIS-HC-2026 Social Formations and Cultural Patterns of The Medieval World Paper	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

5	III	HIS-HC-3016 History of India III (c.750 -1206)	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 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 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
				Unit IV. Trade and Commerce	Remember, understand, Analyze, Evaluate
				Unit V. Religious and Cultural Developments:	Remember, understand, Analyze, Evaluate
6	III	HIS-HC-3026 Rise of the Modern West I	On completion of this course, the students will be able to explain the major trends and developments in the Western world between the 14 th to the 16 th 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, Evaluate
7	III	HIS-HC-3036 History of India (c.1206-1550)	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.	Unit I. Sources	Remember, understand, Analyze
				Unit II. Polity:	Remember, understand, Analyze
				Unit III. Society and Economy:	Remember, understand,

			They will also be able to analyse the sources of history, regional variations, social, cultural and economic set up of the period.		Analyze
				Unit IV. Regional Politics:	Remember, understand, AnalyzeEvaluate
				Unit V. Religion and Culture:	Remember, understand, Analyze
8	IV	HIS - HC- 4016 Rise of the Modern West II	After the completion of this course, the student will be able to explain the political and intellectual currents in Europe in the Modern Age. They will also be able to relate the circumstances and casual factors of the intellectual and revolutionary currents of both Europe and America at the beginning of the Modern Age.	Unit I. Europe in the 17th Century.	Remember, understand, Analyze
				Unit II. The English Revolution:	Remember, understand, Analyze
				Unit III. European Economy	Remember, understand, Analyze
				Unit IV. Politics in the 18th century:	Remember, understand, AnalyzeEvaluate
				Unit V. Prelude to the Industrial Revolution	Remember, understand, Analyze
9	IV	HIS - HC- 4026	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	Unit I. Sources and Historiography
		History of India V(c.1550-1605)		Unit II. Establishment of Mughal rule	Unit II. Establishment of Mughal rule
				Unit III. Consolidation of Mughal rule under Akbar:	Unit III. Consolidation of Mughal rule under Akbar:
				Unit IV. Expansion and Integration:	Unit IV. Expansion and Integration:
				Unit V. Rural Society and Economy:	Unit V. Rural Society and Economy:
10	IV	HIS-HC-4036	After the completion of this course, the students will be able	Unit I. Political Culture under Jahangir and Shah Jahan:	Remember, understand, Analyze,

		History of India VI (c.1605-1750)	to explain and reconstruct the linkages of the history of India under the Mughal Rule. As a whole, this course will enable them to relate to the socio-economic and religious orientation of the people of Medieval period in India.	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
11	V	HIS-HC-5016 History of Modern Europe-I (c. 1780-1939)	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 able 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
12	V	HIS-HC-5026 History of India VII (c.1780 - 1857)	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
13	V	HIS-HE-5016 History of Assam Upto c. 1228	This paper will give a general outline of the history of Assam from the earliest times to the advent of the Ahoms in the 13 th	Unit-I: a) A brief survey of the sources: Literary, Archaeological b) Land and people: Migration routes	Remember, understand, Analyze

			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.	c) Cultural linkages with South East Asia : the Stone Jars of Dima Hasao	
				Unit-II: a) Origin and antiquity of Pragjyotisha or Kamrupa Society b) Traditional rulers and early History 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	Remember, understand, Analyze

				architecture	
14	V	HIS-HE-5026 History of Assam (c.1228-1826)	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 history of Assam from the 13 th century to the occupation of Assam by the English East India Company in the first quarter of the 19 th century	<p>Unit-1</p> <p>[a] Sources- archaeological, epigraphic, literary, numismatic and accounts of the foreign travelers; <i>Buranjis</i></p> <p>[b] Political conditions of the Brahmaputra valley at the time of foundation of the Ahom kingdom.</p> <p>[c] Siu-ka-pha - An assessment</p> <p>[d] State information in the Brahmaputra valley-the Chutiya, Kachari and the Koch</p> <p>d) state</p>	Remember, understand, Analyze.
				<p>Unit-II</p> <p>[a] Expansion of the Ahom Kingdom in the 16th century: Suhungmung (Dihingiya Raja)</p> <p>[b] Political Developments in the 17th century: rule of Pratap Singha)</p> <p>d) Ahom-Mughal wars- the treaty of 1639</p>	Remember, understand, Analyze.

				<p>Unit –III</p> <p>[a] Assam in the second half of the 17th Century- the Ahom- Mughal Wars – Mir Jumla’s Assam Invasion- causes and consequences,</p> <p>[b] Invasion of Ram Singha - the Battle of Saraighat (1671) and its results</p> <p>d) Post-Saraighat Assam: Ascendancy of the Tungkhungia dynasty – the reign of Gadadhar Singha</p>	Remember, understand, Analyze.
				<p>Unit: IV</p> <p>[a] Ahom Rule at its zenith of Rudra Singha (1696-1714) to Rajeswar Singha (1751-1769)</p> <p>[b] Decline and fall of the Ahom Kingdom the Moamariya Rebellion and the</p> <p>[c] Burmese Invasions- The English East India Company in Assam Politics</p> <p>d) Treaty of Yandaboo and Assam</p>	Remember, understand, Analyze, Evaluate.
				<p>Unit :V</p> <p>[a] Ahom system of administration: the Paik system</p> <p>[b] Ahom Policy towards the</p>	Remember, understand, Analyze.

				neighbouring hilltribes [b] Religious life --Sankaradeva and the Neo Vaishnavite Movement- background and implications e) Cultural developments : Art, Architecture and literature.	
15	VI	HIS-HC-6016 History of India VIII (c. 1857 - 1950)	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
16	VI	HIS-HC-6026 History of Modern Europe II (c. 1780 -1939)	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	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

			Europe, the students will be able to situate the historical development of working class movements,	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 Development since circa 1850	Remember, understand, Analyze, Evaluate
17	VI	HIS-HE-5026 History of Assam (c.1228-1826)	Upon completion of this course, students will be able to describe the period of British rule in Assam after its annexation by the 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.	Unit I: [a] Political condition in Assam on the eve of the British rule. [b] Establishment and Consolidation of the British rule: Reforms and Reorganizations- David Scott – Annexation of Lower Assam, Administrative Measures	Remember, understand, Analyze,
				Unit II: [a] Ahom Monarchy in Upper Assam (1833-38) [b] Annexation of Cachar [c] Early phase of Revolts and Resistance to British rule- Gomdhar Konwar, Piyali Phukan, U.Tirut Singh, [d] The Khamti and the Singpho rebellion	Remember, understand, Analyze

				e) The 1857 Revolt in Assam and its aftermath	
				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. e) Government of India Act, 1919– Dyarchy on Trial in Assam.	Remember, understand, Analyze
				Unit IV : [a] Non Co-operation Movement and SwarajistPolitics in Assam [b] The Civil Disobedience Movement [c] Trade Union and Allied Movements [d] e) 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 f) Migration, Line System and	Remember, understand, Analyze

				its Impact on Politics in Assam	
18	VI	HIS-HE-6026 Assam Since Independence	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

ix. BA Political Science

After the completion of the programme, a student will be able to:

1. Become familiar with the basic concepts of political theory, global politics, public administration, and comparative politics.
2. Understand the basis of key public institutions and their functioning.
3. Become aware about human rights, gender studies, global peace, and conflict.
4. Develop critical thinking about various political and administrative institutions and their functioning.
5. Carry out critical and reflective analysis and interpretation of social practices through relevant political ideologies.
6. Develop logical thinking about socio-political and economic issues on the basis of contemporary political discourses.
7. Understand the trajectory of development of political thoughts and their implications on the formation of social ideas.

Course Outcomes

SL. NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOMES	UNIT/CHAPTER	BLOOM'S TAXONOMY LEVELS
1	I	POL HC 1016 Understanding Political Theory	The course syllabus is divided into two sections. Section A deals with the idea of political theory, its history and approaches, and an assessment of its Critical and contemporary trends. On the other hand, Section B is designed to reconcile political theory and Practice through reflections on the ideas and practices related to democracy	I. Introducing Political Theory II. Political Theory and Practice, The Grammar of Democracy	Remember, Understanding, Application

2	I	POL HC 1026 Constitutional Government and Democracy In India	This course acquaints students with the constitutional design of state structures and institutions, and their actual working overtime. The Indian Constitution accommodates conflicting impulses (of liberty and justice, territorial decentralization and a strong union, for instance) within itself. The course traces the embodiment of some of the conflicts in constitutional provisions, and shows how these have played out in political practice. It further encourages a study of state institutions in their mutual interaction, and in interaction with the larger extra-constitutional environment.	I. The Constituent Assembly and the Constitution II Organs of Government	Remember, Understanding Analyze Evaluate
				III Federalism and Decentralisation	
3	II	POL HC 2016 Political Theory Concepts and Debates	This course is divided into two sections. Section A helps the student familiarize with the basic normative concepts of political theory. Each concept is related to a crucial political issue that requires analysis with the aid of our conceptual understanding. This exercise is designed to encourage critical and reflective analysis and interpretation of social practices through the relevant conceptual toolkit. Section B introduces the students to the important debates in the subject. These debates prompt us to consider that there is no settled way of	I Importance of Freedom II significance of Equality III. Indispensability of Justice IV The Universality of Rights V. Major Debates.	Remember, Understanding Apply Analyze

			understanding concepts and that in the light of new insights and challenges, besides newer ways of perceiving and interpreting the world around us, we inaugurate new modes of political debates.		
4	II	POL HC 2026 Political Process in India	Actual politics in India diverges quite significantly from constitutional Legal rules. An understanding of the political process thus calls for a different mode of analysis - that offered by political sociology. This course maps the working of _modern_ institutions, premised on the existence of an individuated society, in a context marked by communitarian solidarities, and their mutual transformation thereby. It also familiarizes students with the working of the Indian state, paying attention to the contradictory dynamics of modern state power	I Political Parties and the Party system II Determinants of Voting Behaviour III Regional Aspirations IV Religion and Politics V. Caste and Politics VI Affirmative Action Policies The Changing nature of the Indian States	Remember, Understanding Analyze Evaluate

5	III	POL HC 3016 Introduction to Comparative Government and Politics	This is a foundational course in comparative politics. The purpose is to familiarize students with the basic concepts and approaches to the study of comparative politics. More specifically the course will focus on examining politics in a historical framework while engaging with various themes of comparative analysis in developed and developing countries.	I Understanding Comparative Politics II Historical Context Of Modern Government III Themes for Comparative Analysis	Remember, Understanding Apply Analyze
6	III	POL HC 3026 Perspectives on Public Administration	The course provides an introduction to the discipline of public administration. This paper encompasses public administration in its historical context with an emphasis on the various classical and contemporary administrative theories. The course also explores some of the recent trends, including feminism and ecological conservation and how the call for greater democratization is restructuring public administration. The course will also attempt to provide the students a comprehensive understanding on contemporary administrative developments	I Public Administration as a Discipline II Theoretical Perspectives Classical Theories III Public Policy IV Major Approaches in Public Administration	Remember, Understanding analyze

7	III	POL HC 3036 Perspectives on International Relations and World History	This paper seeks to equip students with the basic intellectual tools for understanding International Relations. It introduces students to some of the most important theoretical approaches for studying international relations. The course begins by historically contextualizing the evolution of the international state system before discussing the agency structure problem through the levels-of-analysis approach. After having set the parameters of the debate, students are introduced to different theories in International Relations. It provides a fairly comprehensive overview of the major political developments and events starting from the twentieth century. Students are expected to learn about the key milestones in world history and equip them with the tools to understand and analyze the same from different perspectives.	I Studying International Relations II Theoretical Perspectives III An Overview of 20 th century IR History, World War II onwards	Remember, Understanding Analyze
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8	IV	POL HC 4016 Political Processes and Institutions in Comparative Perspective	In this course students will be trained in the application of comparative methods to the study of politics. The course is comparative in both what we study and how we study. In the process the course aims to introduce undergraduate students to some of the range of issues, literature, and methods that cover comparative politics.	I Approaches to Studying Comparative Politics II Electoral System III Party system IV Nation- State V Democratiz ation VI Federalism.	Remember, Understanding Apply Evaluate
9	IV	POL HC 4026 Public Policy and Administration in India	The paper seeks to provide an introduction to the interface between public policy and administration in India. The essence of public policy lies in its effectiveness in translating the governing philosophy into programs and policies and making it a part of the community living. It deals with issues of decentralization, financial management, citizens and administration and social welfare from a non-western perspective.	I Public Policy II Decentraliza tion III Budget	Remember, Understanding Apply Analyze Evaluate

10	IV	POL HC 4036 Global Politics	This course introduces students to the key debates on the meaning and nature of globalization by addressing its political, economic, social, cultural and technological dimensions. In keeping with the most important debates within the globalization discourse, it imparts an understanding of the working of the world economy, its anchors and resistances offered by global social movements while analyzing the changing nature of relationship between the state and trans-national actors and networks. The course also offers insights into key contemporary global issues such as the proliferation of nuclear weapons, ecological issues, international terrorism, and human security before concluding with a debate on the phenomenon of global governance	I Globalization II Comparative Global Issues III Global Shifts	Remember, Understanding Analyze Evaluate
11	V	POL HC 5016 Classical Political Philosophy	This course goes back to Greek antiquity and familiarizes students with the manner in which the political questions were first posed. Machiavelli comes as an interlude inaugurating modern politics followed by Hobbes and Locke. This is a basic foundation course for students.	I Text and Interpretation II Antiquity II Interlude IV Possessive Individualism	Remember, Understanding Analyze Evaluate

12	V	POL HC 5026 Indian Political Thought-I	This course introduces the specific elements of Indian Political Thought spanning over two millennia. The basic focus of study is on individual thinkers whose ideas are however framed by specific themes. The course as a whole is meant to provide a sense of the broad streams of Indian thought while encouraging a specific knowledge of individual thinkers and texts. Selected extracts from some original texts are also given to discuss in class. The list of additional readings is meant for teachers as well as the more interested students.	I Traditions of Pre Colonial Indian Political Thought II Ved Vyas III Manu IV Kautilya V Aggar nasutta VI Barani VII Abul Fazal VIII Kabir	Remember, Understanding Analyze Evaluate
13	V	POL HE 5016 Human Rights	: This course provides a theoretical and practical understanding of the concepts and methods that can be employed in the analysis of public policy. It uses the methods of political economy to understand policy as well as understand politics as it is shaped by economic changes. The course will be useful for students who seek an integrative link to their understanding of political science, economic theory and the practical world of development and social change.	I Introduction to Human Rights II Approaches and Perspectives III Human Rights and UNO IV Human Rights and the Role of NGOs	Remember, Understanding Analyze Evaluate

14	V	POL HE 5046 Select Constitution I	The course introduces the constitutional and political systems of two (2) countries. Students will have a stronger and more informed perspective on approaches to studying the constitutional and political systems of these countries in a comparative manner.	I Constitution and Constitutionalism II United Kingdom III United States of America IV Comparative Study of UK and USA	Remember, Understanding Analyze Evaluate
15	VI	POL HC 6016 Modern Political Philosophy	Philosophy and politics are closely intertwined. We explore this convergence by identifying four main tendencies here. Students will be exposed to the manner in which the questions of politics have been posed in terms that have implications for larger questions of thought and existence	I Modernity and Its Discourses II Romantics III Liberal Socialist IV Radicals	Remember, Understanding Analyze Evaluate
16	VI	POL HC 6026 Indian Political Thought-II	Based on the study of individual thinkers, the course introduces a wide span of thinkers and themes that defines the modernity of Indian political thought. The objective is to study general themes that have been produced by thinkers from varied social and temporal contexts. Selected extracts from original texts are also given to discuss in the class. The list of additional readings is	I Introduction to Modern Indian Political Thought II Rammohan Roy III Pandita Ramabai IV Vivekananda V Gandhi	Remember, Understanding Analyze Evaluate

			meant for teachers as well as the more interested students.	VI Amb edkar VII Tagore VIII Iqbal IX Savar karX Nehru XI Lohia	
17	VI	POL HE 6016 Human Rights in India	The course introduces the historical legacies and geopolitics of South Asia as a region. It imparts an understanding of political regime types as well as the socioeconomic issues of the region in a comparative framework. The course also apprises students of the common challenges and the strategies deployed to deal with them by countries in South Asia.	I Origin and Development of HR in India II Institutional Mechanism for Protection of HR III Emerging Issues of HR IV HR of Vulnerable Groups	Remember, Understanding Apply Analyze Evaluate

18	VI	POL HE 6046 Select Constitutions II	The course introduces the constitutional and political systems of two (2) countries. Students will have a stronger and more informed perspective on approaches to studying the constitutional and political systems of these countries in a comparative manner.	I Peoples Republic of China- I II Peoples Republic of China-II III Switzerla nd- I IV Switzerlan d- II	Remember, Understanding Analyze
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x . 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
<p>After completion of the course the students will be able to</p> <ul style="list-style-type: none"> 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: <ul style="list-style-type: none">• 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

<ul style="list-style-type: none"> • 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	
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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 <ul style="list-style-type: none"> • 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
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<p>Upon completion of the course students should be able to:</p> <ul style="list-style-type: none"> 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. 	<p>Unit-I Symbolic Logic and its characteristics, Uses of Symbols; Relation between Traditional Logic and Symbolic Logic; Modern Classification of Propositions</p>	Remember, understand, apply, evaluate
	<p>Unit-II Logical Connectives and Variables; Symbolization of Arguments</p>	Remember, understand, evaluate
	<p>Unit-III Truth Tables for Logical Connectives; Direct Truth-Table for testing validity of arguments; Indirect Truth- Table for testing validity of arguments</p>	Remember, understand, apply, evaluate
	<p>Unit-IV Formal Proof of Validity; Rules of Inference; Rules of Replacement</p>	Remember, understand, evaluate
<ul style="list-style-type: none"> 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
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<p>On successful completion of this course a student will be able to:</p> <ul style="list-style-type: none"> • 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. 	<p>Unit-I Rationalism Descartes: Cartesian method, Mind body dualism Spinoza: God and substance Leibnitz: Theory of monads, pre-established harmony</p>	Remember, understand, analyze
	<p>Unit-II Empiricism Locke: Critique of innate ideas, substance, qualities Berkeley: Esse Est Percipi Hume: Impression and ideas, Concept of self</p>	Remember, understand, analyze
	<p>Unit-III Kant Possibility of synthetic a priori judgement, Space and time Categories</p>	Remember, understand, analyze
	<p>Unit-IV Hegel Dialectic method Absolute idealism Master-slave dialectic</p>	Remember, understand, analyze

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

Course Outcome	Unit No. & Name	Bloom's Taxonomy Level
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After completion of the course the students will be able to <ul style="list-style-type: none"> Understand basic concepts of Indian philosophy. 	Unit- I: Samkhya, Yoga	Remember, Understand, Apply
	Unit- II: Nyaya, Vaishishika	Remember, Understand, Apply
<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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	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

<p>practically the importance of trust, mutually satisfying human behavior, ability to develop management patterns to create harmony in professional and personal life.</p> <ul style="list-style-type: none"> Understand the ethical concept in Indian tradition. 	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, Brahmvihara; 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
<p>On successful completion of this course a student will be able to:</p> <ul style="list-style-type: none"> 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 Radhakrishnan: Religious experience, Intellect and intuition, Man and his destiny	Remember, understand
<p>Indian Philosophy and its social context.</p> <ul style="list-style-type: none"> 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 	Unit-III Gandhi: Religion, Truth, Non- violence, Satyagraha, Sarvodaya, Swadeshi, Critique of industrialisation, trusteeship	Remember, understand, apply, evaluate

Contemporary European thought. • Develop the idea regarding Gandhian philosophy. The aim of this course is to motivate the students towards the non-violence action.	Unit-IV Vivekananda: Universal religion, Practical Vedanta, philosophy of education	Remember, understand, apply
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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
<p>After completion of this course, the students will be able to</p> <ul style="list-style-type: none"> 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 	<p>Unit-I Rights and duties Justice Equality and liberty</p>	Remember, understand, apply, evaluate
	<p>Unit-II Anarchism Socialism Marxism</p>	Remember, understand apply
<p>proposed solution to these problems.</p> <ul style="list-style-type: none"> 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. 	<p>Unit-III Monarchy Theocracy Democracy</p>	Remember, understand, apply, evaluate
	<p>Unit-IV Humanism Secularism Multiculturalism</p>	Remember, understand, apply

5th Semester (Honours) Paper- PHI-HC-5016-Analytic Philosophy

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
<p>On successful completion of this course a student will be able to:</p> <ul style="list-style-type: none"> 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. 	<p>Unit-I Moore: The analytic Turn of Philosophy, Refutation of idealism, defence of common sense</p>	Remember, understand, analyze
	<p>Unit-II Russell: Logical atomism, General proposition and existence Theory of description</p>	Remember, understand, analyze
	<p>Unit-III Wittgenstein: The world as a totality of facts Picture theory of meaning, Verification theory and Rejection of metaphysics</p>	Remember, understand, analyze
	<p>Unit-IV Wittgenstein: Meaning and use Language game Critique of private language</p>	Remember, understand, analyze

Paper- PHI-HC-5026-Phenomenology and Existentialism

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
<p>On successful completion of this course a student will be able to:</p> <ul style="list-style-type: none">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
<p>After completion of the study of the Upanishads, the students will be able to</p> <ul style="list-style-type: none">Know about the origin of Indian Philosophy.Understand the basic concept about the creation of the universe.Know the social conditions of that period.	Unit- I: Relation to vedas, outline of upanisadic philosophy, general social conditions	Remember, understand, apply
	Unit- II: Different theories of creation	Remember, understand, apply

<ul style="list-style-type: none"> Learn about the status of women during that time. Know oneself through the Upanishadic teaching- ‘Atmanam Bidhi’. 	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
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> 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 	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

<p>students fight issues like anxiety and self-doubt in student life.</p> <ul style="list-style-type: none"> • Helps students attain freedom from superstition and false beliefs. • Gives a different perspective of life. 	<p>Unit-IV Svabhava ,Svakarma, Svadharma; Niskamakarmayoga; Lokasamgraha; Liberation</p>	<p>Remember, understand, apply</p>
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6th Semester (Honours) Paper- PHI-HC-6016- Philosophy of Mind

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
<p>On successful completion of this course a student will be able to:</p> <ul style="list-style-type: none"> • 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. 	<p>Unit-I Psychology and Philosophy of Mind Cartesian Dualism, Problems of Cartesian Dualism.</p>	<p>Remember, understand.</p>
	<p>Unit-II Parallelism, Occasionalism, Epiphenomenalism.</p>	<p>Remember, understand.</p>
	<p>Unit-III Behaviourism, Identity Theory, Functionalism.</p>	<p>Remember, understand, apply, evaluate</p>
	<p>Unit-IV Problem of Personal Identity, Physical Criterion, Memory Criterion.</p>	<p>Remember, understand, apply, evaluate</p>

Paper- PHI-HC-6026-Meta Ethics

Course Outcome	Unit Number & Name	Bloom's Taxonomy Level
<ul style="list-style-type: none"> On successfully completing the course the students will be 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
<p>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.</p> <ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> 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 <ul style="list-style-type: none">• 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

Xi. BA Sanskrit

Programme Specific Outcomes

After the completion of the programme, a student will be able to:

- Acquire a concrete perception of ancient Indian history, philosophy, and literature.
- Enhance the communication skills of listening, speaking, reading, and writing.
- Get in-depth knowledge of the core areas of the subject.
- Achieve reasonable understanding of the multi-disciplinary relevance of Sanskrit literature such as *veda*, philosophy, grammar, *kavya*, *dharmasastras*, etc.
- Compete in competitive exams like civil services and apply for jobs in different service sectors.

Course Outcomes

SL. NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOMES	UNIT/CHAPTER	BLOOM'S TAXONOMY LEVELS
1	Semester I	PAPER: SKT-HC-1016 CLASSICAL SANSKRIT LITERATURE (POETRY)	This course aims to get students acquainted with Classical Sanskrit Poetry. It intends to give an understanding of literature, through which students will be able to appreciate the development of Sanskrit Literature. The course also seeks to help students to negotiate texts independently.	UNIT :I --- RAGHUVAMSAM: CANTO I(Verses 1-25) Introduction(Author and Text), Appropriateness of title, Verses 1-10 = Grammatical Analysis, Meaning/Translation, Explanation, Content Analysis, Characteristics of Raghu clan.Verses 11-25: Grammatical analysis, Meaning/ Translation, Explanation, Role of Dilipa, Welfare of Subjects. UNIT :II ---KUMARASAMBHAVAM, CANTO-V (Verses; 1-30) Introduction (Author and Text), Appropriateness of title, Background of given contents. Text reading. Verses 1-15----Grammatical Analysis, Translation and Explanation, Poetic excellence and plot.	U, R and An.

				<p>Verses 16-30---- Grammatical Analysis, Translation and Explanation, Penance of Parvati, Poetic excellence and plot.</p> <p>UNIT –III--- KIRATARJUNIYAM, CANTO I (Verses 1-25)</p> <p>KIRATARJUNIYAM : Introduction(Author and Text,Appropriateness of title, Background of given contents.</p> <p>Verses 1-25...Grammatical Analysis, Translation and Explanation, Poetic excellence, Thematic analysis.</p> <p>UNIT – IV---NITISATAKAM(Verses 1- 20)</p> <p>Verses 1-10 Grammatical Analysis, Translation and Explanation,</p> <p>Verses 11-20---Grammatical Analysis, Translation and Explanation, Thematic analysis, Bhartihari's comments on society.</p> <p>UNIT–V—ORIGIN AND DEVELOPMENT OF MAHAKAVYA AND GITIKAVYA</p> <p>Origin and development of different types of Mahakavya with special reference to Asvaghosa, Kalidasa, Bharavi, Magha ,bhatti, Sriharsa.</p>	
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2	Semester I	<p>PAPER: SKT-HC-1026</p> <p>CRITICAL SURVEY OF SANSKRIT LITERATURE</p>	<p>This course aims to get students acquainted with the journey of Sanskrit Literature from Vedic literature to Purāṇa. It also intends to give an outline of different shastric traditions, through which students will be able to know the different genres of Sanskrit Literature and Śāstras.</p>	<p>UNIT-I:VEDIC LITERATURE : <i>SAMHITA(Rik,Yajuh,Sama, Atharva)</i> : Time, Subject matter, religion & philosophy, social life. <i>Brahmana,Aranyaka, Upanisad, Vedanga</i> – Brief Introduction.</p> <p>UNIT- II:RAMAYANA: Subject-matter,Ramayana as an Adikavya, Ramayana as a source text and its cultural importance.</p> <p>UNIT- III :MAHABHARATA : Mahabharata and its time, Development,Encyclopedic nature, as a Source, Text, Cultural importance.</p> <p>UNIT-IV: PURANAS : Subject – matter,characteristics,Purana’s social,cultural and historical importance with special reference to the Kalikapurana.</p> <p>UNIT-V: GENERAL INTRODUCTION TO VYAKARANA, DARSANA AND SAHITYASASTRA General introduction to Vyakarana, Brief history of Vyakaranasastra. General introduction to Darsana : Major schools of Indian Philosophy- Carvaka, Buddha, Jaina, Sankhya-yoga, Nyaya-vaishesika, Purvamimamsa and Uttaramimamsa. General introduction to Poetics : Six major schools of Indian Poetics – Rasa, Alamkara, Riti, Dhvani, Vakrokti and Aucitya.</p>	
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3	Semester II	SKT-HC-2016 CLASSICAL SANSKRIT LITERATURE (PROSE)	<p>This course aims to acquaint students with Classical Sanskrit Prose literature. Origin and development of prose, important prose romances and fables Sanskrit are also included here for students to get acquainted with the beginnings of Sanskrit Prose literature. The course also seeks to help students negotiate texts independently.</p>	<p>Unit I Sukanasopadesa (Ed. Prahlad Kumar): Introduction – Author/Text, Text up to page 116 of Prahlad Kumar up to the end of the Text. Society, Ayurveda and Political thoughts depicted in Sukanasopadesa, logical meaning and application of sayings: Banocchistam, Pancananbanah</p> <p>Unit II Visrutacaritam Upto 15th Para: Para 1 to 10 - Introduction – Author/Text, Text reading (Grammar, Translation and Explanation), Poetic excellence, plot, Timing of Action, Society, language and style of Dandin. Exposition of Sayings “Dandinah padalalityam”, “Kavirdandi Kavirdandina Samsayah”.</p> <p>Unit III Origin and Development of Prose, Important Prose Romances and Fables: Origin and development of prose, important prose romances and fables Subandhu, Dandin, Bana, Ambikadatta Vyasa. Pancatantra, Hitopadesa, Vetala Panchavimsatika, Simhasanadvatimsika, Purusapariksa, Sukasaptati.</p>	U , R & An.
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4	Semester II	SKT-HC-2026 SELF MANAGEMENT IN THE GITA	<p>The objective of this course is to study the philosophy of self- management in the Gītā. The course seeks to help students negotiate the text independently without referring to the traditional commentaries so as to enable them to experience the richness of the text.</p>	<p>Unit I Gita: Cognitive and emotive apparatus: Hierarchy of <i>indriya</i>, <i>manas</i>, <i>buddhi</i>, and <i>atman</i> III.42; XV.7 Role of atman – XV.7; XV.9 Mind as a product of prakriti VII.4 Properties of three gunas and their impact on the mind- XIII.5-6; XIV.5-8, 11-13; XIV.17</p> <p>Unit II Gita: Controlling the Mind: Confusion and Conflict Nature of conflict I.1; IV.16; I.45; II.6 Causal factors- Ignorance- II.41; <i>Indriya</i>–II.60, Mind- II.67; <i>Rajoguna</i> – III.36-39; XVI.21; Weakness of mind- II.3; IV.5 Means of controlling mind Meditation- difficulties-VI.34-35; procedure VI.11-14 Balanced life- III.8; VI.16-17 Diet control- XVII.8-10 Physical and mental discipline – XVII.14-19, VI.36. Means of conflict resolution Importance of knowledge –II.52; IV.38-39; IV.42 Clarity of <i>buddhi</i>- XVIII.30-32 Process of decision making – XVIII.63 Control over senses – II.59, 64 Surrender of <i>kartribhava</i> – XVIII. 13-16 Desirelessness– II.48; II.55</p> <p>Unit III Gita: Self-management through devotion: Surrender of ego Abandoning frivolous debates Acquisition of moral qualities</p>	U, R, An. & Ap.
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5	Semester III	PAPER- SKT-HC-3016 CLASSICAL SANSKRIT LITERATURE (DRAMA)	This course aims to acquaint students with three most famous dramas of Sanskrit literature which represent three stages in the growth of Sanskrit drama.	UNIT-I: SVAPNABASAVADATTA of Bhasa, Act I & Act VI UNIT_II :ABHIJANANASAKUNTALAM of Kalidasa, Act I & Act IV. UNIT-III:MUDRARAKSASAM of Visakhadatta : Act I,II & III UNIT-IV : CRITICAL SURVEY OF SANSKRIT DRAMA Sanskrit Drama : Origin and Development, Nature of Nataka, Some important Dramatists and Dramas :- Bhasa, Kalidasa, Sudraka, Visakhadatta,Sriharsa, Bhavabhuti , Bhattanarayana and their works.	U, R & An.
6	Semester III	PAPER- SKT-HC-3026 POETICS AND LITERARY CRITICISM	The study of <i>Sāhityaśāstra</i> (Sanskrit Poetics) embraces all poetic arts and includes concepts like <i>alaṃkāra</i> , <i>rasa</i> , <i>rīti</i> , <i>vakrokti</i> , <i>dhvani</i> , <i>aucitya</i> etc. The entire domain of Sanskrit poetics has flourished with the topics such as definition of poetry and divisions, functions of word and meaning, theory of <i>rasa</i> and <i>alaṃkāra</i> (figures of speech) and <i>chandas</i> (metre), etc. This develops capacity for creative writing and literary appreciation.	UNIT- I: Introduction to Sanskrit Poetics UNIT- II: Forms of Kavya Literature, UNIT- III: Sabda-Sakti and Rasa-sutra & Kavyadosa UNIT_ IV : Figures of Speech and Metre	U, R & An.

7	Semester III	PAPER- SKT-HC-3036 INDIAN SOCIAL INSTITUTIONS AND POLITY	Social institutions and Indian Polity have been highlighted in the <i>Dharmaśāstra</i> literature. The aim of this course is to make the students acquainted with various aspects of social institutions and Indian polity as propounded in the ancient Sanskrit texts such as <i>Samhitās</i> , <i>Mahābhārata</i> , <i>Purāṇa</i> , Kautilya's <i>Arthaśāstra</i> and other works known as <i>Nītiśāstra</i> .	<p>UNIT –I: Indian Social Institutions : Nature and Concepts Indian Social Institutions : Definition and Scope: Sociological definition of Social Institutions. Trends of Social Changes, Sources of Indian Social Institutions. Social Institutions and Dharmaśāstra Literature Dharmaśāstra as a special branch of studies of social institutions, sources of Dharma, Different kinds of Dharma in the sense of Social Ethics, Six kinds of Dharma in the sense of Duties.</p> <p>UNIT II : Structure of Society and Values of Life Varna system and Caste System Origin of Caste-system from Inter Caste Marriages Position of Women in the Society. Social Values of Life.</p> <p>UNIT- III: INDIAN POLITY: ORIGIN AND DEVELOPMENT Initial stage of Indian Polity from Vedic period to Buddhist period. Relevance of Gandhian Thought in Modern period with special reference to Satyagraha philosophy.</p> <p>UNIT-IV: CARDINAL THEORIES AND THINKERS OF INDIAN POLITY <i>Saptanga</i> Theory, <i>Mandala</i> Theory, <i>Saragunya</i> Policy of War and Peace, <i>Caturvidha Upaya</i> for balancing the power of State, Three types of State Power, Important Thinkers on Indian Polity.</p>	U, R & An.
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8	Semester III	PAPER: SKT-SE-3014 ACTING AND SCRIPTWRITING	The acting is connected with the practical aspect of the play and depends on actor while scriptwriting is closely related with society and this paper aims at the teaching the theoretical aspect of this art. The training of composition and presentation of drama can further enhance one's natural talent. This paper deals with the rules of presentation of play (acting) and dramatic composition (script writing) and aims at sharpening the dramatic talent of the students.	UNIT-I :Abhinaya (Acting)- Persons competent for presentation, Assignment of Role, Kinds of Roles. UNIT-II: Script Writing – Types of dramatic production, Dialogue Writing: Kinds of Dialogue.	U, R & Ap.
	Semester IV	SKT-HC-4016	This course aims to acquaint the students with the epigraphical journey in Sanskrit, the only source which directly reflects the society, politics, geography and economy of the time. The course also seeks to help students to know the different styles of Sanskrit writings.	Unit I Epigraphy: Introduction to Epigraphy and Types of Inscriptions Importance of Indian Inscriptions in the reconstruction of Ancient History and Culture History of Epigraphical Studies in India History of Decipherment of Ancient Indian Scripts (Contribution of Scholars in the field of epigraphy) : Fleet, Cunningham, Prinsep, Bulher, Ojha, D. C. Sircar. Unit II Paleography: Antiquity of the Art of Writing Writing Materials, Inscribers and Library Introduction to Ancient Indian Scripts. Unit III Study of selected inscriptions: Asoka's Girnar Rock Edict- 1 Asoka's Sarnath Pillar Edict Girnar Inscription of Rudradaman Dubi Copper Plates of Bhaskaravarman Parbatiya Copper Plates of Vanamalavarmadeva Unit IV Chronology: General Introduction to Ancient Indian Chronology System of Dating the Inscriptions (Chronograms)	U, R & An.

				Main Eras used in Inscriptions – Vikrama Era, Saka Era and Gupta Era	
10	Semester IV	SKT-HC-4026 MODERN SANSKRIT LITERATURE	The purpose of this course is to expose students to the rich & profound tradition of modern creative writing in Sanskrit, enriched by new genres of writing.	Unit I Mahakavya and Charitakavya: Svatantryasambhavam, Canto 2, verses 1-45 Sankaradevacarita of (MaheswarHazarika) Chapter- 5, Manikancanamilanam Unit II Gadya and Rupaka: Sataparvika (AbhirajaRajendra Mishra) Sardulasakatam (Virendra Kumar Bhattacharya) Unit III Gitikavya and Other genres: Ketakikavya Taranga, I Srutipasastimanjari by MukundaMadhavaSarma: AnundoramBarooah, KrisnakantaHandique, Sankaradev Harshdev Madhava Haiku Unit IV General Survey: PanditaKshamaRao, P.K. NarayanaPillai, S.B. Varnekar, ParmanandShastri, Reva Prasad Dwivedi Bhavadeva Bhagavati, MonoranjanShastri, BiswanarayanShastri, M. M. Sharma	U, R & An.

				HaridasSiddhantavagish, Mula Shankar M. Yajnika, MahalingaShastri, LeelaRaoDayal, YatindraVimalChowdhury, Virendra Kumar Bhattacharya	
11	Semeste rIV	SKT-HC-4036 SANSKRIT AND WORLD LITERATURE	This course is aimed to provideinformation to students about thespread & influence if Sanskrit literature and culture through the ages in various parts of the world in medieval & modern times.	Unit I: Survey of Sanskrit Literature in the World Unit II : Upanisads and Gita in the World Literature Unit III: Sanskrit Fables in the World Literature Unit IV :Ramayana and Mahabharata in South East Asian Countries Unit V :Kalidasa's Literature in World Literature Unit VI :Sanskrit Studies across the World	U, R & An.

12	Semester IV	SKT-SE-4014, SANSKRITMETRE AND MUSIC	The objective of this course to learn Sanskrit metre for analysis and lyrical techniques. Students will get the complete information regarding selected Vedic and Classical metres with lyrical techniques	Unit I :Brief Introduction to Chandasastra Unit II : Classification and Elements of Sanskrit Metre :Syllabic verse, Syllabo- quantitative verse, Quantitative verse, Syllables (laghu, guru,), Guna, Feet Unit III : Analysis of Selected Vedic Metre as per Chandamanjari and their Lyrical Methods: Definition, Example, Analysis and Lyrical Methods of selected Metres Unit IV :Analysis of Selected Classical Metres as per Chandamanjari and their Lyrical Methods:Definition, Example, Analysis and Lyrical Methods of selected Metres	U, R & Ap.
13	Semester V	SKT-HC-5016 VEDIC LITERATURE	This course on Vedic Literature aims to introduce various types of vedic texts . Students will also be able to read one <i>Upanisad</i> namely <i>Mundaka</i> where primary Vedanta-view is propounded.	UNIT-I SAMHITA AND BRAHMANA : Rigveda, Yajurveda, Atharvaveda, Satapathabrahmana UNIT –II VEDIC GRAMMAR : Declensions, Subjunctive Mood, Gerunds, Vedic Accent and Padapatha UNIT-III MUNDAKOPANISAD : 1.1 -3.2	U & R

14	Semester V	PAPER: SKT-HC- 5026 SANSKRIT GRAMMAR	To acquaint the students with general Sanskrit Grammar.	UNIT-I: General Introduction to Vyakarana, Sivasutra, Paribhasa, Sandhi UNIT –II: Natvavidhi & Satvavidhi UNIT-III : Declension , Conjugation and Roots UNIT- IV : Karaka Prakaranam, SamasaPrakaranam	U, R & Ap.
15	Semester V	PAPER -SKT-HE- 5016 ART OF BALANCED LIVING	This course aims to get the students with theories of art of living inherent in Sanskrit literature and apply them to live a better life. It also intends to make students work on human resource management for giving better results.	UNIT –I : Self Presentation , Method of Self Presentation- Hearing, Reflection and Meditation.(Brihadaranyakaopanisad with Sankarabhasya) UNIT- II : Concentration – concept of yoga, Restrictions of Fluctuations by practice, Eight aids to Yoga, Yoga and Action, Four distinct means of mental purity. UNIT-III : Refinement of Behaviour.	U, R & Ap.

16	Semester V	PAPER- SKT-HE-5026 THEATRE AND DRAMATURGY	Being audio-visual drama is considered to be the best among all forms of arts. The history of theatre in India is very old, the glimpses of which can be traced in the hymns of the Rigveda. The dramaturgy was later developed by the Bharatamuni. The objectives of this curriculum are to identify the beauty of drama and to introduce classical aspects of development of Indian theatre among the students.	UNIT –I : Theatre : Types and Construction. UNIT-II : Drama : Vastu, Neta and Rasa UNIT-III : Tradition and History of Indian Theatre .	U , R & Ap.
17	Semester V	PAPER- SKT-HE-5036 SANSKRIT LINGUISTIC	This course aims to get the students acquainted with comparative philology and its relation with Sanskrit language. It will also make the students acquire knowledge about the historical development of Sanskrit from Indo-European family of language.	UNIT-I : Bhasasastra – Its Nature, Importance, Origin and Development, Nature and Scope of Comparative Philology, Aim and Objective of Comparative Philology, Branches of Comparative Philology. UNIT- II: Indo- European Language Family, UNIT-III: History and Pre- history of Sanskrit UNIT-IV: Phonetic Changes.	U, R & An.
18	Semester V	PAPER- SKT-HE-5046 PROJECT / DISSERTATION	This course aims to understand the students acquainted with the Research Methodology.	WORD LIMIT: 8000 – 10000 WORDS LANGUAGE : SANSKRIT OR ENGLISH	Ap.

xii. BA BODO

Semester-I
BOD-HC-1016

History of Bodo Literature (Early Period) :

Course outcomes:

- Come to know about the contribution of the Missionaries
- Come to know about the contribution of the native speakers

Unit:I Missionary contribution in Bodo literature

Unit:II Bodo Literature (post Missionary to pre-Bibar)

Unit:III Writings in Bibar magazine

Unit:IV Writings in Hathorkhi-Hala and Olongbar

BOD-HC-1026

Literary Criticism (Western) :

Course outcomes:

- Come to know about the concept of literary criticism
- Come to know about different genres of literature

Unit:I Theory and concept of literary criticism

Unit:II Poetry and Drama

Unit:III Novel and short story

Unit:IV New-literary theory (with special reference to modernism, postmodernism, feminism and eco- feminism)

BOD-AE-1014
Communicative Bodo :

Course outcomes:

- Come to know about the spelling system used in writing Bodo language
- Come to know about practical application of Bodo language in different perspectives

Unit-I Spelling System in Bodo

Unit-II Applied Grammar (Use of Case and Case endings, Tone, Tense and Tense Markers, Synonyms, Antonyms)

Unit-III Commercial Advertisement (Use of Bodo Language in Print and Electronic Media, Administrative terminology)

Unit-IV Essay writing (Current Issues, commercial and literary pursuits)

BOD-HG-1016
Textual Analysis on Bodo Drama (Early period) :

Course Outcomes:

- Come to know about the background of Bodo drama
- Come to know about old period Bodo drama

Unit:I Origin and development of old Bodo drama

Unit:II Dwrswn Jwhwlao-Satish Chandra Basumatary Unit:III Obongni Phao- Bhaben Phwrwnnggiri

Unit-IV Dukhashri-Upendra Narzary

Semester II

BOD-HC-16

History of Bodo Literature (Modern Period, 1952 to 15) :

Course Outcomes:

- Come to know about the beginning of modern period of Bodo literature
- New trends and developments in Bodo literature

Unit:I An introductory note on historical development of modern Bodo literature Unit:II Bodo Poetry
Unit:III Bodo Novel and short story
Unit:IV Bodo Drama

BOD-HC-26
Literary Criticism (Eastern) :

Course Outcomes:

- Come to know about theory and concept of eastern literary criticism
- Come to know about the uses of Rasa, Chanda and Alankara with special reference to Bodo literature

Unit:I History and development of eastern literary criticism
Unit:II Rasa
Unit:III Chanda
Unit:IV Alankara

BOD-HG-16
Non-fictional prose in Bodo :

Course

Outcomes:

- Students can come to know about the changes coming in Bodo non-fictional prose from early to modern period

Unit:I Development of non-fictional prose in Bodo (early period)
Unit:II Development of non-fictional prose in Bodo (modern period)

Unit:III Critical review on prose pieces-

- a. Kinshit nivedan-Rupanath Brahma
- b. Boro sahityar jagaran-Panchanan Kachari
- c. Aglani Bathra-Anandaram Mushahary
- d. Phwrlang Babaji arw Boroni Harimu-Pramod Chandra Brahma

Unit: IV Critical review on prose pieces-

- a. Thunlayao rahasya santhwu-Kamal Kumar Brahma
- b. Udangsri swmaosarnayao Borophwr-Jagendra Kumar Basumatary
- c. Boro mwsanay arw harimu-Girindra Kumar Daimary
- d. Phwthaynay arw ginay-Brajendra Kumar Brahma

Semester III

BOD-HC-3016

Introduction to Language and Linguistics :

Course Outcomes:

- Can gather general idea about language and linguistics
- Can learn about different levels of linguistic analysis

Unit-I Language: Definition of Language, Characteristics of Language, Why study Language?

Unit-II Linguistics: Definition, Linguistics as a Science, Branches of Linguistics, Scope of Linguistics, Levels of Linguistic analysis

Unit-III Introduction to Phonetics, Phonology and Morphology

Unit-IV Introduction to Syntax, Semantics and Vocabulary

BOD-HC-3026

Bodo Poetry (Early period) :

Course Outcomes:

- Come to know about the trend of old Bodo poetry
- About mystic and romantic poems composed during the period
- About the poems composed to bring social awareness among the mass

Unit-I Trend of Bodo Poetry (from inception to 1952)

Unit-II

- a. Angni Khwina- Rupnath Brahma
- b. Khathi Gasa- Kshitish Bhusan Brahma
- c. Dani Boro Phisa- Madaram Brahma
- d. Mwdwi- Ishan Moshahary

Unit-III

- a. Thwinay –Pramod Ch. Brahma
- b. Baidi Mwzang Khwurang- Kali Kumar Lahary
- c. Habilas-Nileswar Brahma
- d. Bathu Baraya Makhu Khurzidung- Prasanna Kumar Boro Khakhluary

Unit-IV

- a. Eroino Din Thanga-Ratiram Brahma
- b. Sikhangdo- Surendra Nath Brahma
- c. Zakhangdo- Jaladhar Brahma
- d. Angni Simang- Maniram Songphramnar

BOD-HC-3036

Introduction to Culture :

Course Outcomes:

- Come to know about the general concept of culture
- The relation between folklore and society

- About diffusion, acculturation and assimilation of culture

Unit-I Definition of Culture, Characteristics of Culture, Society and Culture, Culture and Civilization, Language and Culture

Unit-II Folklore and Folk-society, Folklore and its sub-genres

Unit-III Folk religion, folk beliefs and superstition (analysis may be done from the folkloristic point of view)

Unit-IV Process of cultural diffusion, acculturation and assimilation

BOD-SE-3014

Translation Studies :

Course outcomes:

- Come to know about theory, concept and types of translation
- Come to learn about different types of translation into Bodo

Unit: I Theory, concept and types of Translation

Unit: II Translation of Advertisement from Print and Electronic Media into Bodo

Unit: III Translation: News Item, Essay and Interview

Unit: IV Review on Suitability and Acceptability of the translated Book “Wings of Fire” By Dr. A P J

Abdul Kalam

BOD-HG-3016

Bodo Drama -

Course Outcomes:

- Students can learn about different types of drama in Bodo literature
- About influence of Assamese and Bangla drama in Bodo literature
- Can come to know about few selected dramas in Bodo

Unit:I Origin and development of Bodo drama

Unit:II Influence of Assamese and Bangla drama in old Bodo drama

Unit:III Horbadi Khwmsi-Kamal Kr. Brahma

Unit:IV Onlaynaya Zewaribadi Gwtharmwn- Dr. Premananda Moshahary

Semester-IV

BOD-HC-4016

Modern Bodo Poetry (From 1952 to 15) :

Course Outcomes:

- Come to know about the trend of modern Bodo poetry
- About new symbols and techniques used by the poets

Unit-I Trends of Modern Bodo Poetry

Unit-II

- a. Mahabuddhani Toposhya- Samar Brahma Choudhury
- b. Zibraltarni Onthai- Prasenjit Brahma
- c. Sangrema- Brajendra Kr. Brahma
- d. Jiu Swinai- Surath Narzary

Unit-III

- a. Gufur Dauthua Dabw Gabw-Anju

- b. Sangrema jiu-Bishnujyoti Kochary
- c. Amen- Bikram
- d. Sase Badari Mwntham Saogari-Aurobinda Uzir

Unit-IV

- a. Bishnu Rabhanw- Anil Boro
- b. Halua- Nandeswar Boro
- c. No- Badal Basumatary
- d. Ang da Daina- Jwnsar Narzary

Course outcomes:

Bod-HC-4026

- Come to know about origin, concentration and development of the Bodo language
- Present status of Bodo language

Unit-I The term Bodo, origin and development of the Bodo language, demographic composition and concentration of the Bodos

Unit-II Characteristics and present status of Bodo language

Unit-III Linguistic impact of other languages on Bodo in case of phonology, morphology, syntax and vocabulary

Unit-IV Language variation (in this unit topics like idiolect, dialect, difference between dialect and idiolect, standard language, process of standardization are to be included)

BOD-HC-4036

Bodo Culture :

Course
outcomes:

- Come to know about Bodo society and culture
- About cultural elements of the Bodos

Unit-I The Bodo society and trait of Bodo Folk-culture, its traditionalism and prospect of continuity Unit-II Food habits of the Bodos

Unit-III Material Culture

Unit-IV Social folk-customs, fairs and festivals of the Bodos

BOD-SE-4014

Manuscript Preparation :

Course outcomes:

- Come to know about manuscript preparation and use of punctuations and symbols
- About benefits of editing and taking into MS word & PageMaker

Unit: I Types of Manuscript: Use of Punctuation, Sign and Symbols

Unit: II Importance of Editing and Proof Reading; Symbols used in Proof reading, Proofreader, Proof reading process

Unit: III Process, Purpose and benefits of Editing

Unit: IV Taking Manuscripts in MS Word Format and Page Maker etc.

BOD-HG-4016

Bodo Fiction :

Course Outcomes:

- Come to know about Bodo novels
- Come to know about Bodo short stories

- Unit-I Zuzaini Or- Chittaranjan Muchahary
- Unit-II Bwrai Phagladiyani Gwdan Dara- Nabin Malla Boro
- Unit-III
- a. Gwdan Slogan-Nilkamal Brahma
 - b. Phangnwi Nalengkor Biphang-Chittaranjan Muchahary
 - c. Banggra-Dharanidhar Wary
- Unit-IV
- a. Mr Hybridni Gwlwmdwi Arw Mwdwi-Z D Basumatary
 - b. Haraoni Saikhel-Gobinda Basumatary
 - c. Baikhwnda Satha Arw Laothi Gozo-Suniti Narzary

Semester-V

BOD-HC-5016

Manoranjan Lahary :

Course outcomes:

- Come to know about life and literary works of Manoranjan Lahary

Unit-I Life and works of Manoranjan Lahary

Unit-II Poems and essays of Manoranjan Lahary

Unit-III Fictions of Manoranjan Lahary

Unit-IV Dramas of Manoranjan Lahary

Suggested readings:

Thunlai Arw Sansri- Brajendra Kr. Brahma

BOD-HC-5026

Structure of Bodo Language :

Course outcomes:

- Come to know about phonology of Bodo language
- Come to know about the structure of morphology, syntax and vocabulary of Bodo language

Unit-I Phonological analysis (Phoneme and its description, distribution of phonemes, use of Tone and syllable)

Unit-II Morphological analysis (with special reference to system of number, gender, numeral classifiers, use of personal pronouns, case marker, structure of verbs, application of tense and tense-marker)

Unit-III Syntactic analysis (Types of sentences, IC analysis of Bodo sentences, Word order)

Unit-IV Vocabulary (Introduction to Bodo Vocabulary, Mutual Impact of Lexis between the Bodo and other languages, basic features of Bodo words)

BOD-HE-5016

Bodo Folk-Literature :

Course outcomes:

- Come to know about Bodo folk-literature and its sub-division
- Come to know about different genres of Bodo folk-literature

Unit-I Orality of Bodo Folk Literature and Sub-division of Bodo folk literature Unit-II Folk Songs
Unit-III Folk Tales
UNIT-IV Charms and Incantations

BOD-HE-5026

Dialects of Bodo Language :

Course outcomes:

- Come to gather a general idea on dialect and dialectology of Bodo language
- About Bodo dialects and its uses in literature

Unit: I What is Dialect, Importance of Dialect and Dialectology

Unit: II Regional dialect, social dialect and diglossia

Unit: III Linguistic variations of Bodo dialects

UNIT: IV Dialects used in Bodo Literature

Semester-VI

BOD-HC-6016

Contribution of women writers in Bodo literature :

Course Outcomes:

- Come to know about women writings in Bodo
- Contribution of women writers in different genres of literature

Unit:I What is women literature, why women literature, significance of women literature poetry Unit:II Women contribution in Bodo

Unit:III Women contribution in Bodo short story

Unit:IV Women contribution in Bodo novel

BOD-HC-6026

Cognate Languages of the Bodo :

Course outcomes:

- Come to know about Bodo group of languages and their common characteristics
- Come to know about phonology, morphology and vocabulary of Bodo group of languages

Unit-I Bodo group of Languages, Common characteristics and concentration of this group of peoples Unit-II Comparative Phonology of Bodo, Garo, Dimasa, Rabha, Kokborok and Tiwa with special reference to Vowel, Consonant and use of Syllable and Tone (Glottal stop, where tone is not available)

(In this Unit students are suggested to compare the phonology of any two languages with the phonology of the Bodo Language)

Unit-III Comparative Morphology of Boro, Garo, Dimasa, Rabha, Kokborok and Tiwa with special reference to Structure of Noun, Pronoun, Number, Gender, Verb, Tense and Adjective

(In this Unit students are suggested to compare the morphology of any two languages with the morphology of the Bodo Language)

Unit-IV Comparative Vocabulary of Bodo, Garo, Dimasa, Rabha, Kokborok and Tiwa Language with introduction to the structure of Basic vocabulary and the loan words available in these languages (In this Unit students are suggested to compare the Vocabulary of any two

languages with the Vocabulary of the Bodo Language).

BOD-HE-6016

Life Writing in Bodo :

Course

outcomes:

- Come to know about life writing and its types
- Come to know about biography and travel works in Bodo

Unit: I Introduction to Life Writings

(Definition of life writings, Growth and development of first person narrator, Expression of Voice, Structure and Style)

Unit: II Types of Life Writings

(Autobiography, Biography, Nature writings, personal writings, Literary Journalism, Travel writing, Letter writing, Diary etc.)

Unit: III Biography

Swrangni Lamajwng – Bidyasagar Narzary

UNIT: IV Travel Works:

Sina Nihao arw Chiye Chiye – Jogesh Deory

BOD-HE-6026

Dissertation Writing

(In this paper, students are suggested to prepare a dissertation at least of 50 pages on the topic assigned by the departmental teachers using research methodology. Examiners will examine this dissertation. Dissertation will carry and viva-voce carry . Viva –voce will be held in the department in presence of at least one external).

2. Programme Outcomes: BSc

After completing the BSc Program, a student is expected to achieve the below-mentioned programme outcomes:

- A student should be able to think critically: A student should be able to take informed actions after identifying the assumptions that frame their thinking and deeds, checking the degree to which these assumptions are accurate and valid, and assessing their ideas and decisions (intellectual, organizational, and personal) from different perspectives.
- A student should learn effective communication: A student should acquire the ability to listen, speak, read, and write clearly in person and through electronic media in English and in at least one official language of Assam, and make meaning of the world by connecting people, ideas, books, media, and technology.
- A student should learn social interaction: A student should elicit views of others, mediate disagreements, and help reach conclusions in group settings.
- A student should acquire the knowledge of effective citizenship: A student should demonstrate empathetic social concern, knowledge of equity-centred national development, and the abilities to act with an informed awareness of issues and participate in civic life through volunteering.
- A student should learn ethics: A student should recognize different value systems including their own, understand the moral dimensions of their decisions, and accept responsibility for them.
- A student should acquire the knowledge of environment and sustainability: A student should understand the issues of environmentalism and sustainable development.
- A student should acquire the knowledge of self-directed and life-long learning: A student should acquire the ability to engage in independent and life-long learning in the broad contexts of socio-technological changes.
- A student should understand the basic concepts, fundamental principles, and theories in the taught subjects.
- A student should acquire skills required for handling scientific instruments as well as for planning and performing laboratory experiments.
- A student should acquire the skills of observation and drawing logical inferences from scientific experiments.
- A student should be able to analyse scientific data critically and systematically, trace objectives and draw conclusions.

- A student should be able to think creatively to propose novel ideas.
- A student should realize how an interdisciplinary approach provides better solutions and new ideas for sustainable development.
- A student should be able to develop a scientific outlook not only with respect to science subjects but also all aspects of life.
- A student should be imbued with ethical, moral, and social values in personal and social lives leading to a highly cultured and civilized personality.

i. BSc Botany

Programme Specific Outcomes

After the completion of the programme, a student will be able to:

1. Critically evaluate ideas and arguments by collecting relevant information about plants to recognize the position of the plants in the broad classification and the phylogenetic levels.
2. Acquire in-depth knowledge/expertise in the field of plant identification.
3. Interpret collected information and use taxonomical information to evaluate and formulate the position of plants in taxonomy.
4. Collect data and formulate and analyse the collected data by applying scientific methods.
5. Present scientific hypotheses and data both in oral and written formats.
6. Access primary literature, identify relevant works for a particular topic, and evaluate the scientific content of these works.
7. Use physical principles (physics, chemistry) for bio-chemical analysis and analyse data by using statistical and mathematical formulas.
8. Identify the major groups of plants and classify them within a phylogenetic framework.
9. Compare and contrast the characteristics of plants, algae, and fungi that differentiate them from each other and from other forms of life.
10. Use the evidence of comparative biology to explain the theory of evolution in relation to the unity and diversity of life on earth.
11. Give specific examples to explain how modification has shaped plant morphology, physiology, and life history.
12. Explain functions at the levels of gene, genome, cell, tissue, and flower development of plants.
13. Give specific examples of physiological adaptations, reproductions, development, and modes of life cycle of different forms of plants.
14. Explain the ecological interconnections among different life forms on earth by tracing nutrient and energy flow through the environment and structures of populations, communities and ecosystems.

Course Outcomes

SL. NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOMES	UNIT/CHAPTER	BLOOM'S TAXONOMY LEVELS
1	I	BOT-HC-1016 Phycology and Microbiology	<ul style="list-style-type: none"> Understand the diversity among Algae. Know the systematic, morphology and structure, of Algae. Understand the life cycle pattern of Algae. Understand the useful and harmful activities of Algae. Understand the Microbial world and their diversity Know the Economic Importance of Microbes Know the harmful effects of microbes Know the role of microbes in Research activities 	<ul style="list-style-type: none"> Introduction to microbial world 	Knowledge, understanding, application
				<ul style="list-style-type: none"> Viruses 	Knowledge, Understanding
				<ul style="list-style-type: none"> Bacteria 	Knowledge, understanding, apply, create
				<ul style="list-style-type: none"> Algae 	Knowledge, understanding, apply, create
				<ul style="list-style-type: none"> Cyanophyta and Xanthophyta 	Knowledge, understanding, apply, analyze, create
				<ul style="list-style-type: none"> Chlorophyta, Charophyta and Bacillariophyta 	Knowledge, understanding, apply, create
				<ul style="list-style-type: none"> Pheophyta and Rhodophyta 	Knowledge, understanding, apply, create
2	I	BOT-HC-1026 Biomolecules and Cell biology	<ul style="list-style-type: none"> Know the chemical nature of biomolecules. 	<ul style="list-style-type: none"> Biomolecules 	Knowledge, understanding, application
				<ul style="list-style-type: none"> Bioenergetics 	Knowledge, understanding

			<ul style="list-style-type: none"> Understand the different types of interaction in Biomolecules. Structure and general features of enzymes. Concept of enzyme activity and enzyme inhibition. Understand the Biochemical nature of cell and cell organelles Know about the cell divisions: mitosis & meiosis know the endomembrane system and protein transport 	<ul style="list-style-type: none"> Enzymes 	Knowledge, understanding, application
				<ul style="list-style-type: none"> The cell 	Knowledge, understanding, application, creation
				<ul style="list-style-type: none"> Cell wall and plasmamembrane 	Knowledge, understanding, application.
				<ul style="list-style-type: none"> Cell organelles 	Knowledge, understanding, application, creation
				<ul style="list-style-type: none"> Cell division 	Knowledge, understanding
3	II	BOT-HC-2016 Mycology and Phytopathology	<ul style="list-style-type: none"> Understand the Biodiversity of Fungi and understand the life cycle pattern of Fungi Know the Economic Importance of Fungi Know the terminologies in plant pathology. Understand the 	<ul style="list-style-type: none"> Introduction to Fungi 	Knowledge, understanding, application, analysis, creation
				<ul style="list-style-type: none"> Mastigomycotina (Chytridiomycetes to Oomycetes) 	knowledge, understanding
				<ul style="list-style-type: none"> Zygomycotina 	knowledge, understanding
				<ul style="list-style-type: none"> Ascomycotina 	knowledge, understanding
				<ul style="list-style-type: none"> Basidiomycotina 	knowledge, understanding

			scope and importance of Plant Pathology. • Know the prevention and control measures of plant diseases and its effect on economy of crops.	• Deuteromycotina (Fungi imperfecti)	knowledge, understanding
				• Allied fungi- Myxomycota	knowledge, understanding
				• Symbiotic association	knowledge, understanding, application, creation
				• Applied Mycology	Knowledge, understanding, application, creation
				• Phytopathology	Knowledge, understanding, application, analysis
4	II	BOT-HC-2026 Archegoniate	• Understand the morphological diversity of Bryophytes. • Understand the economical and ecological importance of the Bryophytes. Know the taxonomic position, occurrence, thallus structure, reproduction of Bryophytes. • Understand the morphological diversity of Pteridophytes. • Understand the economic and	• Introduction	Knowledge, understanding, application, analysis
				• Bryophytes	Knowledge, understanding, application, analysis
				• Type studies- Bryophytes	Knowledge, understanding, application, analysis, creation
				• Pteridophytes	Knowledge, understanding, application, analysis, creation
				• Type studies- Pteridophytes	Knowledge, understanding, application, analysis, creation
				• Gymnosperms	Knowledge, understanding, application, analysis, creation

			<p>ecological importance of the Pteridophytes</p> <ul style="list-style-type: none"> • Know the taxonomic position, occurrence, thallus structure, reproduction of Pteridophytes. • Know the evolution of Bryophytes and Pteridophytes 		
5	III	BOT-HC-3016 Morphology and Anatomy of Angiosperms	<ul style="list-style-type: none"> • Understand plant communities and ecological adaptations in plants. • Understand the tissues and tissue systems of Plants • Know the wood anatomy • Know the anatomical difference of dicot and monocot • Know the origin, development, arrangement and diversity in size and shape of leaves. 	<ul style="list-style-type: none"> • Morphology 	Knowledge, understanding, application
				<ul style="list-style-type: none"> • Introduction and scope of plant anatomy 	Knowledge, understanding
				<ul style="list-style-type: none"> • Structure and development of plant body 	Knowledge, understanding
				<ul style="list-style-type: none"> • Tissues 	Knowledge, understanding, application, analysis
				<ul style="list-style-type: none"> • Apical meristems 	Knowledge, application
				<ul style="list-style-type: none"> • Vascular cambium and wood 	Knowledge, application
				<ul style="list-style-type: none"> • Adaptive and protective systems 	Knowledge, application
6	III	BOT-HC-3026 Economic Botany	<ul style="list-style-type: none"> • Know the major introduced plant species, concept of 	<ul style="list-style-type: none"> • Origin of cultivated plants 	Knowledge, application
				<ul style="list-style-type: none"> • Cereals 	Knowledge, application

			<p>centre of origin and their importance Know about crop domestication and loss of genetic diversity</p> <ul style="list-style-type: none"> Understand the evolution of new crops / varieties Know about the germplasm diversity Understand the economic importance of various plant species 	<ul style="list-style-type: none"> Legumes 	Knowledge, application
				<p>starches</p>	
				<ul style="list-style-type: none"> 5. Spices 	Knowledge, application
				<ul style="list-style-type: none"> Beverages 	Knowledge, application
				<ul style="list-style-type: none"> Sources of oils and fats 	Knowledge, application
				<p>Natural rubber</p>	Knowledge, application
				<ul style="list-style-type: none"> Drug-yielding plants 	Knowledge, application
				<ul style="list-style-type: none"> Timber plants 	Knowledge, understanding, application, creation
				<ul style="list-style-type: none"> Fibres 	Knowledge, understanding, application
7	III	BOT-HC-3036 Genetics	<ul style="list-style-type: none"> Know about the genomic organization or living organisms, study of genes genome, 	<ul style="list-style-type: none"> Mendelian genetics and its extension 	Knowledge, understanding, application
				<ul style="list-style-type: none"> Extrachromosomal Inheritance 	Knowledge, understanding, application
				<ul style="list-style-type: none"> Linkage, Crossing over & chromosome 	Knowledge, understanding, application

			chromosome etc. • Gain knowledge on Mendel's genetics and its extensions • Know about variation in chromosome number and structure	mapping	
				• Variation in chromosome number and structure	Knowledge, understanding, application
				• Gene Mutations	Knowledge, understanding, application
			• 4 understand about population and evolutionary genetics	• Fine structure of gene	Knowledge, understanding, application
				• Population and evolutionary genetics	Knowledge, understanding, application
8	III	BOT-SE-3014 Biofertilizers (Sec I)	• To know about the microbes used as biofertilizers. Know the method of isolation and multiplication of different microorganisms. • To gain knowledge on Cyanobacteria, Azolla etc. and their use in rice cultivation. • Knowledge about mycorrhizal association, their taxonomy, their influence on growth and yield of crop plants. • Knowledge about green manuring and organic fertilizer; recycling of biodegradable and other wastes; • Vermicomposting involvement in formation of	• General account about microbes used as biofertilizers	Knowledge, understanding, application

			polypeptides.		
				<ul style="list-style-type: none"> • Azospirillum and Azotobacter 	Knowledge, understanding, application
				<ul style="list-style-type: none"> • Cyanobacteria, Azolla and Anabaena 	Knowledge, understanding, application
				<ul style="list-style-type: none"> • Mycorrhizal association 	Knowledge, understanding, application
				<ul style="list-style-type: none"> • Organic farming 	Knowledge, understanding, application
9	IV	BOT-HC-4016 Molecular Biology	<ul style="list-style-type: none"> • Gain knowledge about the mechanism of DNA replication. • Gain knowledge of transcription in prokaryotes and eukaryotes. • Gain knowledge of Processing and modification of RNA. • Gain knowledge of proteinsynthesis, its modification and its involvement in formation of polypeptides. 	<ul style="list-style-type: none"> • Nucleic Acids: Carriers of genetic information 	Knowledge, understanding, application
				<ul style="list-style-type: none"> • The structure of DNA and RNA/ Genetic Material 	Knowledge, understanding, application
				<ul style="list-style-type: none"> • The replication of DNA 	Knowledge, understanding, application

				<ul style="list-style-type: none"> Central Dogma and Genetic Code 	Knowledge, understanding, application
				<ul style="list-style-type: none"> Transcription 	Knowledge, understanding, application
				<ul style="list-style-type: none"> Processing and modification of RNA 	Knowledge, understanding, application
				<ul style="list-style-type: none"> Translation 	Knowledge, understanding, application
10	IV	BOT-HC-4026 Plant Ecology and Phytogeography	<ul style="list-style-type: none"> Understands the inter- relationship between the living world and environment Know the soil profile and role of climate in soil development Understand the concept of ecology and its specification Understands Ecosystem and its components Understands the principles, endemism, biomes and phytogeographical divisions of India 	<ul style="list-style-type: none"> Introduction 	Knowledge, understanding, application
				<ul style="list-style-type: none"> Soil 	Knowledge, understanding, application
				<ul style="list-style-type: none"> Water 	Knowledge, understanding, application
				<ul style="list-style-type: none"> Adaptation of plants to various env. factors 	Knowledge, understanding, application
				<ul style="list-style-type: none"> Biotic interactions 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 6. Population Ecology 	Knowledge, understanding
				<ul style="list-style-type: none"> 7. Plant communities 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 8. Ecosystems 	Knowledge, understanding
				<ul style="list-style-type: none"> 9. Functional aspects of ecosystem 	Knowledge, understanding
				<ul style="list-style-type: none"> 10. Phytogeography 	Knowledge, understanding
11	IV	BOT-HC-4036 Plant Systematics	<ul style="list-style-type: none"> Gain knowledge of plant identification, concept of classification, 	<ul style="list-style-type: none"> 1. Significance of plant systematics 	Knowledge, understanding
				<ul style="list-style-type: none"> 2. Botanical nomenclature 	Knowledge, understanding

			<ul style="list-style-type: none"> principle and rules of nomenclature Gain knowledge of origin and evolution of angiosperm and their evolutionary relationship Know biometrics, numerical taxonomy and cladistics Know the history of plant classification. 	<ul style="list-style-type: none"> 3. Systems of classification 	Knowledge, understanding
				<ul style="list-style-type: none"> 4. Numerical taxonomy and cladistics 	Knowledge, understanding
				<ul style="list-style-type: none"> 5. Phylogeny of Angiosperms 	Knowledge, understanding
				<ul style="list-style-type: none"> 6. Angiospermic Families 	Knowledge, understanding
12	IV	BOT-SE-4024 Floriculture (Sec-I)	<ul style="list-style-type: none"> To know the history of gardening, its importance and scope. All about nursery practices., ornamental plants, pot cultivation, indoor gardening, Bonsai. Various garden designs, water garden. Knowledge of landscaping; commercial floriculture. Disease and pest control of ornamental plants. 	<ul style="list-style-type: none"> 1. Introduction 	Knowledge, understanding
				<ul style="list-style-type: none"> 2. Nursery Management and Routine Garden Operations 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 3. Ornamental Plants 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 4. Principles of garden design 	Knowledge, understanding
				<ul style="list-style-type: none"> 5. Landscaping places of public interest 	Knowledge, understanding
				<ul style="list-style-type: none"> 6. Commercial floriculture 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 7. Diseases and pests of ornamental plants 	Knowledge, understanding, application
13	V	BOT-HC-5016 Reproductive Biology of Angiosperms	<ul style="list-style-type: none"> Gain knowledge of reproductive development of Angiospermic plant 	<ul style="list-style-type: none"> 1. Introduction 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 2. Reproductive development 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 3. Anther and pollen biology 	Knowledge, understanding

			<ul style="list-style-type: none"> • Understand the pollination and fertilization mechanism • Gain knowledge embryo, endosperm, seed, structure and their development • Know about apomixes and polyembryony 	<ul style="list-style-type: none"> • 4. Ovule 	Knowledge, understanding
				<ul style="list-style-type: none"> • 5. Pollination and fertilization 	Knowledge, understanding
				<ul style="list-style-type: none"> • 6. Self incompatibility 	Knowledge, understanding
				<ul style="list-style-type: none"> • 7. Embryo, endosperm and seed 	Knowledge, understanding
				<ul style="list-style-type: none"> • 8. Polyembryony and apomixis 	Knowledge, understanding
12	V	BOT-HC-5026 Plant Physiology	<ul style="list-style-type: none"> • Gain knowledge of Plant water relationship • Gain knowledge of mineral nutrition, nutrient uptake and translocation • Gain knowledge of plant growth regulators, Physiology of flowerings • Gain knowledge of cryptochromes and phototropins 	<ul style="list-style-type: none"> • 1. Plant water relations 	Knowledge, understanding
				<ul style="list-style-type: none"> • 2. Mineral Nutrition 	Knowledge, understanding, application
				<ul style="list-style-type: none"> • 3. Nutrient uptake 	Knowledge, understanding
				<ul style="list-style-type: none"> • 4. Translocation in the phloem 	Knowledge, understanding, application
				<ul style="list-style-type: none"> • 5. Plant growth regulators 	Knowledge, understanding, application
				<ul style="list-style-type: none"> • 6. Physiology of flowering 	Knowledge, understanding
				<ul style="list-style-type: none"> • 7. Phytochrome, cryptochromes and phototropins 	Knowledge, understanding
13	V	BOT-HE-5016 Natural Resource Management	<ul style="list-style-type: none"> • 1. Know the natural resources and their sustainable utilization. • 2. Use of land, water, biological resources. • 3. Significance of forest 	<ul style="list-style-type: none"> • 1. Natural resources 	Knowledge, understanding, application
				<ul style="list-style-type: none"> • 2. Sustainable Utilisation 	Knowledge, understanding
				<ul style="list-style-type: none"> • 3. Land 	Knowledge, understanding, application

			<ul style="list-style-type: none"> cover, forest product management. Renewable and non-renewable sources of energy. 5. Knowledge of EIA, GIS, Waste management. 	<ul style="list-style-type: none"> 4. Water 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 5. Biological Resources 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 6. Forests 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 7. Energy 	Knowledge, understanding
				<ul style="list-style-type: none"> 8. Contemporary Practices 	Knowledge, understanding
				<ul style="list-style-type: none"> 9. National and international efforts in resource management and conservation 	Knowledge, understanding, application
14	V	BOT-HE-5026 Horticultural practices and Post-Harvest Technology	<ul style="list-style-type: none"> 1. Know about ornamental plants, fruit and vegetable crops. 2. To know horticultural techniques. 3. Knowledge of landscaping and garden design, floriculture. Importance of post-harvest technology in horticultural crops, preservation and processing. Knowledge of field and post harvest diseases, crop sanitation, IPM strategies, quarantine 	<ul style="list-style-type: none"> 1. Introduction 	Knowledge, understanding
				<ul style="list-style-type: none"> 2. Ornamental plants 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 3. Fruit and Vegetable crops 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 4. Horticultural techniques 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 5. Landscaping and garden design 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 6. Floriculture 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 7. Post-harvest technology 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 8. Disease control and management 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 9. Horticultural crops – conservation and management 	Knowledge, understanding, application

			<ul style="list-style-type: none"> practices. Conservation of germplasm, role of micropropagation, tissue culture, IPR issues. 7. Field trip for practical knowledge 	<ul style="list-style-type: none"> 10. Field Trip 	Knowledge, understanding, application, creation
15	VI	BOT-HC-6016 Plant Metabolism	<ul style="list-style-type: none"> Understand the concept of Metabolism Gain knowledge of mechanism of photosynthesis, respiration, ATP synthesis. Gain knowledge of Metabolisms of Carbohydrate, Lipid 	<ul style="list-style-type: none"> 1. Concept of metabolism 	Knowledge, understanding
				<ul style="list-style-type: none"> 2. Carbon assimilation 	Knowledge, understanding
				<ul style="list-style-type: none"> 3. Carbohydrate metabolism 	Knowledge, understanding
				<ul style="list-style-type: none"> 4. Carbon oxidation 	Knowledge, understanding
				<ul style="list-style-type: none"> 5. ATP-Synthesis 	Knowledge, understanding
				<ul style="list-style-type: none"> 6. Lipid Metabolism 	Knowledge, understanding
				<ul style="list-style-type: none"> 7. Nitrogen Metabolism 	Knowledge, understanding
				<ul style="list-style-type: none"> 8. Mechanism of signal transduction 	Knowledge, understanding
16	VI	BOT-HC-6026 Plant Biotechnology	<ul style="list-style-type: none"> Understand the method, utilization and importance of Plant Tissue culture. Gain knowledge of DNA technology Gene cloning and method of gene transfer. Gain knowledge on application of Biotechnology 	<ul style="list-style-type: none"> 1. Plant Tissue Culture 	Knowledge, understanding, application
				<ul style="list-style-type: none"> 2. Recombinant DNA technology 	Knowledge, understanding
				<ul style="list-style-type: none"> 3. Gene cloning 	Knowledge, understanding
				<ul style="list-style-type: none"> 4. Methods of gene transfer 	Knowledge, understanding
				<ul style="list-style-type: none"> 5. Applications of biotechnology 	Knowledge, understanding, application

			<ul style="list-style-type: none"> 1. Knowledge of different types 	<ul style="list-style-type: none"> 1. Scope of microbes in 	Knowledge, understanding,
17	VI	BOT-HE-6016 Industrial environmental Microbiology and	<ul style="list-style-type: none"> of fermentation. 2. Microbes involved, media used, conditions required for fermentation, production of different types of enzymes, acids, antibiotics. 3. Microbes in industrial application. Process of isolation of microbes from soil, air and water. 5. Use of microbes in agriculture. 	industry and environment	application
				<ul style="list-style-type: none"> 2. Bioreactors/Fermenters and fermentation processes 	Knowledge, understanding, application, creation.
				<ul style="list-style-type: none"> 3. Microbial production of industrial products 	Knowledge, understanding
				<ul style="list-style-type: none"> 4. Microbial enzymes of industrial interest and enzyme immobilisation 	Knowledge, understanding,
				<ul style="list-style-type: none"> 5. Microbes and quality of environment 	Knowledge, understanding
				<ul style="list-style-type: none"> 6. Microbial flora of water 	Knowledge, understanding
				<ul style="list-style-type: none"> 7. Microbes in agriculture and remediation of contaminated soils. 	Knowledge, understanding, application,
18	VI	BOT-HE-6026 Analytical Techniques in Plant Science	<ul style="list-style-type: none"> 1. Knowledge of microscopy, centrifugation, radioisotopes etc. 2. Use of spectrophotometry in biological research. 3. Different types of chromatography X-ray diffraction, Electrophoresis, AGE, PAGE, SDS-PAGE etc. 	<ul style="list-style-type: none"> 1. Imaging and related techniques 	Knowledge, understanding
				<ul style="list-style-type: none"> 2. Cell fractionation 	Knowledge, understanding, application, analysis
				<ul style="list-style-type: none"> 3. Radioisotopes 	Knowledge, understanding
				<ul style="list-style-type: none"> 4. Spectrophotometry 	Knowledge, understanding, application, analysis.
				<ul style="list-style-type: none"> 5. Chromatography 	Knowledge, understanding, application, analysis.
				<ul style="list-style-type: none"> 6. Characterization of proteins and nucleic acids 	Knowledge, understanding, application, analysis.

			<ul style="list-style-type: none"> Knowledge of biostatistics. 	<ul style="list-style-type: none"> 7. Biostatistics 	Knowledge, understanding, application, analysis
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ii. BSc Chemistry

Programme Specific Outcomes

After the completion of the programme, a student will be able to:

1. Understand the basic principles of organic, inorganic, physical, analytical, pharmaceutical, polymer, pesticide, and green chemistry in the molecular level and their applications through various laboratory experiments.
2. Achieve the critical thinking ability in order to design, carry out, record, and analyse the results of chemical reactions performed in the laboratory.
3. Understand the concepts of practical techniques and different analytical procedures so that they can easily involve themselves in laboratory-based research activities.
4. Gain knowledge required for the safe handling of chemicals and apparatus in the laboratory.

Course Outcomes

SL. NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOMES	UNIT/CHAPTER	BLOOM'S TAXONOMY LEVELS
BSc (HONOURS) Chemistry					
		CHE-HC-1016:	On successful completion, students would have clear	Atomic Structure	Understand and Remember
				Periodicity of Elements	Understand and Remember

1	I	INORGANIC CHEMISTRY-I LAB	understanding of the concepts related to atomic and molecular structure, chemical bonding, periodic properties and redox behavior 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.	Chemical Bonding	Understand and Remember
				Oxidation-Reduction	Understand and Remember
				Titrimetric Analysis, Acid-Base Titrations and Oxidation-Reduction Titrimetry	Apply, Analyse and Evaluate
2	I	CHE-HC-1026: PHYSICAL CHEMISTRY I	In gaseous state unit the students will learn the kinetic theory of gases, ideal gas and real gases. In liquid state unit, the students are expected to learn the qualitative treatment of the 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 another	Gaseous State	Understand and Remember
				Liquid State	Understand and Remember
				Molecular and Crystal Symmetry	Understand and Remember
				Solid State	Understand and Remember

			important topic “ionic equilibria” in this course.	Ionic Equilibria	Understand and Remember
		LAB		Surface tension measurements, Viscosity measurement using Ostwald’s viscometer, Indexing of a given powder diffraction pattern of a cubic crystalline system and pH metry	Apply, Analyse and Evaluate
3	II	CHE-HC-2016: ORGANIC CHEMISTRY I	Students will be able to identify different classes of organic compounds, describe their reactivity and explain/analyse their chemical and stereo chemical aspects.	Basics of Organic Chemistry	Understand and Remember
				Stereo chemistry	Understand, Remember and Apply
				Chemistry of Aliphatic Hydrocarbons a) Carbon-Carbon sigma bonds b) Carbon-Carbon Pi bonds c) Cycloalkanes and Conformational Analysis	Understand and Remember

		LAB		Aromatic Hydrocarbons	Understand and Remember
				Checking the calibration of the thermometer, Purification of organic compounds by crystallization, Determination of melting points and boiling points of unknown organic compounds, Effect of impurities on the melting point – mixed melting point of two unknown organic Compounds and chromatography	Apply, Analyse and Evaluate
		CHE-HC-2026: PHYSICAL CHEMISTRY II	In this course the students are expected to learn laws of thermodynamics, thermochemistry, thermodynamic functions, relations between thermodynamic properties, Gibbs Helmholtz equation, Maxwell relations etc. Moreover, the students are expected to learn partial molar quantities, chemical equilibrium, solutions and colligative properties. After	Chemical Thermodynamics	Understand and Remember
				System of variable compositions	Understand and Remember

			completion of this course, the students will be able to understand the chemical systems from thermodynamic point of view.		
				Chemical Equilibrium	Understand and Remember
				Solutions and Colligative properties	Understand and Remember
4	II	CHE-HC-2026: PHYSICAL CHEMISTRY II LAB	In this course the students are expected to learn laws of thermodynamics, thermochemistry, thermodynamic functions, relations between thermodynamic properties, Gibbs Helmholtz equation, Maxwell relations etc. Moreover, the students are expected to learn partial molar quantities, chemical equilibrium, solutions and colligative properties. After completion of this course, the students will be able to understand the chemical systems from thermodynamic point of view.	Chemical Thermodynamics	Understand and Remember
				System of variable compositions	Understand and Remember
				Chemical Equilibrium	Understand and Remember
				Solutions and Colligative properties	Understand and Remember
				Determination of heat capacity of a calorimeter for different volumes using change of enthalpy data of a known system,	

				<p>Determination of heat capacity of the calorimeter and enthalpy of neutralization of hydrochloric acid with sodium hydroxide, Calculation of the enthalpy of ionization of ethanoic acid, Determination of heat capacity of the calorimeter and integral enthalpy (endothermic and exothermic) solution of salts, Determination of basicity/proticity of a polyprotic acid by the thermochemical method, Determination of enthalpy of hydration of copper sulphate and Study of the solubility of benzoic acid in water and determination of ΔH.</p>	Apply, Analyse and Evaluate
5	III	CHE-HC-3016: INORGANIC CHEMISTRY-II	On successful completion of this course students would be able to apply theoretical principles of redox chemistry in the understanding of metallurgical processes. Students will be able to identify the variety of s and p block compounds and comprehend their preparation, structure, bonding, properties and uses. Experiments in this course will boost their quantitative estimation skills and	General Principles of Metallurgy	Understand and Remember
				Acids and Bases	Understand, Remember and Apply
				Chemistry of s and p Block Elements	Understand and Remember

			introduce the students to preparative methods in inorganic chemistry.	Noble Gases	Understand and Remember
				Inorganic polymers	Understand and Remember
		LAB		Iodo/Iodimetric Titrations and Inorganic preparations	Apply, Analyse and Evaluate
6	III	CHE-HC-3026: ORGANIC CHEMISTRY- II	Students will be able to describe and classify organic compounds in terms of their functional groups and reactivity.	Chemistry of Halogenated Hydrocarbons	Understand and Remember
				Alcohols, Phenols, Ethers and Epoxides	Understand and Remember
				Carbonyl compounds	Understand and Remember
				Carboxylic Acids and their Derivatives	Understand and Remember
				Sulphur containing compounds	Understand and Remember

		LAB		Test of functional groups like alcohols, phenols, carbonyl and carboxylic acid group and organic preparations	Apply, Analyse and Evaluate
7	III	CHE-HC-3036: PHYSICAL CHEMISTRY- III	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	Understand and Remember
				Chemical Kinetics	Understand and Remember
				Catalysis	Understand and Remember
				Surface Chemistry	Understand and Remember
		LAB		Determination of critical solution temperature and composition of the phenol- water system, Construction of the phase diagram using cooling curves or ignition	Apply, Analyse and Evaluate

				tube method, Distribution of acetic/ benzoic acid between water and cyclohexane, Equilibrium and Kinetics study of different reactions	
8	III	CHE-SE-3034: BASIC ANALYTICAL CHEMISTRY	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 analyze data following scientific methodology	Introduction	Understand and Remember
				Analysis of soil	Understand and Remember
				Analysis of water	Understand and Remember
				Analysis of food products	Understand and Remember
				Chromatography	Understand and Remember
				Ion-exchange	Understand and Remember

				Analysis of cosmetics	Understand and Remember
				To study the use of phenolphthalein in trap cases, To analyze arson accelerants, To carry out analysis of gasoline, Estimation of macro nutrients, Spectrophotometric determination of Iron in Vitamin /Dietary Tablets and Spectrophotometric Identification and Determination of Caffeine and Benzoic Acid in Soft Drink	Apply, Analyse and Evaluate
9	IV	CHE-HC-4016: INORGANIC CHEMISTRY-III	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	Coordination Chemistry	Understand and Remember
				Transition Elements	Understand and Remember

			<p>identify differences among the rows.</p> <p>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.</p>	Lanthanoids and Actinoids	Understand and Remember
				Bioinorganic Chemistry	Understand and Remember
		LAB		Gravimetric Analysis, Inorganic Preparations and Chromatography of metal ions	Apply, Analyse and Evaluate
10	IV	CHE-HC-4026: ORGANIC CHEMISTRY- III	<p>Students shall demonstrate the ability to identify and classify different types of N- based derivatives, alkaloids and hetrocyclic compounds/explain their structure mechanism and reactivity/critically examine their synthesis and reactions mechanism.</p>	Nitrogen Containing Functional Groups	Understand and Remember
				Polynuclear Hydrocarbons	Understand and Remember
				Heterocyclic compounds	Understand and Remember
				Alkaloids	Understand and Remember

				Terpenes	Understand and Remember
		LAB		Detection N, S, halogens in organic compounds, Functional group test for nitro, amine and amide groups and Qualitative analysis of unknown organic compounds containing simple functional groups	Apply, Analyse and Evaluate
11	IV	CHE-HC-4036: PHYSICAL CHEMISTRY- IV	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	Understand and Remember
				Electrochemistry	Understand and Remember
				Electrical & Magnetic Properties of Atoms and Molecules	Understand and Remember
		LAB		Determination of cell constant, equivalent conductance, degree of dissociation and dissociation	Apply, Analyse and Evaluate

				constant of a weak acid and conductometric and potentiometric titrations	
12	IV	CHE-SE-4034: PHARMACEUTICAL CHEMISTRY	Students will be able to appreciate the drug development process, identify various small molecules used for treatments different ailments and other physiological processes.	Drugs & Pharmaceuticals	Understand and Remember
				Fermentation	Understand and Remember
		LAB		Preparation of Aspirin and its analysis, Preparation of magnesium bisilicate	Apply, Analyse and Evaluate
13	V	CHE-HC-5016: ORGANIC CHEMISTRY- IV	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.	Nucleic Acids	Understand and Remember

				Amino Acids, Peptides and Proteins	Understand and Remember
				Enzyme	Understand and Remember
				Lipids	Understand and Remember
				Concept of Energy in Biosystems	Understand and Remember
				Pharmaceutical Compounds: Structure and Importance	Understand and Remember
				Estimation of glycine by Sorenson's formalin method, Study of the titration curve of glycine, Estimation of proteins by Lowry's method, Study of the action of salivary amylase on starch at optimum conditions, Effect of temperature on the action of salivary amylase Saponification value of an oil or a fat,	Apply, Analyse and Evaluate

				Determination of Iodine number of an oil/ fat and Isolation and characterization of DNA from onion/ cauliflower/peas.	
14	V	CHE-HC-5026: PHYSICAL CHEMISTRY V	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 be able to understand the basics of various kinds of spectroscopic techniques and photochemistry.	Quantum Chemistry	Understand and Remember
				Molecular Spectroscopy	Understand and Remember
				Photochemistry	Understand and Remember
		LAB		UV/Visible spectroscopy and Colourimetry	Apply, Analyse and Evaluate
15	V	CHE-HE-5026: ANALYTICAL METHODS IN CHEMISTRY	On successful completion students will have theoretical understanding about choice of various analytical techniques used for qualitative and quantitative	Qualitative and quantitative aspects of analysis	Understand and Remember

			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 analyzing different samples.	Optical methods of analysis	Understand and Remember
				Thermal methods of analysis	Understand and Remember
				Electroanalytical methods	Understand and Remember
				Separation techniques	Understand and Remember
				Chromatographic separations, solvent extractions, Determine the pH of the given aerated drinks fruit juices, shampoos and soaps, Determination of Na, Ca, Li in cola drinks and fruit juices using flame photometric techniques, Analysis of soil, ion-exchange and spectrophotometry experiments	Apply, Analyse and Evaluate

16	V	CHE-HE-5056: POLYMER CHEMISTRY	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	Understand and Remember
				Functionality and its importance	Understand and Remember
				Kinetics of Polymerization	Understand and Remember
				Crystallization and crystallinity	Understand and Remember
				Nature and structure of polymers	Understand and Remember
				Determination of molecular weight of polymers	Understand and Remember
				Glass transition temperature (T _g) and determination of T _g	Understand and Remember
				Polymer Solution	Understand and Remember

				Properties of Polymers	Understand and Remember
		LAB		Polymer synthesis, Polymer characterization and Polymer analysis	Apply, Analyse and Evaluate
17	VI	CHE-HC-6016: INORGANIC CHEMISTRY-IV	<p>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.</p> <p>On successful completion, students in general will be able to appreciate the use of 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,</p>	Mechanism of Inorganic Reactions	Understand and Remember
				Organometallic Compounds	Understand and Remember
				Transition Metals in Catalysis	Understand and Remember
				Theoretical Principles in Qualitative Inorganic Analysis (H ₂ S Scheme)	Understand and Remember

			controlling factors etc. will make the students appreciate the concepts of theory in experiments		
				Qualitative semimicro analysis of mixtures containing 3 anions and 3 cations, Synthesis of ammine complexes of Ni(II) and their ligand exchange reactions involving bidentate ligands like acetylacetone, dimethylglyoxime, glycine, Preparation of acetylacetonato complexes of $\text{Cu}^{2+}/\text{Fe}^{3+}$, Controlled synthesis of two copper oxalate hydrate complexes, Determination of ϵ_{max} value from UV-visible spectra of complexes and Measurement of 10 Dq by spectrophotometric method	Apply, Analyse and Evaluate
18	VI	CHE-HC-6026: ORGANIC CHEMISTRY- V	Students will be able to explain/describe basic principles of different spectroscopic	Spectroscopy	Understand and Remember

			techniques and their importance in chemical/organic analysis. Students shall be able to classify/identify/critically examine carbohydrates, polymers and dye materials.	Carbohydrates	Understand and Remember
				Dyes	Understand and Remember
				Polymers	Understand and Remember
		LAB		Extraction of caffeine from tea leaves, Preparation of sodium polyacrylate and urea formaldehyde, Analysis of Carbohydrate, Qualitative analysis of unknown organic compounds containing monofunctional groups, Identification of simple organic compounds by IR spectroscopy and NMR spectroscopy and preparation of methyl orange	Apply, Analyse and Evaluate
		CHE-HE-6016 : GREEN CHEMISTRY		Introduction to Green Chemistry	Understand and Remember

			Apart from introducing learners to the principles of green chemistry, this course will make them conversant with applications of green chemistry to organic synthesis. Students will be prepared for taking up entry level jobs in the chemical industry. They also will have the option of studying further in the area.		
		LAB		Principles of Green Chemistry and Designing a Chemical synthesis	Understand and Remember
				Examples of Green Synthesis/ Reactions	Understand and Remember
				Future Trends in Green Chemistry dry ice, Mechanochemical solvent free synthesis of azomethines, Co-crystal controlled solid state synthesis (C2S3) of N-organophthalimide using phthalic anhydride and 3-aminobenzoic acid, Solvent free, microwave assisted one pot synthesis of phthalocyanine complex of copper (II) and Photoreduction of	Understand and Remember

				benzophenone to benzopinacol in the presence of sunlight	
20	VI	CHE-HE-6056 : DISSERTATION	Student will complete a project work and then prepare a report on that		Analyse, Evaluate and Create

SL NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOME	UNIT/CHAPTER	BLOOM'S TAXONOMY LEVELS
1	I	CHE-RC/HG-1016: CHEMISTRY-1	After completion of this course the students will learn the atomic structure through the basic concepts of quantum mechanics. They will understand the chemical bonding through VB and MO approaches. In organic part, the students	Atomic Structure	Understand and Remember
				Chemical Bonding and Molecular Structure	Understand and Remember
				Fundamentals of Organic Chemistry	Understand and Remember
				Stereochemistry	Understand and Remember
				Aliphatic Hydrocarbons Alkanes, Alkenes and Alkynes	Understand and Remember

		LAB	are expected to learn basic ideas used in organic chemistry, stereochemistry, functional groups, alkanes, alkenes, alkynes etc.	Estimation of Na_2CO_3 , NaHCO_3 , oxalic acid, water of crystallization, Fe(II) and Cu(II) ions by volumetric analysis Detection of extra elements in organic compounds and Separation of mixtures by chromatography	Apply, Analyse and Evaluate
2	II	CHE-RC/HG-2016: CHEMISTRY-2	After completion of this course the students will learn periodic properties in main group elements, transition metals (3d series). They will also learn the crystal field theory in coordination chemistry unit. In physical chemistry part, the students are expected to learn kinetic theory of gases, ideal gas and real gases, surface tension, viscosity, basic solid state chemistry and chemical kinetics.	s- and p-Block Elements	Understand and Remember
				Transition Elements (3d series)	Understand and Remember
				Coordination Chemistry	Understand and Remember
				Kinetic Theory of Gases	Understand and Remember
				Liquids	Understand and Remember
				Solids	Understand and Remember
				Chemical Kinetics	Understand and Remember
		LAB		Semi-micro inorganic qualitative analysis, Estimation of Ni and Al gravimetrically, Determination of composition of Fe^{3+} - salicylic acid complex solution by Job's method, Estimation of Mg^{2+} , Zn^{2+} and total hardness by complexometric titration, Determination of N^+ and K^+ using Flame Photometry, Surface tension measurement, Viscosity	Apply, Analyse and Evaluate

				measurement and Chemical Kinetics	
				Chemical Energetics	Understand and Remember
				Chemical Equilibrium	Understand and Remember
	CHE-RC/HG-3016: CHEMISTRY-3 LAB			Ionic Equilibria	Understand and Remember
				Aromatic hydrocarbons	Understand and Remember
				Alkyl and Aryl Halides	Understand and Remember
				Alcohols, Phenols and Ethers	Understand and Remember
				Aldehydes and ketones (aliphatic and aromatic)	Understand and Remember
			After completion of this course the students will be able to understand the chemical system from thermodynamic points of view. They will also learn two very important topics in chemistry- chemical equilibrium and ionic equilibrium. In organic chemistry part, the students are expected to learn various classes of organic molecules- alkyl halides, aryl halides, alcohols, phenols, ethers, aldehydes and ketones.		

				<p>Determination of heat capacity of calorimeter for different volumes, enthalpy of neutralization of hydrochloric acid with sodium hydroxide, enthalpy of ionization of acetic acid, integral enthalpy of solution of salts and enthalpy of hydration of copper sulphate, Study of the solubility of benzoic acid in water and determination of ΔH, Measurements of pH of different solutions and preparation of buffer solutions. Purification of organic compounds by crystallization, Determination of melting and boiling</p>	Apply, Analyse and Evaluate
				points and preparation of various organic compounds.	
			Upon completion of this course, students shall be able to explain the basic principles of chemical analysis, design/implement microscale and	Introduction	Understand and Remember
				Analysis of soil	Understand and Remember
				Analysis of water	Understand and Remember

4	III	CHE-SE-3034: BASIC ANALYTICAL CHEMISTRY	semimicro experiments, record, interpret and analyze data following scientific methodology.	Analysis of food products	Understand and Remember
				Chromatography	Understand and Remember
				Ion-exchange	Understand and Remember
				Analysis of cosmetics	Understand and Remember
5	IV	LAB CHE- RC/HG-4016: CHEMISTRY-4	After completion of this course the students learn solutions, phase rule and its application in specific cases, basics of conductance and electrochemistry. Students will also learn some important topics of organic and biochemistry- carboxylic acids, amines, amino acids, peptides, proteins and carbohydrates.	To study the use of phenolphthalein in trap cases, To analyze arson accelerants, To carry out analysis of gasoline, Estimation of macro nutrients, Spectrophotometric determination of Iron in Vitamin /Dietary Tablets and Spectrophotometric Identification and Determination of Caffeine and Benzoic Acid in Soft Drink	Apply, Analyse and Evaluate
				Solutions	Understand and Remember
				Phase Equilibrium	Understand and Remember
				Conductance	Understand and Remember
				Electrochemistry	Understand and Remember
				Carboxylic acids and their derivatives	Understand and Remember
				Amines and Diazonium Salts	Understand and Remember

				Amino Acids, Peptides and Proteins	Understand and Remember
				Carbohydrates	Understand and Remember
		LAB		<p>Study of equilibrium by distribution method, Construction of the phase diagram of a binary system, Determination of the critical solution temperature and composition of the phenol</p> <p>water system, Study of the variation of mutual solubility temperature with concentration for the</p> <p>phenol water system and determination of the critical solubility temperature,</p> <p>Determination of cell constant, equivalent conductance, degree of dissociation and dissociation</p> <p>constant of a weak acid and conductometric and potentiometric titrations of strong acid vs. strong base and weak acid vs. strong base Qualitative Organic Analysis of Organic Compounds,</p>	Apply, Analyse and Evaluate

				Separation of amino acids by paper chromatography, Determination of the concentration of glycine solution by formylation method, Titration curve of glycine, Action of salivary amylase on starch, Effect of temperature on the action of salivary amylase on starch, Determination of the saponification value of an oil/fat, Determination of the iodine value of an oil/fat, Differentiation between a reducing/nonreducing sugar, Extraction of DNA from onion/ cauliflower	
6	IV	CHE-SE-4034: PHARMACEU TICAL CHEMISTRY	Students will be able to appreciate the drug development process, identify various small molecules used for treatments different ailments and other physiological processes.	Drugs & Pharmaceuticals	Understand and Remember
				Fermentation	Understand and Remember
		LAB		Preparation of Aspirin and its analysis, Preparation of magnesium bisilicate	Apply, Analyse and Evaluate
		CHE-RE-5026:	On successful completion students will be have theoretical understanding about choice of various analytical techniques used for qualitative and	Qualitative and quantitative aspects of analysis	Understand, Remember and Apply

7	V	ANALYTICAL METHODS IN CHEMISTRY	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 analyzing different samples.		
				Optical methods of analysis	Understand and Remember
				Thermal methods of analysis	Understand and Remember
				Electroanalytical methods	Understand and Remember
				Separation techniques	Understand, Remember and Apply
		LAB		Chromatographic separations, solvent extractions, Determine the pH of the given aerated drinks fruit juices, shampoos and soaps, Determination of Na, Ca, Li in cola drinks and fruit juices using fame photometric techniques, Analysis of soil, ion-exchange and spectrophotometry experiments	Apply, Analyse and Evaluate
8	V	CHE-SE-5044: INTELLECTUAL PROPERTY RIGHTS	After completing this course, students will have in-depth understanding about the importance and types of IPR. This course will also provide the clarity on the legal and economic aspects of the	Introduction to Intellectual Property	Understand and Remember
				Copyrights	Understand and Remember
				Trademarks	Understand and Remember
				Patents	Understand and Remember
				Geographical Indications	Understand and Remember
				Industrial Designs	Understand and Remember
				Layout design of integrated circuits	Understand and Remember

			IP system.		
				Trade Secrets	Understand and Remember
				Different International agreements a) World Trade Organization (WTO) b) Paris Convention	Understand and Remember
9	VI	CHE-RE-6016: GREEN CHEMISTRY	Apart from introducing learners to the principles of green chemistry, this course will make them conversant with applications of green chemistry to organic synthesis. Students will be prepared for taking up entry level jobs in the chemical industry. They also will have the option of studying further in the area	Introduction to Green Chemistry	Understand and Remember
				Principles of Green Chemistry and Designing a Chemical synthesis	Understand and Remember
		LAB		Examples of Green Synthesis/ Reactions	Understand and Remember
				Future Trends in Green Chemistry	Understand and Remember
				Safer starting materials, Preparation of biodiesel from vegetable oil, Principle of atom economy, Benzoin condensation using Thiamine Hydrochloride as a catalyst instead of cyanide, Reaction between furan and maleic acid in water and at room temperature rather than in benzene and reflux,	

				Extraction of D-limonene from orange peel using liquid CO ₂ prepared from dry ice, Mechanochemical solvent free synthesis of azomethines, Co-crystal controlled solid state synthesis (C2S3) of N-organophthalimide using phthalic anhydride and 3-aminobenzoic acid, Solvent free, microwave assisted one pot synthesis of phthalocyanine complex of copper (II) and Photoreduction of benzophenone to benzopinacol in the presence of sunlight	Apply, Analyse and Evaluate
10	VI	CHE-SE-6024: PESTICIDE CHEMISTRY	Students will be able to explain or describe and critically examine different types of pesticides, their activity/toxicity and their applications and the need for the	Definition of pesticides, general introduction to pesticides, benefits and adverse effects of pesticides.	Understand and Remember
				Classification, mode of action, toxicity and methods of pesticides residue analysis.	Understand and Remember
		LAB		Synthesis and technical manufacture and uses of representative	Understand and Remember

				pesticides	
				To calculate acidity/alkalinity in given sample of pesticides formulations as per BIS specifications	Apply, Analyse and Evaluate
				Preparation of simple organophosphates, phosphonates and thiophosphates	Apply, Analyse and Evaluate

iii. BSc Mathematics

Programme Specific Outcomes

After the completion of the programme, a student will be able to:

1. Communicate mathematics effectively by oral, written, computational and graphic means.
2. Create mathematical ideas from basic axioms.
3. Gauge hypotheses, theories, techniques, and proofs provisionally.
4. Utilize mathematics to solve theoretical and applied problems through critical understanding, analysis, and synthesis.
5. Identify the applications of mathematics in other disciplines and in the real world, leading to the enhancement of career prospects in a plethora of fields.
6. Appreciate the requirement of lifelong learning through continued education and research.

Course Outcomes

SL. NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOMES	UNIT/CHAPTER	BLOOM'S TAXONOMY LEVELS
1.	I	MAT-HC-1016 Calculus (Including Practical)	This course will enable the students to: i) Learn first and second derivative tests for relative extremum and apply the knowledge in problems in business, economics and life sciences. ii) Sketch curves in a plane using its mathematical properties in different coordinate systems. iii) Compute area of surfaces of	Unit 1 : Higher order derivatives, its application, geometrical interpretation.	Remember, understand, apply, evaluate.
				Unit 2 : Reduction formula for integration and application of integration in geometry.	Remember, understand, apply, evaluate.
				Unit 3 : Vector functions and its	Remember, understand, apply,

			<p>revolution and the volume of solids by integrating over cross-sectional areas.</p> <p>iv) Understand the calculus of vector functions and its use to develop the basic principles of planetary motion.</p>	applications.	evaluate.
2.	I	MAT-HC-1026 Algebra	<p>This course will enable the students to:</p> <p>i) Employ De Moivre's theorem in a number of applications to solve numerical problems.</p> <p>ii) Learn about equivalent classes and cardinality of a set.</p> <p>iii) Use modular arithmetic and basic properties of congruences.</p> <p>iv) Recognize consistent and inconsistent systems of linear equations by the row echelon form of the augmented matrix.</p> <p>v) Learn about the solution sets of linear systems using matrix method and Cramer's rule</p>	Unit 1 : Polar representation of complex numbers, De Moivre's theorem and applications.	Remember, understand, apply, evaluate
				Unit 2 : Mathematical logic, sets, functions	Remember, understand, apply, evaluate
				Unit 3 : Relations, Induction principles, GCD of integers	Remember, understand, apply, evaluate
				Unit 4 : Linear equations, matrix and its applications	Remember, understand, apply, evaluate
3.	II	MAT-HC-2016 Real analysis	<p>This course will enable the students to:</p> <p>i) Understand many properties of</p>	Unit 1 : Algebraic and order properties of \mathbb{R} .	Remember, understand, apply, evaluate

			the real line \mathbb{R} , including completeness and Archimedean properties.	Unit 2 : Real sequences and it's convergence	Remember, understand, apply
			ii) Learn to define sequences in terms of functions from \mathbb{N} to a subset of \mathbb{R} . iii) Recognize bounded, convergent, divergent, Cauchy and monotonic sequences and to calculate their limit superior, limit inferior, and the limit of a bounded sequence.	Unit 3 : Infinite series and it's convergence	Remember, understand, apply
4.	II	MAT-HC-2026 Differential Equations	The course will enable the students to: i) Learn basics of differential equations and mathematical modeling. ii) Formulate differential equations for various mathematical models. iii) Solve first order non-linear differential equations and linear differential equations of higher order using various techniques. iv) Apply these techniques to solve and analyze various mathematical models.	Unit 1 : Basics of Mathematical Model, solution of 1 st order differential equations.	Remember, understand, apply, analyse.
				Unit 2: Introduction and analysis of different models.	Understand, apply, evaluate, create
				Unit 3 : Solutions of 2 nd order differential equations.	Remember, understand, apply, analyse.

5.	III	MAT-HC-3016 Theory of Real functions	<p>This course will enable the students to:</p> <p>i) Have a rigorous understanding of the concept of limit of a function.</p> <p>ii) Learn about continuity and uniform continuity of functions defined on intervals.</p> <p>iii) Understand geometrical properties of continuous functions on closed and bounded intervals.</p> <p>iv) Learn extensively about the concept of differentiability using limits, leading to a better understanding for applications.</p>	Unit 1 : Limit point of sets, limits of functions.	Remember, understand
				Unit 2 : Continuous functions and related theorems	Understand, Remember
				Unit 3 : Differentiability of a function and related theorems	Remember, understand analysis
6.	III	MAT-HC-3026 Group Theory-1	<p>The course will enable the students to:</p> <p>i) Recognize the mathematical objects that are groups, and classify them as abelian, cyclic and permutation groups, etc.</p> <p>ii) Link the fundamental concepts of groups and symmetrical figures.</p> <p>iii) Analyze the subgroups of cyclic groups and classify subgroups of</p>	Unit 1 : Definition and examples of group, subgroups, cyclic groups.	Remember, understand, analyse.
				Unit 2 : Permutations, Lagrange's theorem, normal subgroups and factor groups.	Understand, Remember

			<p>cyclic groups.</p> <p>iv) Explain the significance of the notion of cosets, normal subgroups and factor groups.</p> <p>v) Learn about Lagrange's theorem and Fermat's Little theorem.</p> <p>vi) Know about group homomorphisms and group isomorphisms.</p>	Unit 3 : Group homomorphism and related theorems	Remember, understand, analyse.
7.	III	MAT-HC-3036 Analytical Geometry	<p>This course will enable the students to:</p> <p>i) Learn conic sections and transform co-ordinate systems</p> <p>ii) Learn polar equation of a conic, tangent, normal and properties</p> <p>iii) Have a rigorous understanding of the concept of three dimensional coordinates system.</p>	Unit 1 : Transformation of co-ordinates, pair of straight lines, different types of conics with general form.	Remember, understand, analyse, apply.
				Unit 2 : Plane, sphere, cone, cylinder, central conicoid	Remember, understand, apply.
8.	IV	MAT-HC-4016 Multivariate Calculus	<p>This course will enable the students to:</p> <p>i) Learn the conceptual variations when advancing in calculus from one variable to multivariable discussion.</p> <p>Understand the maximization and minimization of</p>	Unit 1 : Functions of several variables, limit, continuity, partial derivatives, chain rule, level curves, tangent, gradient, directional derivative, total differential.	Remember, understand, apply, analyse, create.
				Unit 2 : Extrema of functions of several variables	Understand, Remember, apply, evaluate.

			<p>multivariable functions subject to the given constraints</p> <p>iii) Learn about inter-relationship amongst the line integral, double and triple integral formulations.</p> <p>ii) Familiarize with Green's, Stokes' and Gauss divergence theorems.</p>		
				Unit 3 : Double and triple integration, volume, area, surface area by it.	Remember, understand analyse, apply, create
				Unit 4 : Line , surface integral. Green, Stokes, Divergence theorem and applications.	Apply, analyse, evaluate.
9.	IV	MAT-HC-4026 Numerical Methods (Including Practical)	<p>The course will enable the students to:</p> <p>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.</p> <p>ii) Know about methods to solve system of linear equations, such as False position method, Fixed point iteration method, Newton's method, Secant method and LU decomposition.</p>	Unit 1 : Algorithms, convergence, Solution of system of equations by different methods, LU decomposition	Remember, understand, apply, evaluate.

			<p>iii) Interpolation techniques to compute the values for a tabulated function at points not in the table.</p> <p>iv) Applications of numerical differentiation and integration to convert differential equations into difference equations for numerical solutions</p>		
				Unit 2 : Lagrange and Newton interpolation, finite difference operators.	Remember, understand, apply, evaluate.
				Unit 3 : Numerical differentiation and integration. Trapezoidal, Simpson's and Euler's rule.	Understand, apply, analyse, evaluate.
10.	IV	MAT-HC-4036 Ring Theory	<p>This course will enable the students to:</p> <p>i) appreciate the significance of unique factorization in rings and integral domains</p> <p>ii) learn about fundamental concepts of ring, integral domains and fields.</p> <p>iii) know about ring homomorphism and isomorphism theorems of rings.</p> <p>iv) learn about polynomial rings over commutative rings and about UFD.</p>	<p>Unit 1 : Definition, examples and properties of rings, sub ring, ideal, integral domains, fields.</p> <p>Isomorphisms and homomorphisms of rings and related theorems.</p>	Remember, understand, analyse.

				Unit 2 : Polynomial rings over commutative rings, division algorithm, principal and prime ideals, UFD and Euclidean domains, divisibility in integral domains.	Remember, understand, analyse.
11	V	MAT-HC-5016 Complex Analysis (Including Practical)	The course will enable the students to: i) Learn the significance of differentiability of complex functions leading to the understanding of Cauchy–Riemann equations. ii) Learn some elementary functions and can evaluate the contour integrals. iii) Understand the role of Cauchy–Goursat theorem and the Cauchy integral formula and their applications in evaluating complex integrals.	Unit 1 : Function of a complex variable. Limit, continuity, differentiability of complex numbers. Cauchy Riemann equations.	Remember, understand, apply, analyse.
				Unit 2 : Analytic functions, harmonic functions, exponential, logarithmic and trigonometric functions, derivative and definite integral of functions.	Remember, apply, evaluate.
				Unit 3 : Contours, contour integrals and examples	Remember, analyse, apply, evaluate.
				Unit 4 : Antiderivative, Cauchy- Goursat theorem, Cauchy integral formula, Liouville’s theorem and fundamental theorem of algebra.	Apply, analyse, evaluate, create.
12.	V	MAT-HC-5026 Linear Algebra	The course will enable the students to: i) Learn about the concept of linear independence of vectors over a field, dimension of a	Unit 1 : Vector spaces, subspaces, null and column space, linear transformations, kernel, range, base, dimension, rank of vector space, change of basis.	Remember, understand, analyse, apply.

			<p>vector space.</p> <p>ii) Basic concepts of linear transformations, dimension theorem, matrix representation of LT and change of co-ordinate matrix.</p> <p>iii) Compute characteristic polynomial, eigen values, eigen vectors, eigen space. Apply basic diagonalization results.</p> <p>iv) Compute inner products and determine orthogonality on vector spaces.</p>		
				Unit 2 : Eigen vectors and eigen values of a matrix, the characteristics equation, diagonalization, eigen vectors of a LT, complex eigen values. Invariant subspaces and Cayley Hamilton theorem.	Remember, apply, evaluate.
				Unit 3 : Inner product, length, orthogonality, orthogonal sets and projections. Gram Schmidt process, inner product space. Diagonalization of symmetric matrices and spectral theorem.	Remember, understand, analyse, evaluate.
13.	V	MAT-HE-5016 Number Theory	<p>This course will enable the students to:</p> <p>i) Learn about some fascinating discoveries related to the</p>	Unit 1 : Linear Diophantine equation, prime counting function, Goldbach conjecture, linear congruence, residue, Chinese remainder theorem, Fermat's Little theorem,	Remember, understand, analyse.

			<p>properties of prime numbers, and some of the open problems in number theory, viz., Goldbach conjecture etc.</p> <p>ii) Know about number theoretic functions and modular arithmetic.</p> <p>iii) Solve linear, quadratic and system of linear congruence equations.</p>	Wilson's theorem.	
				<p>Unit 2 : Number theoretic functions, sum and number of divisors, totally multiplicative functions, definition and properties of Dirichlet product, Mobius inversion formula, the greatest integer function, Euler's phi function, Euler's theorem, residue.</p>	Remember, understand, analyse.
14.	V	MAT-HE-5066 Programming in C (Including Practical)	<p>The course will enable the students to:</p> <p>i) Understand and apply the programming concepts of C which is important to mathematical investigation and problem solving.</p> <p>ii) Learn about structured datatypes in C and learn about different applications. Represent the outputs of programs visually in terms of well formatted text and plots.</p> <p>iii) iv) Practical will enable the</p>	<p>Unit 1 : Variables, constants, different terms related to C and its library functions, structure of a C program, input/output functions and statements.</p>	Understand, apply, create.

			students to create and evaluate different problems using C		
				Unit 2 : Control statements, if-else statements, switch statement.	Understand, apply, create.
				Unit 3 : Arrays and subscripted variables, function, function declaration, actual and formal arguments, function prototype, recursive function.	Understand, apply, analyse, create.
15.	VI	MAT-HC-6016 Riemann Integration and Metric spaces	<p>The course will enable the students to:</p> <p>i) Learn about some of the classes and properties of Riemann integrable functions, and the applications of the Fundamental theorems of integration.</p> <p>ii) Know about improper integrals including, beta and gamma functions.</p> <p>iii) Learn various natural and abstract formulations of distance on the sets of usual or unusual entities. Become aware of such formulations leading to metric spaces.</p> <p>iv) Analyse how a theory advances from a particular frame to a general frame.</p>	Unit 1 : Riemann integration concepts and some related theorems. Concepts of improper integrals, Gamma functions.	Remember, understand, apply, analyse, evaluate.

			v) Appreciate the mathematical understanding of various geometrical concepts, viz. Balls or connected sets etc. in an abstract setting.		
				Unit 2 : Metric spaces, definition, examples sequence and Cauchy sequence, open and closed ball, complete metric space, subspace, dense and separable space.	Remember, Understand, analyse.
				Unit 3. Continuous mappings, sequential criterion, uniform continuity, homeomorphism, contraction mapping, connectedness.	Remember, understand analyse.
16.	VI	MAT-HC-6026 Partial Differential Equations (Including practical)	<p>The course will enable the students to:</p> <p>i) Formulate, classify and transform first order PDEs into canonical form.</p> <p>ii) Learn about method of characteristics and separation of variables to solve first order PDE's.</p> <p>iii) Classify and solve second order linear PDEs.</p>	Unit 1 : Introduction, classification, construction of first order PDE, Cauchy problem, Integral surface, Cauchy, Charpit and Jacobi's method of solution.	Remember, understand, analyse, evaluate.

			iv) Learn about Cauchy problem for second order PDE and homogeneous as well as nonhomogeneous wave equations.		
				Unit 2 : Canonical form of 1 st order PDE, Method of separation of variables	Understand, analyse, apply.
				Unit 3 : Reduction to canonical forms, equations with constant co-efficients, general solution.	Understand, apply, evaluate.
17.	VI	MAT-HE-6046 Hydromechanics	<p>The course will enable the students to:</p> <p>i) Know about Pressure equation, rotating fluids. Learn about Fluid pressure on plane surfaces, resultant pressure on curved surfaces, Gas law, mixture of gases</p> <p>iii) Learn about the Eulerian and Lagrangian method.</p> <p>ii) Learn about equation of continuity, examples, acceleration of a fluid at a point</p>	<p>Unit 1 : Pressure equation, equilibrium conditions, homogeneous and heterogeneous fluids, rotating fluid, pressure on curved and plane surfaces, centre of pressure, gas, mixture of gases, adiabatic expansion.</p> <p>Unit 2 : Velocity , acceleration of fluid at a point, Lagrangean and Eulerian methods of study of fluid motion, equation of continuity and equation of motion of fluid.</p>	Remember, understand, analyse. Apply.
			Generic and Regular Course		

18.	I	MAT-HG-1016/ MAT-RC-1016 Calculus	<p>Completion of the course will enable the students to:</p> <p>i) Understand continuity and differentiability in terms of limit.</p> <p>ii) Describe asymptotic behavior in terms of limit involving infinity.</p> <p>iii) Understand importance of Mean value theorems.</p> <p>iv) Use derivative to explore behavior of a function and graphing it.</p>	Unit 1 : Graph of different functions	Understand, apply, analyse, create.
				Unit 2 : Limits and continuity of functions, properties of continuous functions, intermediate value theorem.	Remember, apply, evaluate.
				Unit 3 : Differentiability, successive differentiation, Leibnitz theorem, higher order derivatives.	Understand, apply, evaluate.
				Unit 4 : Rolle's Theorem, Lagrange's mean value theorem, geometrical interpretation and application, Taylor's theorem, Maclaurin's theorem,	Remember, apply, analyse, evaluate.

				Unit 5 : Functions of two and more variables, level curves, partial differentiation.	Understand, apply, create.
19.	II	MAT-HG-2016/ MAT-RC-2016 Algebra	<p>The course will enable the students to:</p> <p>i) Learn to solve cubic and biquadratic equations. Also learn relation between the roots and coefficients and its uses.</p> <p>ii) Employ De Moivre's theorem in a number of applications.</p> <p>iii) Recognize consistent and inconsistent system of equations by row echelon form of matrix. Learn to find rank and inverse.</p> <p>iv) Learn basic ideas of group, subgroup, permutation group, cyclic group and preliminary knowledge of rings.</p>	Unit 1 : Theory of equations, De Moivre's Theorem, roots of complex numbers.	Remember, understand, apply, evaluate.
				Unit 2 : Matrices, algebra, row echelon and reduced row echelon form, inverse, rank, solution of system of equations.	Understand, apply, evaluate.
				Unit 3 : Groups and rings. Permutation and cyclic groups.	Remember, understand, analyse.

20.	III	MAT-HG-3016/ MAT-RC-3016 Differential Equations	<p>This course will enable the students to:</p> <ul style="list-style-type: none"> i) Learn basics of differential equations and its applications ii) learn to classify 1st order linear differential equations and different methods of solutions. iii) learn to solve 2nd order linear homogeneous as well as nonhomogeneous differential equations by different methods. 	<p>Unit 1 : First order equations and methods of solutions, orthogonal and oblique trajectories, Wronskian and its properties.</p> <p>Unit 2 : Solutions of 2nd order linear homogeneous and nonhomogeneous equations, Cauchy-Euler equations, simultaneous equations.</p>	Remember, understand, analyse, apply.
21.	IV	MAT-HG-4016/ MAT-RC-4016 Real Analysis	<p>This course will enable the students to:</p> <ul style="list-style-type: none"> i) understand many properties of real line \mathbb{R}, including Archimedean and completeness properties. ii) learn to define sequences in terms of functions from \mathbb{R} to a subset of \mathbb{R}. iii) Recognize bounded, convergent, divergent, Cauchy and monotonic sequences and to calculate their limit superior, limit inferior and limits of bounded sequences. iv) learn to apply different tests to test convergence of infinite series. 	Unit 1 : Algebraic and order properties of real numbers, open and closed sets. Limits and continuity of a function and their properties, uniform continuity.	Remember, understand, analyse, apply.

				Unit 2 : Sequences, convergent and Cauchy sequences, sub sequences , limits of sequence. Infinite series and convergence.	Remember, understand, apply, evaluate.
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iv. BSc Physics

Programme Specific Outcomes

After the completion of the programme, a student will be able to:

1. Gain knowledge and understanding of various mathematical techniques used in physics such as the Frobenius method, Fourier series, solutions of different types of differential equations, the use of complex functions, integral transforms, curve fitting, and least square fit as well as C/C++ computational techniques and Python programming for solving various theoretical problems.
2. Acquire the ability to understand the properties of matter, viz., elasticity, surface tension and viscosity as well as the theory of relativity.
3. Understand waves and oscillation and gain knowledge of various wave phenomena related to optics like interference, diffraction, and holography and use them to determine wavelengths of light from multiple sources.
4. Understand electricity and magnetism, electromagnetic theory starting with Maxwell's equations, propagation of EM waves, polarization, waveguides, and network theorems and analyse the results experimentally.
5. Gain knowledge of thermal physics covering the basic laws of thermodynamics, entropy, kinetic theory of gases, and real gases and evaluate experimental outcomes to measure thermal conductivity of good and bad conductors.
6. Understand various digital circuits starting with CRO, integrated circuits, Boolean algebra and their applications in timers, flip-flops, counters, shift registers, and microprocessors.
7. Gain familiarity with concepts of modern physics, viz., Planck's quantum theory, Heisenberg uncertainty principle, and Eigen value problems in confined particles; then move forward to Schrodinger equations, bound states and ideas of atomic physics.
8. Understand analog systems with diodes, transistors, amplifiers, and OPAMP and their various day-to-day applications.
9. Acquire knowledge and understanding of crystal structures, magnetic properties, dielectric properties, superconductivity, and

hysteresis loop of ferro-magnets and experimentally find dielectric constants and magnetic susceptibility.

10. Understand the concepts of both classical and quantum statistical physics and analyse large samples of data both theoretically and using computational techniques.
11. Gain knowledge of classical dynamics, fluid dynamics, nuclear physics, radioactive decay, particle physics, and astrophysics along with detailed information regarding our universe and planetary systems as well as numerous experimental techniques.
12. Understand the basic instrumental skills and their usages through practice.
13. Build a strong basis for pursuing various career options.

Course Outcomes

SL. NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOMES	UNIT /CHAPTER	BLOOM'S TAXONOMIC LEVELS
1.	I	PHY-HC-1016 Mathematical Physics I	Students should be able to understand the different types of mathematical tools: Vector calculus, Differential equations, orthogonal curvilinear coordinate, Dirac Delta function, Probability Theory of errors and their use in solving problems in various physical fields.	Unit I: Vector Calculus	Remember, Understand, Apply, Analyse, Evaluate
				Unit II: First and Second order Differential Equations	Remember, Understand, Apply, Analyse, Evaluate
				Unit III: Orthogonal Curvilinear Coordinates	Remember, Understand, Apply, Analyse, Evaluate, Create
				Unit IV: Dirac Delta function and its Properties	Remember, Understand, Apply, Analyse, Evaluate
				Unit V: Introduction to Probability	Remember, Understand, Apply, Analyse, Evaluate

				UnitVI:Theory of Errors	Remember, Understand, Apply,Analyse, Evaluate
2	I	PHY-HC-1026 Mechanics	Students completing the coursewillgain knowledge on Fundamentals of Dynamics, principles of work and energy, collisions, rotational dynamics, elasticity, fluid motion,gravitational and central force motion, oscillations as well as understand Non Inertial Systems and Special theory of relativity.	UnitI: Fundamentals ofDynamics	Remember, Understand, Apply, Evaluate
				UnitII: WorkandEnergy	Remember, Understand, Apply, Analyse, Evaluate
				UnitIII:Collisions	Remember,Understand,Apply, Evaluate
				UnitIV:RotationalDynamics	Remember, Understand, Apply, Analyse, Evaluate
				UnitV:Elasticity	Remember, Understand, Apply
				UnitVI:FluidMotion	Remember , Understand,Apply
				UnitVII:Gravitation and CentralForceMotio n	Remember, Understand, apply, Analyse, evaluate
				UnitVIII:Oscillations	Remember, understand, apply
				UnitIX:Non-InertialSyste ms	Remember, Understand, Apply, Analyse
				UnitX:Special TheoryofRelativity	Remember, Understand, Apply
3	II	PHY-HC-2016 Electricity & Magnetism	Oncompletionofthiscourse,stud entswillbeab letounderstandelectricandmagn eticfields in matter, propertiesofmatter,magneticprop ertiesofm	UnitI:ElectricField and ElectricPotential	Remember, Understand, Apply,Analyse, Evaluate

			atter,electromagneticinduction, applicationsofKirchhoff'slawind ifferentcircui ts,applicationsofnetworktheore mincircuits		
				UnitII:DielectricPro pertiesof Matter	Remember, Understand, Apply, Analyse, Evaluate, Create
				UnitIII:MagneticFiel d	Remember, Understand, Apply,Analyse, Evaluate
				Unit IV: Magnetic PropertiesofMatt er	Remember, Understand, Apply, Analyse, Evaluate
				Unit V: Electromagn eticInduction	Remember, Understand, Apply, Analyse, Evaluate
				UnitVI:ElectricalCirc uits	Remember,Understand, Apply, Analyse,Evaluate, Create
				UnitVII:NetworkTh eorems	Remember,Understand, Apply, Analyse,Evaluate, Create
				UnitVIII:BallisticG alvanometer	Remember,Understand, Apply, Evaluate
4	II	PHY-HC-2026 Waves and Optics	Thecourse enablestudentstounderstands uperpositionof harmonicoscillations,differentty pesofwave motions,superpositionofharmoni cwaves,int erferenceandinterferometer,diffr action,holo -graphy	Unit I:SuperpositionofC ollinear HarmonicOscillati ons	Remember,Understand, Apply,Analyse
				UnitII:Superposition ofTwo Perpendicular HarmonicOscillatio ns	Remember,Understand, Apply,Analyse,Evaluate

				UnitIII:WaveMotion	Remember,Understand, Apply,Analyse,Evaluate
				UnitIV: VelocityofWaves	Remember,Understand, Apply, Analyse
				Unit V: Superposition of TwoHarmonicWaves	Remember,Understand, Apply,Analyse,Evaluate
				UnitVI:WaveOptics	Understand, Apply, Analyse,Evaluate
				UnitVII:Interference	Understand, Apply,Analyse,Evaluate
				UnitVIII:Interferometer	Remember,Understand, Apply,Analyse,Evaluate
				Unit IX: Diffraction	Understand, Apply,Analyse,Evaluate
5	III	PHY-HC-3016	Aftersuccessfulcompletionofthecourse,studentswillbeabletosolve differential equation	UnitI:FrobeniusMethodandSpecial	Remember, Understand, Apply, Analyse, Evaluate Apply,Analyse,Evaluate
		Mathematical PhysicsII	usingpowerseriessolutionmethod.Thecoursewill enablestudentstounderstanddifferentpropertiesofmatrix.	Functions	
				UnitII:PartialDifferential Equations	Remember,Understand, Apply,Analyse,Evaluate
				UnitIII:SomeSpecial Integrals	Remember,Understand, Apply, Analyse,Evaluate
				UnitIV:Matrix	Remember,Understand, Apply, Analyse,Evaluate, Create
				UnitV:FourierSeries	Remember,Understand, Apply, Analyse,Evaluate

6	III	PHY-HC-3026 Thermal Physics	Students will have the knowledge and skills to identify and describe the statistical nature of concepts and laws in thermodynamics, in particular: entropy, temperature, thermodynamic potentials, Free energies, Maxwell's relations in thermodynamics, 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, Analyse, 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
7	III	PHY-HC-3036	After successful completion of the	Unit I: Introduction to CRO	Remember, Understand, Apply,
		Digital Systems & Applications	course student will be able to understand the working principle and	O	Analyse..
			application of CRO, Integrated circuits, develop a digital logic and apply it to solve	Unit II: Integrated Circuits	Remember & Understand.
				Unit III: Digital Circuits	Understand, Apply, Analyse.

			reallife problems, Analyse, Design and implement combinational Logic circuits, Classify different semiconductor memories, Analyse, 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 IV: Boolean Algebra	Remember, Understand, Apply, Analyse, Evaluate
				Unit V: Data Processing Circuits	Understand & Apply.
				Unit VI: Arithmetic Circuits	Understand, Apply, Analyse.
				Unit VII: Sequential Circuits	Understand, Apply, Analyse.
				Unit VIII: Timers- IC555	Understand & Apply.
				Unit IX: Shift Registers	Understand, Apply, Analyse.
				Unit X: Counters (4 bits)	Understand & Apply.
				Unit XI: Computer Organization	Remember, Apply, Analyse.
				Unit XII: Intel 8085 Microprocessor Architecture	Understand, Apply, Analyse.
				Unit XIII: Introduction to Assembly Language	Remember, Understand, Apply.
8	III	PHY-SE-3014 Physics Workshop Skills	The aim of this course is to enable the students to familiarize and experiment with various	Unit I: Introduction	Remember, Understand
				Unit II: Mechanical Skill	Remember, Understand, Apply & Analyse.

			mechanical and electrical tools through hands-on mode.	Unit III : Electrical and Electronic Skill	Remember, Understand, Apply & Analyse.
				Unit IV: Introduction to prime movers	Remember, Understand, Apply, Analyse, Evaluate
9	IV	PHY-HC-4016 Mathematical Physics III	On successful completion of the course students will understand and gain knowledge on complex analysis and integration using residue theorem, applications of Fourier and Laplace transforms in solving differential equations, various properties of Tensor	Unit I: Complex Analysis	Remember, Understand, Apply, Analyse, Evaluate
				Unit II: Complex Integration	Remember, Understand, Apply, Analyse, Evaluate
				Unit III: Fourier Transforms	Remember, Understand, Apply, Analyse, Evaluate
				Unit IV: Laplace Transforms	Remember, Understand, Apply, Analyse, Evaluate
				Unit V: Tensor Algebra	Remember, Understand, Apply, Analyse, Evaluate
10	IV	PHY-HC-4026 Elements of Modern Physics	After completion of the course students will be able to solve Schrodinger equation. Student will also get idea of Structure of	Unit I: Quantum Theory and Blackbody Radiation	Remember, Understand, Apply, Analyse, Evaluate
				Unit II: Uncertainty and Wave-Particle Duality	Remember, Understand, Apply, Analyse, Evaluate
				Unit III: Schrödinger Equation	Remember, Understand, Apply, Analyse, Evaluate
				Unit IV: One-dimensional Box and Step Barrier	Remember, Understand, Apply, Analyse, Evaluate
				Unit V: Structure of the Atom and Nucleus	Remember, Understand, Apply, Analyse, Evaluate

				Unit VI:Radioactivity	Remember, Understand, Apply, Analyse, Evaluate
				Unit VII:Detection ofnuclearradiation	Remember, Understand, Apply, Analyse, Evaluate
				Unit VIII:Fissio nandFusion	Remember, Understand, Apply, Analyse, Evaluate
				Unit IX:Lasers	Remember, Understand, Apply, Analyse, Evaluate
11	IV	PHY-HC-4036 Analog Systems & Applications	On completion circuits,theconceptoffeedbac kinamplifiers andtheoscillatorcircuits	Unit I:Semiconducto rDiodes	Remember, Understand, Apply, Analyse, Evaluate
				Unit II:Two-terminalDevicesandt heirApplications	Remember,Understand,Analyse,Evaluate.
				Unit III: Bipolar JunctionTra nsistors	Understand,Apply,Analyse.
				Unit IV:Amplifiers	Remember,Understand,Apply, Analyse,Evaluate.
				Unit V:CoupledAmp lifier	Understand,Apply,Analyse.
				Unit VI:FeedbackinA mplifiers	Remember,Apply,Analyse.
				Unit VII:Sinusoidal Oscillators	Understand,Apply,Analyse.
				Unit VIII:Operational Amplifiers	Understand&Apply.
				Unit IX: Applications ofOp-Amps	Understand,Apply,Analyze, Create

				Unit X:Conversion	Remember,understand,Apply.
12	IV	PHY-SE-4014 Basic InstrumentationSkills	The aim of the course is to get exposure with various aspects of instruments and their usage through hands-on mode.	UnitI: Basic of Measureme nt	Remember, Understand, Apply,Analyse.
				UnitII: Electronic Voltmeter	Remember,Understand,Analyse, Evakuate
				Unit III: Cathode Ray oscillosco pe	Understand,Apply,Analyse.
				UnitIV:Use of CRO forthe measurement of voltage	Remember,Understand,Apply, Analyse,Evaluate.
				UnitV: Signal Generators and Analysis Instruments	Understand,Apply,Analyse.
				UnitVI:Impedan ce Bridges & Q-Meters	Remember,Apply,Analyse.
				UnitVII: Digital Instruments	Understand,Apply,Analyse.
				UnitVIII: Digital Multimeter	Understand&Apply.
13	V	PHY-HC-5016 Quantum Mechanicsand	After completion of theSchrödingerequationforhydrogenatom	Unit I: Time DependentSchrödin gerEquation	Remember,Understand,Apply,Analyse,Evaluate

		Applications	.Studentswillunderstandtheco nceptsof angular momentum and spin, aswell as therules quantizationandadditionofthe se,spin-orbit couplingandZeeman Effect.	Unit II: Time IndependentSchrödi ngerEquation	Remember,Understand,Apply,Analyse,Ev aluate
				UnitIII: BoundStates	Remember,Understand,Apply,Analyse,Ev aluate
				UnitIV:Hydrog en-likeAtoms	Remember,Understand,Apply,Analyse,Ev aluate
				UnitV:Atomsi nEl ectric&Magne ticFields	Remember, Understand,Apply,Analyse,Evaluate
				UnitVI:ManyElectr onAtoms	Remember, Understand,Apply,Analyse,Evaluate
14	V	PHY-HC-5026 Solid State Physics	On successful completion of thecoursestudents should be ferroelectric magneticproperties ofsolidsand understandthebasi cconcepts in superconductivity.	UnitI:CrystalStructur e	Remember, Understand,Apply,Analyse,Evaluate
				Unit II: Elementary LatticeDyna mics	Remember, Understand,Apply,Analyse,Evaluate
				Unit III: Magnetic Properties ofMatter	Remember, Understand,Apply,Analyse,Evaluate
				Unit IV : Dielectric Properties ofMaterials	Remember, Understand,Apply,Analyse,Evaluate
				Unit V : Ferroelectric Properties of Materials	Remember, Understand,Apply,Analyse,Evaluate
				Unit VI : Free ElectronTheory of Metals	Remember, Understand,Apply,Analyse,Evaluate

				Unit VII: Superconductivity	Remember, Understand, Apply, Analyse, Evaluate
15	V	PHY-HE-5046 Physics of Devices and Instruments	Upon completion of this course, students will be able to gain knowledge on advanced electronics devices such as UJT, JFET, MOSFET, CMOS etc., detailed process of IC fabrication, Digital Data serial and parallel Communication Standards along with the understanding of communication systems.	Unit I: Devices	Remember, understand, apply
				Unit II: Power supply and Filters	Remember, understand, apply,
				Unit III: Active and Passive Filters	Remember, understand, apply, analyse, evaluate, Create
				Unit IV: Multivibrators	Remember, understand, apply, analyse, evaluate
				Unit V: Phase Locked Loop (PLL)	Remember, understand, apply, analyse
				Unit VI: Processing of Devices	Remember, understand, apply, analyse
				Unit VII: Digital Data Communication Standards	Remember, understand, apply, analyse
				Unit VIII: Introduction to communication systems	Remember, understand, apply
16	V	PHY-HE-5056 Nuclear and Particle Physics	On completion of this course, students will have understanding of the subatomic particles and their properties. They will gain knowledge about the different nuclear techniques and their	Unit I: General Properties of Nuclei	Remember, understand, apply
				Unit II: Nuclear Models	Remember, understand
				Unit III: Radioactivity decay	Remember, understand, apply, analyse, evaluate

			applications in different branches of Physics and societal application. The course will develop problem based skills and acquired knowledge can be applied in the areas of nuclear, medical, and other interdisciplinary fields of Physics and Chemistry.	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 Radiation	Remember, understand, apply, analyse
				Unit VII: Particle Accelerators	Remember, understand, apply, analyse
				Unit VIII: Particle physics	Remember, understand
17	VI	PHY-HC-6016 Electromagnetic Theory	On successful completion of the course students will understand the concept of Maxwell's equations, propagation of electromagnetic (EM) waves in different media production and detection of different types of polarized EM	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
				Unit V: Rotatory Polarization	Remember, understand, Evaluate, apply
				Unit VI: Optical Fibres	Remember, understand, apply, Create

18	VI	PHY-HC-6026 Statistical Mechanics	On successful completion of the course students will learn the techniques of	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
19	VI	PHY-HE-6046 Astronomy and Astrophysics	Upon completion of this course, students will be able to understand the origin and evolution of the Universe. The course will give a comprehensive introduction on the measurement of basic astronomical parameters such as astronomical scales, luminosity and astronomical quantities as well as an overview on key developments in observational astrophysics. Students will have the idea of the instruments implemented for astronomical observation, the formation of planetary system and its evolution with time, the physical properties of Sun and the components of the solar system; and stellar	Unit I: Stellar properties	Remember, understand, apply, analyse, evaluate
				Unit II: The Sun and the solar system	Remember, understand, apply
				Unit III: Positional Astronomy	Remember, understand, apply, analyse
				Unit IV: Astronomical Techniques	Remember, understand, apply, analyse

			and interstellar components of our Milky Way galaxy. Students will also have the understanding of the origin and evolution of galaxies, presence of dark matter and large scale structures of the Universe.		
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v. BSc Statistics

Programme Specific Outcomes

After the completion of the programme, a student will be able to:

1. Build the basis for pursuing higher studies leading to postgraduate or doctorate degrees.
2. Become equipped with skill enhancement courses with statistical packages such as M.S Excel, SPSS, R-language, and C/C++.
3. Become acquainted with a range of career paths in fields/organisations like academics, research, Indian Administrative Services, Indian Statistical/Economic Services, Banks and Insurance Sectors, Central Statistical Office, National Sample Survey Office, investigative work in government organisations such as NCAER, ICMR, IAMR, Statistical and Economic Bureau and various PSUs, market research, actuarial sciences, biostatistics, and demography.
4. Explore career options like stock broker analyst, sports analyst, poll analyst, business analyst and financial analyst.

Course Outcomes

SL.NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOMES	UNIT/CHAPTER	BLOOM'S TAXONOMIC LEVELS
1	I	STA-HC-1016 Descriptive Statistics	<p>Students will acquire knowledge on:-</p> <ol style="list-style-type: none"> 1. Statistics and its scope and importance in various areas such as Medical, Engineering, Agriculture and Social Science etc. 2. Various types of data, organization of data, tabular and graphical representation of data, evaluation of summary measures such as measures of central tendency and dispersion etc. 3. Concept of correlation, various correlation coefficients- Pearson's correlation coefficient, Spearman's rank correlation coefficient, partial correlation coefficient and Multiple correlation coefficient. 	1	Remembering & Understanding

			4. Concept of Principle of least squares for curve fitting and regression lines. 5. The idea and Construction of different types of Index numbers	1 and 2	Understanding, Applying & Analyzing
				3	Understanding, Applying & Analyzing
				4	Understanding & Applying
2	I	STA-HC-1026 Calculus	Students will acquire knowledge:- 1. Limits on function, continuous function, Partial and total differentiation, L'Hospital's rule.	1	Remembering, Understanding & Applying
				2	Understanding & Applying
				3	Understanding & Applying
			2. Leibnitz's rule for successive differentiation, Euler's theorem, maxima and minima of functions of one and two variables. 3. Integral Calculus, Definite Integral, Double Integral, Beta and Gamma	4	Understanding & Applying
			functions. 4. Differential equation of first order and higher order. 5. Partial differential equations, their formation and solution		
3	II	STA-HC-2016 Probability and Probability Distribution	Students will acquire knowledge:- 1. To distinguish between random and non-random experiments.	1	Remembering, Understanding, Applying & Analyzing
				2 & 3	Understanding, & Applying

			<p>2. on probabilities of events, calculation of probability of event by mathematical approach, calculation of inverse probability by Bayes theorem.</p> <p>3. On discrete and continuous random variable and their probability distribution including expectation and moments.</p> <p>4. On discrete distributions such as Binomial, Poisson, Geometric, Negative Binomial, Hyper geometric, and on continuous distributions such as normal, exponential, uniform, etc.</p>	4	Remembering, Understanding & Applying
4	II	STA-HC-2026 Matrices	<p>Students will acquire knowledge:-</p> <p>1. On relation between roots and coefficients of any polynomial equation, to solve bi-quadratic and cubic equations when some conditions on roots of equations are given, knowledge on vector space and linear dependence and independence of vectors, spanning vector space.</p> <p>2. On fundamental concepts of matrices and determinants, ranks of matrix, characteristics root and characteristics vectors, quadratic form etc.</p>	1	Remembering & Applying
				2,3&4	Understanding & Applying
5	III	STA-HC-3016 Sampling Distribution	<p>Students will acquire knowledge on:-</p> <p>1. Order statistic and related sampling distributions.</p>	<p>1</p> <p>2</p>	<p>Remembering & Understanding</p> <p>Understanding & Applying</p>

			<p>2. Parameter statistic, statistical hypothesis, basic principles underlying test of significance (large and small sample test) with applications.</p> <p>3. Derivation of exact sampling distribution of statistics like “t”, Chi-square and “F”.</p>	3&4	Remembering, Understanding & Applying
6	III	STA-HC-3026	Students will acquire knowledge on:-	1	Remembering & Understanding
		Survey Sampling & Indian Official Statistics	1. Population, sample, difference between census and sample survey.	1&2	Understanding & Applying
			2. Sampling error and non sampling error.	2	Understanding & Applying
			3. The principles of sample survey and different techniques of drawing random sample such as simple random sampling, stratified random sampling, systematic sampling, cluster sampling, double sampling etc and situations where these are applicable.	3	Understanding & Applying
			<p>4. Probability proportional to size sampling</p> <p>5. Auxiliary variable and the use of it in ratio and regression method of estimation for estimating population parameters.</p> <p>6. Sources of Official statistics, methods of collection of Official Statistics in India under MoSPI.</p>	4	Understanding

7	III	STA-HC-3036 Mathematical Analysis	Students will acquire knowledge on:- 1. Representation of real numbers, identifying sequences of real numbers and their properties. 2. Sequences and different tests to study their convergence and divergence, Limits of sequence 3. Infinite series and their convergence. 4. Limits, continuity and differentiability	1	Remembering, Understanding & Applying
				2	Understanding & Applying
				3	Understanding & Applying
				4	Understanding & Applying

			5. Finite difference, divided difference, interpolation, extrapolation and different methods of interpolation 6. Difference equation and their solutions.		
8	III	STA-SE-3014 Statistical Data analysis using software packages	Students will acquire knowledge on:- 1. How to handle data and its analysis using software packages such as ms excel, spss, minitab, matlab 2. Loading data, plotting a graph, viz. histogram, box plot, stem leaf, frequency polygon, pie chart and ogive. 3. Generating automated reports:- Descriptive Statistics, correlation and line of regression 4. Random number generation and sampling procedures, curves. Application problems based on fitting of suitable distribution, normal probability plot. 5. Creating and managing statistical analysis projects, imports data, code, editing, basics of statistical inferences, p-values and confidence intervals.	1	Remembering, Understanding & Applying
				2	Remembering, Understanding & Applying
				3	Remembering, Understanding & Applying
				4	Remembering, Understanding & Applying
9	IV	STA-HC-4016 Statistical Inference	Students will acquire knowledge on:- 1. Idea of point estimation and criteria for a good estimator.	1	Remembering, Understanding & Applying
				2	Remembering, Understanding & Applying

			2. Cramer Rao inequality, Rao Blackwell and Lehman Scheff theorems and their application in minimum variance bound estimator. 3. Different methods of estimation 4. Statistical hypothesis, type I and type II errors. 5. The concept of optimum tests under different situations. 6. The concept of likelihood ratio test	3	Remembering, Understanding & Applying
			and its important properties. 7. Sequential Probability Ratio Test (SPRT).	4	Remembering & Understanding
10	IV	STA-HC-4026 Linear Models	Students will acquire knowledge on:- 1. Linear Estimation, use of Gauss Markov set up in estimation of parameters, Gauss Markov theorem. 2. Regression and simple linear regression model, testing of hypothesis in case of simple regression model. 3. Analysis of variance (ANOVA), Different type of models in ANOVA. 4. How to carry out ANOVA and Analysis of Covariance for one way and two classified data. 5. How to predict from a fitted model.	1	Understanding & Applying
				2	Understanding & Applying
				3	Understanding & Applying
				4	Understanding & Analyzing
11	IV	STA-HC-4036 Statistical Quality Control	Students will be able to understand:-	1	Understanding
				2	Understanding & Applying

			<ol style="list-style-type: none"> 1. The meaning of quality and its dimension 2. How the concept of quality arises since World War II. 3. How to construct control charts for variables and attributes to determine whether the given quality of the product is under control or not. 4. Sampling inspection plan in product control. 5. The concept of six sigma. 	3	Understanding & Applying
				4	Understanding
12	IV	STA-SE-4014 Statistical Data Analysis using R	<p>Students will be able to learn:-</p> <ol style="list-style-type: none"> 1. How to load data and do analysis through graphical representation. 2. To generate automated reports with detailed descriptive statistics, correlation and lines of regression. 3. Random number generation, sampling procedures viz. SRSWR and SRSWOR and fitting of suitable distributions and their applications. 4. Basics of statistical inference viz. testing of hypothesis and confidence intervals. 	1	Understanding & Applying
				2	Understanding & Applying
				3	Understanding & Applying
				4	Understanding & Applying
13	V	STA-HC-5016 Stochastic Processes and Queuing Theory	<p>Students will acquire knowledge on:-</p> <ol style="list-style-type: none"> 1. Generating functions, bivariate probability generating functions, and Stationary Processes 	1	Remembering, Understanding & Applying
				2	Remembering, Understanding & Applying
				3	Understanding & Applying

			2. Markov chains including the notion of transition probability matrix, classification of states and chains. 3. Poisson process, its properties and application in real life problem. 4. Different types of queuing models and waiting time distribution.	4	Understanding & Applying
14	V	STA-HC-5026 Statistical Computing using C/C++ Programming	Students will acquire knowledge on:- 1. Basic structure of C programming language with different data types 2. Different types of operators (viz. arithmetic, relational, logical etc) and their expressions. 3. Loops and arrays used in C programming.	1	Remembering, Understanding & Applying
				2	Remembering, Understanding & Applying
15	V	STA-HE-5016 Operations Research	Students will acquire knowledge on:- 1. Operation research (O.R), its history, various types of O.R problems. 2. Mathematical formulation of LPP, solution of LPP by graphical and simplex method. 3. Transportation problem and its initial and optimal solution using different methods. 4. Game theory including rectangular game and its solution by different method. 5. Inventory, their types, characteristics and inventory control system.	1	Remembering & Applying
				2	Understanding & Applying
				3	Understanding & Applying
				4	Understanding & Applying

15	V	STA-HE-5026 TimeSeriesAnalysis	Studentswillacquireknowledgeon:- 1. Time series data, its application to various fields and components of time series. 2. Estimation of trend, seasonal variation, cyclical variation and irregular variations using different methods. 3. Forecasting by exponential smoothing.	1	Understanding
				1,2,3&4	Understanding&Applying
				4	Understanding&Analyzing
16	VI	STA-HC-6016 DesignofExperiments	Studentswillacquireknowledgeon: 1. Design of experiments, its terminologyandbasicprinciples. 2. Constructionofstandarddesignssuch asCompletelyRandomizeddesign, RandomizedBlockDesignandLatin Square Design and theirapplication to analyze experimental data using ANOVATECHNIQUE. 3. RelativeefficiencyofCRD,RBD and LSDandanalysisofRBDandLSDwith onemissingobservation. 4. Strip Plot Design, Split Plot Design and IncompleteBlockDesign. 5. Constructionandanalysisof 2^n ($n \leq 5$) factorialdesign, 3^2 design. 6. Confounding, construction of total andpartiallyconfoundeddesignfor 2^n ($n \leq 5$).	1	Understanding,Applying&Analyzing
				2	Understanding,Applying&Analyzing
				3	Understanding,Applying&Analyzing

17	VI	STA-HC-6026 Multivariate Analysis and Non- Parametric Methods	Students will acquire knowledge on:- 1. Bivariate normal distribution along with their properties. 2. Multivariate normal distribution and their properties. 3. Partial and multiple correlation and their properties. 4. Nonparametric method of testing of hypothesis.	1	Remembering, Understanding & Applying
				2	Understanding & Applying
				3	Understanding & Applying
18	VI	STA-HE-6026 Demography and Vital Statistics	Students will be able to know: 1. The different sources for collection demographic data and its errors. 2. The use of balancing equation for population change. 3. Population composition and dependency ratio. 4. The basic measures of mortality, fertility and population growth. 5. The concept of stable and Stationary population. 6. The concept of life table and their construction.	1	Understanding & Applying
				2 & 4	Understanding & Applying
				3	Understanding & Applying

vi. BSc Zoology

Programme Specific Outcomes

After the completion of the programme, a student will be able to:

1. Attain a broad understanding of animal diversity, including scientific classification, evolutionary relationships among animals, and the adaptations they show.
2. Learn about ecology, the relationship between biological, chemical, and physical factors of the environment, and the need for wildlife conservation and management.
3. Understand how organisms function at the levels of gene, genome, cell, tissue, organ, and organ-system, drawing upon the knowledge of which they will be able to comprehend histology and the comparative anatomy of the organisms.
4. Understand the development, growth, reproduction, structural and physiological adaptations, and behavior of different forms of animal life.
5. Comprehend the relationships between structure and function at different levels of biological organization (e.g., molecules, cells, organs, organisms, populations, and species) in animals and their coordinated functions (physiological, biochemical, endocrine, and immune system).
6. Understand biological techniques, bioinformatics, and the application of statistics in biological science.
7. Acquire knowledge and understanding of applied biological sciences and economic zoology, viz., sericulture, apiculture, aquaculture, lac culture, and pest management for expanding career options.
8. Think logically based on the knowledge gathered, undertake research projects, assimilate and analyze data and ideas, and draw conclusions, steps necessary for preparing project reports.

Course Outcomes:

SL. NO.	SEMESTER	PAPER CODE & TITLE	COURSE OUTCOMES	UNIT /CHAPTER	BLOOM'S TAXONOMIC LEVELS
1	I	ZOO-HC-1016 NonCordates-1	Students are able to understand about the characters and classification and life cycle of various Protista, Porifera, Cnidaria, Ctenophora, Platyhelminthes and Nematode helminthes	1, 2, 3, 4, 5, 6	Remembering, Understanding
2		ZOO-HC-1016 NonCordates-1 (Practical)	Students are able to understand and learn how to prepare whole mount, life cycle of various organisms included under above mentioned kingdoms and phyla.	1,2,3,4,5,6,7,8	Understanding, Analyzing, Applying
3		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 be aware with the process of wildlife conservation and management.	1,2,3,4 5	Remembering, Understanding Remembering, Understanding, Analyzing
4		ZOO-HC-1026 Principle of Ecology (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.	1,2,3 4	Understanding, Analyzing, Applying Understanding, Analyzing

5	II	ZOO-HC-2016 Non-Chordates II:Coelomates	Students are able to understand about the characters and classification, social life and evolutionary significance of Coelomates.	1,2,3,4,5,6	Remembering and Understanding
6		ZOO-HC-2016 Non-Chordates II:Coelomates (Practical)	Students are able to understand about the museum specimen, anatomical and	1,2,3,4, 5	Understanding, Analyzing, Applying
7		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.	1,2,3,4,5,6 7,8	Understanding, Remembering Understanding, Analyzing
8		ZOO-HC-2026 Cell Biology (Practical)	Students are able to understand about the preparation of various stains and fixatives, determination of protein, mucopolysaccharides and chromosome	1,2,3,4	Understanding, Analyzing, Applying
9	III	ZOO-HC-3016 Diversity of Chordata	Students are able to understand about the general characteristics, classification, metamorphosis and animal distribution.	1,2,3,4,5,6,7,8,9,10	Understanding, Remembering
		ZOO-HC-3016 Diversity of Chordata (Practical)	Students are able to understand about the general characteristics, classification, metamorphosis and animal distribution.	1,2,3,4,5,6,7	Understanding, Analyzing, Applying
		ZOO-HC-3026 Animal Physiology:Controlling and Coordinating Systems	Students are able to understand the entire animal functions of the body which include nutrition. Respiration, heart, excretion, nerve physiology etc in which all structure, function, process and control.	1,2,3,4,5,6	Understanding, Analyzing
10		ZOO-HC-3026 Animal Physiology:Controlling and Coordinating Systems	Students are able to understand and learn about the various microscopic procedures including microtomy, permanent slides study.	1,2,3,4	Analyzing, Applying

		(Practical)			
11		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 composition 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	1,2,3,4,5	Understanding, Analyzing, Applying
12		ZOO-HC-3036 Fundamentals of Biochemistry (Practical)	Students are able to understand and learn various techniques of separation and determination of protein, lipid, carbohydrates etc.	1,2,3,4,5	Analyzing, Applying
13	IV	ZOO-HC-4016 Comparative Anatomy of Vertebrates	Students are able to understand about the comparative structures of heart, aortic arches, 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 organ and how they become modified according to their need and environment.	1,2,3,4,5,6,7,8	Remembering, Understanding, Analyzing
14		ZOO-HC-4016 Comparative Anatomy of Vertebrates (Practical)	Students are able to understand and learn various skeletal parts of different organisms and their structural component.	1,2,3,4,5, 6	Understanding, analyzing, Applying, Analyzing, Applying
15		ZOO-HC-4026 Animal Physiology: Life Sustaining Systems	The entire animal functions of the body are studied in this part. It includes nutrition, Respiration, heart, excretion, nerve physiology etc in which all	1,2,3,4,5	Understanding, Analyzing, Applying

			structure,function,processandcontrol.		
16		ZOO-HC-4026 Animal Physiology:Life SustainingSystems (Practicals)	Students will be able to learn to determine the blood group, haemoglobin content, enumerate the RBC and WBC count and able to measure the blood pressure. Moreover, they will e able to examine the histological slides of different organ of mammalian tissues.	1,2,3,4,5,6	Analyzing, Applying
17		ZOO-HC-4036 Animal Physiology:Biochemistry ofMetabolicProcesses	Studentsareabletounderstandmetabolicpr ocessincludingcarbohydrates,lipidandprote inandalsoATPproduction.	1,2,3,4,5	Analyzing, Understanding
18		ZOO-HC-4036 Animal Physiology:Biochemistry ofMetabolicProcesses (Practical)	Studentsareabletolearnvariousessaysfroms erumandtissues.	1,2,3,4,5	Analyzing, Applying
19	v	ZOO-HC-5016 MolecularBiology	Studentsare able to understand indetailsaboutthenucleic acid, DNA replication, Protein synthesis and itsmodificationandgeneregulation.	1,2,3,4,5,6,7,8	Understanding, Analyzing
20		ZOO-HC-5016 MolecularBiology (Practical)	Studentsareableto understandabout the estimationofDNA,RNAandproteinsynthesis .	1,2,3,4,5,6	Analyzing, Applying

21		ZOO-HC-5026 Principles of Genetics	Students are able to understand about the Mendelian inheritance, interaction of genes, mutation and its effects.	1,2,3,4,5,6,7,8	Understanding, Analyzing
22		ZOO-HC-5026 Principles of Genetics (Practical)	Students are able to learn about the pedigree analysis, gene interaction study.	1,2,3,4,5,6	Analyzing, Applying
23		ZOO-HE-5016 Computational Biology and Biostatistics	Students are able to learn different tools used in bioinformatics and their practical usage	1,2,3,4,5,6	Understanding, Analyzing
24		ZOO-HE-5016 Computational Biology and Biostatistics (Practical)	Students will have a practical hand on experience on retrieval of sequences from the databases, construction of phylogenetic tree, prediction of protein structure, performing statistical test.	1,2,3,4,5,6	Analyzing, Applying
25		ZOO-HE-5036 Endocrinology	Students are able to learn different endocrine glands, their function and secretion, diseases related to endocrine gland, hormonal regulation etc.	1,2,3,4	Understanding, Analyzing
26		ZOO-HE-5036 Endocrinology (Practical)	Students are able to identify different endocrine gland through permanent slide study.	1,2,3,4	Analyzing, Applying
27		ZOO-HC-6016 Developmental Biology	Students are able to acquire a thorough knowledge of embryonic development along with the factors affecting it.	1,2,3,4,5	Understanding, Analyzing
28		ZOO-HC-6016 Developmental Biology (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.	1,2,3,4,5	Analyzing, Applying

29		ZOO-HC-6026 Evolutionary Biology	Students are able to learn different concept of evolution, fossils, process of speciation and population genetics	1,2,3,4,5,6,7,8,9	Understanding, Remembering, Analyzing
29		ZOO-HC-6026 Evolutionary Biology (Practical)	Students are able to learn different types of fossils, application of Hardy-Weinberg principle and construction of phylogenetic tree.	1,2,3,4,5	Analyzing, Applying
30		ZOO-HE-6016 Biology of Insecta	Students are able to learn general features of insects their classification, physiology, insect society their importance, insect plant interaction etc.	1,2,3,4,5,6	Understanding, Remembering
31		ZOO-HE-6016 Biology of Insecta (Practical)	Students are able to identify different kinds antennae, legs, mouthparts, wings and their preservation, collection etc.	1,2,3,4,5,6,7,8,9	Understanding, Analyzing
32		ZOO-HE-6056 Dissertation	Acquire practical knowledge and get the hands on practice in the various Biological science. This will help the students to persue research further in their desired field.		Applying, Analyzing

3.i. B. Voc Medical Lab & Molecular Diagnostic Technology

Program Outcomes:

PO 1: Student will have thorough knowledge and become qualified and skilled laboratory diagnostic professionals in clinical respect for socio-cultural values in their working environment.

PO 2: Student will be a qualified professional in Medical Laboratory Technology and be ready to work in hospitals and research laboratories, public & private health facilities, industrial laboratories and colleges.

PO 3: Student will be able to comply with established laboratory safety regulations and regulations governing regulatory compliance related to laboratory practice.

PO 4: Student will be able to perform various diagnostic tests, analysis and bring forth important and vital information about the status and particulars of an individual's health.

PO 5: Student will be able to communicate appropriately through verbal and written communication to the scientific and social community.

PO 6: Student will be able to demonstrate effective analysis of scientific issues through the use of case studies, laboratory and field research work.

PO 7: Student will develop as a leader in the laboratory workplace to troubleshoot and to ensure that the results reported are accurate and relevant.

PO 8: Student will exhibit a sense of commitment to the ethical and human aspects of patient care.

PO 9: Student will be a competent and ethical individual, committed to life-long learning to meet current and future workplace challenges in medical laboratory science.

PO 10: Students will behave in a manner consistent with the standards of the laboratory profession.

PO 11: Students will describe the importance of continuing education in lifelong learning and in obtaining and maintaining professional.

3.i. B.Voc Medical Lab & Molecular Diagnostic Technology

Course Outcome

B.Voc Medical Lab & Molecular Diagnostic Technology

Semester I

MDT-VC-1016: Basic Anatomy and Physiology

CO 1: This paper will help the students to understand the basics and fundamentals of cells, tissues, different systems of the body including GI system, Respiratory system, cardiovascular system, urinary system, reproductive system endocrine system etc. Further the students have to learn about the medical terminology used in human anatomy, functions of different systems of human.

MDT-VC-1026: Biochemistry-I

CO 2: This paper will help the students to identify various laboratory glassware, plastic ware and instruments along with care and maintenance of equipments and apparatus used in the laboratory. The students have understood the phlebotomist's duties towards identification of patient and taking their consents before withdrawing blood specimens. In addition to that preparing appropriate site for blood samples.

MDT-VC-1036: Pathology-I

CO 3: In this paper the students have to know about various blood collection equipments, different types of blood sample collections, need to know about color coded vacutainers, anticoagulants, further the students has to know basics about blood and other samples with suitable collections and various tests. The students have to learn about various laboratory hazards, safety and first-aid and personal hygiene.

Semester-II

MDT-VC-2016: Microbiology-I

CO 4: In this paper the student will have basic knowledge about various microorganisms like bacteria and its growth & nutrition, virus, parasites and identify bacteria, preparation of culture medium to grow bacteria. Further the students will be able to perform various sterilization methods; they will understand hospital born disease and its prevention and control.

MDT-VC-2026: Biochemistry -II

CO 5: In this paper the students will be able to understand basics about biochemistry of carbohydrates, lipids, vitamins, enzymes. Further they will be able to learn code of conduct for medical laboratory. The students will have to perform various blood and urine tests.

MDT-VC-2036: Pathology-II

CO 6: In this paper the students will be able to understand basics about the production of various blood cells, haemostasis and coagulation and related tests, slide preparation for blood and bone marrow for normal and abnormal cells. Further the students have to know various healthcare waste, safe handling and management of waste.

Semester-III

MDT-VC-3016: Microbiology-II

CO 7: In this paper the students will be able to understand about various bacteria & fungus and diseases caused by it and lab diagnosis. Further the students will learn about various staining techniques for bacterial cell wall, bacterial capsule, fungal staining etc.

MDT-VC-3026: Biochemistry -III

CO 8: In this paper the students will understand about the basics of Acid base balance, food and nutrition and its importance along with lipids, amino acids and protein metabolism.

MDT-VC-3036: Pathology-III

CO 9: In this paper the students will know about haemoglobin and various types of anaemia, different types of blood cell counts, further they will learn about basics of histotechniques and body fluid analysis.

Semester-IV

MDT-VC-4016: Microbiology-III

CO 10: In this paper the students will learn about various parasites and its types and the disease caused and various virus its transmission lab diagnosis etc. further the students will be able to identify different blood and stool parasites.

MDT-VC-4026: Biochemistry -IV

CO 11: In this paper the students will learn about hormone and its mechanism, different enzymes and elevated levels in various disease conditions, further the students will know about the functions of liver, kidney, heart, thyroid and tests to evaluate these organs.

MDT-VC-4036: Pathology-IV

CO 12: In this paper the students will understand about blood groups, blood transfusion, different methods to identify blood groups, matching donor's blood with patient's blood, various screening procedures for donors. Further the students will be able to learn about cytotechniques.

Semester-V

MDT-VE-5016: Microbiology-IV

CO 13: In this paper the students will understand about body defense system and types, vaccines and immunization, infection that can be transmitted from hospital, prevention and control of hospital infection. Further the students will have idea about various serological tests.

MDT-VE-5026: Biochemistry -V

CO 14: In this paper the students will learn about water and mineral metabolism and associated diseases related to it, different inorganic ions and importance in our body, formation of kidney stone, concept of acid and base with related disease with acid base balance disturbances.

MDT-VE-5036: Pathology-V

CO 15: In this paper the students will learn about the tissue specimen, taking specimen for grossing, fix it with proper fixative, processing the tissue specimen to place the fixed tissue in the paraffin, taking tissue specimen for embedding, proper sectioning of the tissue and stain it with various staining solutions.

Semester –VI

MDT-VE-6016: Microbiology-V

CO 16: In this paper the students will learn in details about various medically important bacteria, basics of molecular biology and different types of microscope including electron microscope.

MDT-VE-6026: Biochemistry -VI

CO 17: In this paper the students will learn about basics of DNA & RNA, replication of DNA, genetic engineering, Metabolic disorders of amino acids, elevation of enzymes in disease condition, isoenzymes, techniques used in biochemistry, further the students will understand the basics of biostatistics.

MDT-VE-6036: Pathology-VI

CO 18: In this paper the students will learn in details about cytopathology and various branches, different types of specimen used in cytopathology lab, different normal and abnormal cells, Fine needle aspiration cytology along with different fixation and staining.

ii. B.Voc Food Processing Technology

Course Outcomes

1st Semester

Paper Name: FPM-VC-1016- Basics of Food Processing

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Upon completion, students will develop a fundamental understanding of the principles, concepts, and techniques involved in food processing, including the various unit operations and their applications.	UNIT 1: Introduction to food processing	Remember, Understand, Analysis,

<p>Students will develop the ability to apply mathematical principles to real-world scenarios within the context of food processing, emphasizing the relevance of mathematical skills in an industrial setting.</p> <p>Students will gain knowledge of local and international regulations governing food safety and quality control. Understand the roles of regulatory bodies and agencies in setting standards and enforcing compliance within the food industry. Also recognize the significance of food safety in protecting public health, preventing foodborne illnesses, and ensuring the overall well-being of consumers.</p>		Evaluate
	UNIT 2: Basic industrial mathematics	Remember, Understand, Analysis, Apply
	UNIT 3: Basics of food safety and quality control	Remember, Understand, Analysis, Evaluate, Apply

Paper Name: FPQM-VC-1026- Industrial Food Processing

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Students will be able to demonstrate a comprehensive understanding of the principles, operation, and application of various food processing machineries used in the food industry.	UNIT 1: Introduction to food processing machineries	Remember, Understand, Analysis, Evaluate
Students will be able to develop a comprehensive and efficient design plan for a food industry, considering factors such as layout, equipment selection, workflow optimization, and regulatory compliance.	UNIT 2: Designing of a food industry	Remember, Understand, Analysis, Apply

Paper Name: FPM-VC-1036- Industrial Processing of Fruits and Vegetables

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Upon completion of the course, students will possess a comprehensive understanding of food processing, be able to identify and categorize various subsectors within the industry, and analyze the current status and future scope of the fruits and vegetables processing industry in India.	UNIT 1: Definition of food processing, various subsectors of food processing industry, status and scope of fruits and vegetables processing industry in India	Remember, Understand, Analysis, Evaluate
Upon completion of the course, students will have a comprehensive understanding of post-harvest processes, including factors influencing post-harvest losses, changes in fruits and vegetables, maturity indices, climacteric and non-climacteric fruits, fruit ripening, packaging techniques, and physical/chemical treatments to enhance shelf life. Additionally, students will be well-versed in identifying and addressing microbiological spoilage challenges in fruits and vegetables.	UNIT 2: Post harvest losses of fruits and vegetables and factors affecting them, post harvest changes in fruits and vegetables , maturity indices of fruits and vegetables , climacteric and non climacteric fruits ,fruit ripening and changes ,packaging of whole fruits and vegetables ,post harvest physical and chemical treatment to enhance the shelf life of fruits and vegetables , microbiological spoilage of fruits and vegetables	Remember, Understand, Analysis, Apply
Students will demonstrate a thorough understanding of the classification, chemical composition, and nutritive value of fruits and vegetables, along with the skills required for preparing them for processing, including washing, sorting, grading, peeling, and the techniques involved in bottling and canning for preservation.	Unit 3 Classification, chemical composition and nutritive value of fruits and vegetables, preparing fruits and vegetables for processing- washing, sorting, grading, peeling, Bottling and canning of fruits and vegetables	
Students will be equipped with the knowledge and skills to effectively assume the role of a processing technician in jam, jelly, and ketchup production, understanding their specific job responsibilities and contributing to the hierarchical structure within the organization.	Unit 4 Job role and responsibilities of jam, jelly and ketchup processing technician, hierarchy role and organizational structure	

Students will acquire proficiency in selecting, operating, and maintaining machineries for various fruit and vegetables processing techniques.	Unit 5 Machineries for peeling, slicing/dicing, pulping, hydraulic pressing and clarification; preparation and maintenance of work area and process machineries; different materials and equipments used in the cleaning process	
Students will demonstrate the ability to interpret and adhere to FPO (Fruit Products Order) specifications, applying this knowledge in the preparation of various fruits and vegetables products to meet industry standards.	Unit 6 FPO specifications and preparations of Jam, Jellies, marmalade, pickles Tomato processing- FPO standard and preparation of tomato juice, puree, paste, chutney, sauce and ketchup. Preparation and standard of fruit juices, squashes, cordials, fruit syrup, nectar, RTS and pulp	
Students will demonstrate proficiency in designing effective packaging solutions for fruits and vegetables, and possess the skills to maintain accurate documentation and records related to the packaging processes, ensuring compliance with industry standards and regulations.	Unit 7 Packaging of jam, jelly and ketchup; microbial spoilage; microbial; analysis of products; documentation procedure and maintenance of record of raw materials, packing materials, finished products	
Upon completion of the internship, students will gain practical hands-on experience in various facets of the food industry/processing unit, developing skills in production, quality control, and operational processes, thereby enhancing their industry-specific knowledge and employability.	Internship: In food industry/processing unit.	

Semester II

Paper: FPM-VC-2016- Food Quality Regulation and Maintenance

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Students will possess a comprehensive understanding of quality control and quality assurance principles in food processing, enabling them to implement effective strategies, methodologies, and systems to ensure the production of safe, high-quality food products.	Unit 1 Objectives, functions and principles of quality control; Difference between food quality control and quality assurance, assessment of raw materials and finished products	Remember, Understand, Analysis, Evaluate
Students will acquire a comprehensive understanding of food safety practices, food labeling regulations and laws and basic concepts about different	Unit 2 Food safety and food labeling, Food laws and regulations, concepts of codex alimentarius, HACCP, ISO series, GMP, GHP, 5S, SOP, audit system, documentation etc. Food standard and safety act: salient provisions and prospects, role of various food standards in India- PFA, FPO, AGMARK and BIS .Recent development in food quality regulation, MOFPI and schemes for establishing food industries in India	Remember, Understand, Analysis, Apply
Students will acquire the ability to conduct sensory analysis, including sensory quality evaluation methods, panel selection, and the integration of sensory and instrumental analyses in quality control processes, thereby enhancing their proficiency in assessing and ensuring the sensory quality of food products.	Unit 3 Sensory quality evaluation - introduction, method, sensory panel; Sensory and instrumental analysis in quality control	Remember, Understand, Analysis, Evaluate, Apply

Paper: FPM-VC-2026- Food Chemistry

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
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participants will acquire knowledge of defects like rancidity, preventive measures, and analytical techniques including acid value, peroxide value, saponification number, iodine value, and Richert-Meissel number. Participants will also develop proficiency in estimating fats through the solvent extraction method, enabling them to apply this expertise in food analysis and quality control.	fats and oils, defects (rancidity) and their prevention. Acid value, peroxide value, saponification number, iodine value, Richert-meissel number; Fats estimation by solvent extraction method	
Students will acquire a comprehensive understanding of the sources and physiological functions of vitamins and minerals. They will be well-versed in identifying deficiency disorders, recognizing the impact of processing and storage on vitamin stability, and applying this knowledge to promote nutrition and address dietary challenges in various food-related contexts.	Unit 5 Vitamins and minerals: sources and physiological functions of minerals and vitamins, deficiency disorder, effects of processing and storage of vitamins.	
The course will develop a profound understanding of enzymes, encompassing their definition, classification, functions, and sources. They will be equipped to apply this knowledge in various industries, demonstrating an enhanced ability to utilize enzymes for specific functions in biotechnological and food processing applications.	Unit 6 Enzyme : Definition, classification, function and sources	

Paper: FPM-VC-2036- Bakery Science and Technology

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Students will possess a comprehensive understanding of food processing and its sectors, specifically focusing on the bakery sub-sector. Participants will be able to delineate the various types of industries within the bakery sector, analyze their scope, assess the present status, and project future perspectives. This knowledge will empower participants to make	Unit 1 Food processing and its sectors; overview on bakery and bakery products List the various types of industries within the bakery sub sector. Scope, present status and future perspective	

informed decisions and contribute effectively to the evolving landscape of the bakery industry.		
The course will demonstrate a comprehensive understanding of the baking process, including the operation and maintenance of key bakery equipment such as dough mixers, dividers, rounders, proofing and molding machines, baking machines, and slicing machines. They will also acquire expertise in maintaining cleanliness in work areas and ensuring the proper maintenance of machinery, contributing to efficient and hygienic operations in the bakery industry.	Unit 2 Baking process; Equipments used in bakery industry (Dough mixer, divider, rounder, proofing, molding, baking machine, Slicing machine) Cleaning and maintenance of work area and machineries	
Upon completion of this course, students will acquire a comprehensive understanding of baking ingredients, production planning, and laboratory testing methods for flour quality. They will demonstrate proficiency in testing wheat grain quality, conducting moisture tests, grain hardness testing, and utilizing instruments such as viscograph, amylograph, and farinograph. Participants will gain expertise in units and measurements specific to the bakery industry, understand the raw materials crucial for bakery products, and comprehend the role of flour, water, salt, yeast, sugar, milk, and fats. Additionally, participants will possess elementary knowledge about baker's yeast, its role in dough fermentation, and the factors influencing its efficacy. They will be able to assess the effects of over and under fermentation as well as under proofing of dough, employ various mixing methods for baking, calculate batch sizes, and plan different types of dough according to production schedules. This course outcome will enable participants to execute efficient and quality-driven bakery production processes.	Unit 3 Baking ingredients required for production and plan production sequence. Testing of flour for bakery goods-laboratory testing of wheat grain quality, moisture tests, grain hardness testing, viscograph, amylograph, farino graph Units and measurements used in bakery industry. Raw materials required for bakery products. Role of flour, water, salt, yeast, sugar, milk, fats etc Yeast----an elementary knowledge of baker's yeast, role plays in fermentation of dough and conditions influencing its working. Effect of over and under fermentation and under proofing of dough Mixing methods used for baking. Calculate batch size and plan for various types of dough as per the production schedule.	

<p>The course will demonstrate a profound understanding of biscuits, cakes, and bread manufacturing processes. They will be proficient in recognizing and implementing different types of biscuit dough (developed, short, semi-sweet, batters) and understanding the significance of dough consistency. Participants will possess knowledge about factors influencing biscuit and cookie quality. Additionally, they will be well-versed in cake ingredients, making methods, and appropriate baking temperatures. For bread, participants will master various bread-making methods, assess external and internal characteristics, identify faults and remedies, and understand common bread diseases. The course will also equip participants to analyze microbial spoilage in bakery products and comprehend effective packaging strategies.</p>	<p>Unit 4 Process of mixing and knead ingredients to make dough. Oven and baking-knowledge and working of various types of oven Biscuits-types of biscuit dough, developed dough, short dough, semi sweet dough , batters; importance of the consistency of dough; factors affecting the quality of biscuits/ cookies . Cakes –ingredients-cake making ingredients—flour, sugar, shortening and egg, fats and oils, leavening agents. Manufacturing process—cake making method, sugar batter process, flour batter process, correct temperature for baking different types of cakes. Bread- bread manufacturing process; straight dough fermentation, bread improvers, improving physical quality Methods of bread making---straight dough method No time dough method Sponge and dough method External characteristic-----volume, symmetry of shape Internal characteristics-----color, texture, aroma Bread faults and remedies; Bread diseases—rope and mould. Spoilage of bakery products and microbial analysis, packaging of bakery products</p>	

SEMESTER-III

Paper: FPM-VC-3016- Food Analysis

be able to assess and interpret results, contributing to the comprehensive understanding of nutritional composition and quality of food products.		
The course will develop a thorough understanding of food adulteration, including the ability to identify, analyze, and mitigate instances of adulteration in various food products, ensuring proficiency in upholding food safety and quality standards.	Unit 5 Food adulteration	

Paper: FPM-VC-3026- Food Quality Assurance

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Students will acquire a foundational understanding of general terms used in the bakery industry, facilitating effective communication and comprehension within the professional context.	Unit 1 Definition and introduction to general terms	
Students will gain insights into the bakery industry, and develop a clear understanding of their respective roles and responsibilities within the sector	Unit 2 Introduction to bakery and job role	
The course will demonstrate proficiency in basic mathematics, statistical tools, and computer applications, enabling them to apply these essential skills in various bakery-related tasks and decision-	Unit 3 Introduction to basic mathematics, statistical tool, computer application	

making processes.		
Students will be well-versed in organizational standards, ensuring adherence to established guidelines and protocols within the bakery industry.	Unit 4 Introduction to organization standard	
Students will gain comprehensive knowledge about various raw materials, packaging materials, machinery, and tools used in the bakery industry, along with insights into their maintenance requirements.	Unit 5 Introduction to different raw material, packaging material, machinery and tools used in bakery industry and their maintenance	
Students will be proficient in developing and implementing Standard Operating Procedures (SOPs) for efficient and standardized bakery operations.	Unit 6 Standard Operating Procedures	
Students will demonstrate competence in utilizing quality management tools to ensure and enhance the overall quality of bakery products and processes.	Unit 7 Quality Management Tools	
Upon completion of this unit, participants will understand and be able to implement prerequisite programs essential for maintaining a hygienic and safe bakery environment.	Unit 8 Pre-requisite program	
Students will acquire the skills to effectively maintain the work area in a bakery industry, ensuring cleanliness, hygiene, and compliance with safety	Unit 9 Maintenance of work area in a bakery industry	
Upon completion of this unit, students will possess a thorough understanding of Hazard Analysis and Critical Control Points (HACCP) principles, contributing to the implementation of food safety measures in the bakery industry.	Unit 10 HACCP principle	
Students will be capable of developing and utilizing audit checklists to assess and monitor bakery operations, ensuring compliance with standards and identifying areas for improvement.	Unit 11 Audit Check List	
Students will be skilled in conducting audits, evaluating bakery processes, and implementing corrective actions to enhance overall efficiency and quality.	Unit 12 Conducting audit	

Students will develop effective communication and resolution skills to handle customer inquiries and complaints in the bakery industry, fostering customer satisfaction.		
	Unit 13 Handling customer and complains	
Upon completing this unit, students will be well-versed in general principles for food safety and hygiene, promoting a safe and sanitary working environment within the bakery industry.	Unit 14 General principles for food safety and hygiene	

Paper: FPM-VC-3036- Food Microbiology

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Students will gain a comprehensive understanding of microbiology, its significance, and scope in various industries, providing a foundation for advanced studies and applications in the field.	Unit 1 Introduction and scope of microbiology	
窗体顶端		
窗体底端		
Upon completion of this unit, participants will be proficient in operating microscopes, enabling them to observe and analyze microorganisms at a microscopic level, a fundamental skill in microbiological studies.	Unit 2 Study of Microscope	

Participants will acquire knowledge about the characteristics of microorganisms present in food, understanding their role, diversity, and potential impact on food safety and quality.	Unit 3 Characteristics of microorganisms in food	
Upon completing this unit, participants will comprehend the principles of microbial growth in food, including factors influencing growth and the conditions conducive to microbial proliferation.	Unit 4 Microbial growth in food	
Students will demonstrate proficiency in preparing and utilizing culture media for the cultivation and isolation of microorganisms, a crucial skill in microbiological research and analysis.	Unit 5 Culture media	
Upon completion of this unit, students will be well-versed in recognizing and understanding microbial food spoilage, enabling them to identify common spoilage microorganisms, their mechanisms, and preventive measures to ensure food quality and safety.	Unit 6 Microbial food spoilage	

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Participants will gain in-depth knowledge of modern processing techniques and contemporary food products, equipping them with the skills to understand, implement, and innovate within the dynamic landscape of the food processing industry.	Unit 1 Modern processing techniques and products	
Upon completion of this unit, participants will be proficient in utilizing state-of-the-art analytical tools in the food industry, allowing them to conduct advanced analyses, ensure quality control, and stay abreast of technological advancements in food science.	Unit 2 Modern analytical tools	

Paper: FPM-VC-4026- Basics of Food Engineering

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
<p>Upon completion of this unit, participants will: demonstrate a thorough understanding of properties of wet, dry saturated, and superheated steam, utilizing steam tables and Mollier diagrams for calculations.</p> <p>Solve numerical problems related to material and energy balance in food processing.</p> <p>Comprehend microbial inactivation and the concepts of F, Z, and D values in thermal processing.</p> <p>Evaluate thermal process time for batch sterilization using graphical and formula methods.</p>	<p>Unit 1</p> <p>Material & Energy Balance: - Properties of wet, dry saturated & superheated steam, use of steam tables & Mollier diagram, Numerical problems on material and energy Balance related of food processing.</p> <p>Thermal Processing: - Microbial inactivation, concept of F, Z & D value, evaluation Of thermal process time for batch sterilization by graphical & formula method, Calculation of process time, continuous flow system, factor affecting rate of</p>	

<p>Calculate process time in continuous flow systems, considering factors affecting heat penetration.</p> <p>Analyze the effect of can size on sterility requirements and distinguish between batch and continuous sterilizers.</p> <p>Understand the principles of boiling point elevation, construction, and operation of evaporators, and grasp the basics of multiple-effect evaporators.</p>	<p>heat Penetration, effect of can size on sterility requirement, different types of sterilizers (Batch and continuous type).</p> <p>Evaporation: - Boiling point elevation. Basic principles of evaporators. Construction And operation. Different types of evaporators used in food industry. Basic concept of multiple effect evaporator.</p>	
<p>The course will comprehend the principles of drying, including equilibrium moisture content, bound and unbound moisture, and the rate of drying.</p> <p>Evaluate engineering aspects of various dryers used in food processing, such as tray dryers, drum dryers, fluidized bed dryers, spray dryers, and freeze dryers.</p> <p>Understand freezing processes, including depression of freezing point, prediction of freezing time using Plank's equation, and calculations for different types of freezers (air blast, plate, and cryogenic).</p> <p>Gain knowledge about liquid transport systems,</p>	<p>Unit 2</p> <p>Drying and Dehydration: Introduction to principles of drying, Equilibrium moisture content, bound and unbound moisture, rate of drying, constant, & falling rate periods, Engg. aspects of different types of dries used in food processing including tray drier, drum drier, fluidized bed drier, spray and freeze drier etc.</p> <p>Freezing: - Depression of Freezing point, Planks equation and other modified equations for prediction of freezing time, freezing time calculation for a product having uniform temperature (negligible internal resistance), Different types of Freezers like air blast freezer, plate freezer and cryogenic freezer.</p> <p>Liquid transport system- pipelines and pumps for food processing plants-positive displacement</p>	

including pipelines and pumps, and differentiate between positive displacement pumps, air-lift pumps, propeller pumps, centrifugal pumps, and jet pumps. Comprehend different types of heat exchangers and their applications in food processing plants.	pumps, air-lift pumps, propeller pumps, centrifugal pumps and jet pumps. Heat exchangers- different types.	
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Paper: FPM-VC-4036- Fermentation Technology

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Students will understand the historical significance of fermentation. Comprehend the basics of fermentation processes. Demonstrate knowledge of media formulation for fermentation. Also acquire skills in optimizing fermentation processes.	Unit 1 History of fermentation, introduction to fermentation process, media formulation and process Optimization	
The course will help students to identify microorganisms commonly used in food fermentation. Distinguish between different types of cultures. Demonstrate the ability to maintain, propagate, and cultivate starter cultures for fermentation.	Unit 2 Microorganisms used in food fermentation, types of culture, starter culture –maintenance, propagation and cultivation of culture.	
The course will make the students understand the differences between submerged and solid-state fermentation. Differentiate between batch and continuous fermentation processes. Gain insights into fermenter design and operation.	Unit 3 Types of fermentation-submerged/solid state fermentation, batch/ continuous fermentation, fermenter design and operation.	
The students will be able to identify various types of fermented foods. Understand the specific methods of manufacturing sauerkraut, tempeh, miso, soya sauce, and traditional Indian fermented foods. Demonstrate knowledge of the cultural and	Unit 4 Fermented foods – types, methods of manufacture for sauerkraut, tempeh, miso, soya sauce and traditional Indian foods	

technological aspects of fermented food production.		
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Semester v

Paper: FPM-VE-5016- Industrial Processing of Grains, Pulses and Oilseeds

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Students will gain a comprehensive understanding of food grain processing methods. Demonstrate proficiency in various techniques employed in food grain processing. Acquire knowledge of the factors influencing the quality and nutritional aspects of processed food grains.	Unit 1 Food grain processing	
Students will develop a deep understanding of pulse and oilseed processing techniques. Demonstrate proficiency in the processing methods for pulses and oilseeds. Acquire knowledge about the nutritional aspects and quality considerations in pulse and oilseed processing.	Unit 2 Pulse and oilseeds processing	

Paper: FPM-VE-5026- Industrial Processing of Animal Products

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
To gain a comprehensive understanding of the structure, composition, and nutritive value of meat. Identify various meat types and comprehend the diverse range of meat products. Understand abattoir operations and various slaughter methods. Demonstrate knowledge of rigor mortis and other biochemical changes during carcass meat processing.	Unit 1 Structure, composition and nutritive value of meat, meat types, meat products, abattoir, slaughter methods, rigor mortis and other biochemical changes in carcass meat processing, traditional and modern preservation techniques, meat curing, meat storage.	
To gain a comprehensive understanding of the	Unit 2	

structure, composition, and nutritive value of meat. To identify various meat types and comprehend the diverse range of meat products. Understand abattoir operations and various slaughter methods. Demonstrate knowledge of rigor mortis and other biochemical changes during carcass meat processing. Differentiate between traditional and modern preservation techniques in meat processing. Acquire skills in meat curing and storage, ensuring an in-depth knowledge of maintaining meat quality throughout the processing and preservation stages.	Marine and fresh water fish, popular fishes, primary processing, minced fish, fish protein isolate, fish liver oil, natural causes of rapid spoilage, fish glazing, other preservation techniques, fermented and non-fermented fish products, fish drying and dried fish products of Assam, storage.	
Upon completion of this unit, participants will possess a comprehensive understanding of the structure, composition, and quality evaluation of eggs, proficiency in primary processing techniques, and knowledge of utilizing eggs in various products, recognizing their role as a natural emulsifier, and understanding appropriate storage practices	Unit 3 Structure and composition of egg, egg quality evaluation, primary processing, egg white and egg yolk, egg-based products, egg as natural emulsifier, storage.	
Upon completing this unit, participants will demonstrate a thorough understanding of co-operative dairy schemes, milk composition and properties, milk micro-flora, detection techniques, collection processes, homogenization, pasteurization techniques, aseptic packaging, and the production of toned, double-toned, recombined, and reconstituted milk, including awareness of lactose intolerance considerations	Unit 4 Co-operative dairy schemes, milk composition and properties, milk micro-flora, detection techniques, collection of milk, homogenization, pasteurization techniques, aseptic packaging, toned and double-toned milk, recombined and reconstituted milk, lactose intolerance.	
Upon completion of this unit, participants will demonstrate comprehensive knowledge in processing and quality control of reconstituted/recombined milks, flavored milks, dahi, yogurt, paneer, chana, butter, ghee, lassi, toffee, milk powder, and ice cream, incorporating microbiological considerations and storage	Unit 5 Reconstituted / recombined milks, flavored milks, dahi and yoghurt, paneer, chana, butter, ghee, lassi, toffee, milk powder, ice cream-processing and quality, microbiology and storage, recent developments in dairy industry.	

practices, along with an understanding of recent developments in the dairy industry.		
Upon completion of this unit, participants will acquire expertise in cleaning and sanitization methods for production areas, equipment, and tools, including knowledge of cleaning agents, the CIP method, various maintenance procedures, waste management, personal hygiene, adherence to food safety and quality standards, implementation of HACCP principles, and effective documentation of raw material to final finished products in a food processing environment.	<p>Unit 6</p> <p>Methods of cleaning and sanitization: Cleaning of production area, equipment, and tools used</p> <p>Equipment, detergents and sanitizers used in the cleaning and maintenance of the work area,</p> <p>Properties of the cleaning agents used, CIP method of cleaning, State the different types of maintenance procedures, Periodic maintenance of all production machineries</p> <p>Method of managing and disposing waste material</p> <ul style="list-style-type: none"> • Personal hygiene and sanitation guidelines <p>Food safety hygiene and quality standards to follow in a work environment, HACCP principles to eliminate food safety hazards in the process and products</p> <ul style="list-style-type: none"> • Method of documenting and recording the details of raw material to final finished products 	
Upon completing this unit, participants will possess a comprehensive understanding of organizational policies, production team dynamics, effective communication, leadership, production planning, coordination with maintenance and quality, production function objectives, planning and organization standards, personnel management, and labor-related aspects, enabling them to contribute effectively to production goals with adherence to legal, safety, and ethical standards in a manufacturing environment.	<p>Unit 7</p> <p>Organizational policies and goals, production team, various expertise to achieve production goals, effective communication with the employee , leadership , monthly/weekly/daily</p> <p>production plan, plan details, development of production schedule as per market demands, co-ordination with maintenance and quality.</p>	

	<p>The Production Function: Objectives of Production Management, Operation Concept, Concepts,</p> <p>Objectives and functions of Production Planning and Control (PPC)</p> <p>Planning and organization of work: organization standards, process standards and procedures followed in the organization, types of products produced by the organization, Code of business conduct, Dress code.</p> <p>Personnel Management: Personnel and leadership qualities</p> <p>Labour: Types of labour, criteria for selection and employees training. Labour laws and legal aspects- health & safety of employees, welfare policies.</p>	
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Paper: FPM-VE-5036- Project/ Internship

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Upon completing this course, students will exhibit professional conduct in the workplace through successful completion of a supervised project or an industrial internship, demonstrating effective practical application and enhancing their skills and knowledge in their specialized field.	<p>Conduct in workplace: A student will undergo either a project supervised by any teacher or industrial internship in the field of their specialization during this semester of the academic year. Evaluation will be done by the department based on the outcome of the project or on feedback received from the industrial management on the student's performance during the tenure.</p> <p>Report making and verbal presentation: After completion of the project, the student will prepare a report on his work and experience.</p>	

	Evaluation will be based on the quality of the report and presentation.	
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Semester VI

Paper: FPM-VE-6016- Industrial Processing of Tea, Coffee and Spices

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Upon completion, participants will gain a comprehensive understanding of tea, including its types, processing techniques, fermentation, compounds, quality factors, health effects, and innovative tea-based products, enabling informed decision-making in the tea industry.	Unit 1 General introduction to the plant, types of tea, green tea, black tea, white tea, oolong tea, yellow tea, instant tea, flavored tea, industrial processing techniques, tea fermentation and compounds, quality of tea, health effects, Assam tea, flavor stability, tea bags, storage of tea, innovative tea-based products, tea-wine, kombucha etc.	
Participants will develop knowledge of different coffee types, processing methods, and quality analysis, enhancing their expertise in the coffee industry and facilitating informed decision-making in coffee-related ventures.	Unit 2 Introduction to coffee, different types, processing, quality analysis.	
Upon completion, participants will have a thorough understanding of spices, including their classification, composition, functions, major international quality specifications, processing methods, and the production of value-added spice products like volatile oils and oleoresins, equipping them for effective participation in the spice industry.	Unit 3 Introduction, classification, composition and functions. Major international quality specifications of spices. Spice processing, Value added spice products: Spice volatile oils, spice oleoresins	

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Paper: FPM-VE-6026- Food Packaging

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Upon completion, participants will have a foundational understanding of food packaging, encompassing its importance and basic principles, setting the stage for advanced studies in the field.	Unit 1 Introduction to food packaging	
Participants will acquire knowledge about various materials used in food packaging, allowing them to make informed decisions about suitable packaging solutions based on material properties.	Unit 2 Materials for food packaging.	
Upon completion, participants will be familiar with the diverse forms of food containers, enabling them to choose appropriate packaging formats based on product characteristics and market requirements.	Unit 3 Different forms of food containers	
Participants will gain insights into contemporary packaging technologies, equipping them with the knowledge to leverage modern concepts for efficient and sustainable food packaging.	Unit 4 Modern concepts of packaging technology	
Upon completion, participants will understand the legal and regulatory aspects of food packaging, ensuring compliance with laws and specifications to guarantee food safety and quality.	Unit 5 Food packaging laws and specifications	

Paper: FPM-VE-6036- Project/ Internship

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Upon completing this course, students will exhibit professional conduct in the workplace through successful completion of a supervised project or an industrial internship, demonstrating effective practical application and enhancing their skills and knowledge in their specialized field.	Conduct in workplace: A student will undergo either a project supervised by any teacher or industrial internship in the field of their specialization during this semester of the academic	

4.i. Bachelor Of Computer Application

Programme Outcomes

At the end of the three year BCA programme the students will be able to:

- Understand, analyze and develop computer programs in the areas related to algorithm, web design and networking for efficient design of computer based system.
- Work in the IT sector as system engineer, software tester, junior programmer, web developer, system administrator, software developer etc.
- Apply standard software engineering practices and strategies in software project development using open source programming environment to deliver a quality of product for business success.

Course Outcomes

1st Semester

Paper Name: Introduction to C programming Paper Code: BCA-HC- 1016

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Upon successful completion, a student will have the knowledge to develop C programmes, manage I/O operations in C program, apply	UNIT 1: Overview of C	Remember, Understand, Analysis, Evaluate
	UNIT 2: Decision Making and Branching Statement	Remember, Understand, Analysis, Apply

code reusability with functions and pointers etc. A student will be able to develop minor projects like payroll generation, Inventory management for small organisations	UNIT 3: Arrays	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 4: Functions	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 5: Structures and Unions	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 6: Pointers	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 7: File Management in C	Remember, Understand, Analysis, Evaluate, Apply

Paper Name: Computer Fundamentals & ICT Hardware Paper Code: BCA-HC- 1026

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Upon successful completion, a student will be able to identify the essential components of a computer along with their functions. They will be able to troubleshoot hardware components and to assemble a computer with essential components.	UNIT 1: Overview of a computer	Remember, Understand, Analysis
	UNIT 2: Hard disk and Installation	Remember, Understand, Analysis, Apply
	UNIT 3: External memories, Driver Installation	Remember, Understand, Analysis, Apply
	UNIT 4: Processors and Main Memory	Remember, Understand, Analysis, Apply
	UNIT 5: Network Components	Remember, Understand, Analysis

Paper Name: Office Automation Paper Code: BCA-HG-1026

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Upon successful completion, a student will be able to work with documents, spreadsheets, make presentations and also will be well acquainted with Desktop Publishing Works	UNIT 1: Word Processing	Remember, Understand, Analysis, Apply
	UNIT 2: Spreadsheet	Remember, Understand, Analysis, Apply
	UNIT 3: Presentation Tools	Remember, Understand, Analysis, Apply
	UNIT 4: DTP Software	Remember, Understand, Analysis, Apply

2nd Semester

Paper Name: Digital Logic Fundamentals Paper Code: BCA-HC- 2026

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
After successful completion, a student will have the knowledge on minimization techniques to	UNIT 1: Boolean Algebra and Logic Gates	Remember, Understand, Analysis, Evaluate
	UNIT 2: Combinational Circuit	Remember, Understand, Analysis

simplify hardware requirements of digital circuit, and various components of Digital Electronics.	UNIT 3: Sequential Circuit	Remember, Understand, Analysis
	UNIT 4: Counters	Remember, Understand, Analysis
	UNIT 5: Registers	Remember, Understand, Analysis

3rd Semester

Paper Name: Software Engineering Paper Code: BCA-HC- 3016

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Students will be able to decompose the given project into various phases of life cycle and will be able to choose appropriate process model depending upon the user requirements. Students will be able to apply the knowledge, techniques and skills in the development of a software product.	UNIT 1: Introduction	Remember, Understand, Analysis
	UNIT 2: Software Project Planning	Remember, Understand, Analysis, Apply
	UNIT 3: Software Design	Remember, Understand, Analysis, Apply
	UNIT 4: Software Testing and Maintenance	Remember, Understand, Analysis

Paper Name: Data Structure and Algorithms Paper Code: BCA-HC- 3026

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
After successful completion students will have the knowledge of	UNIT 1: Definition	Remember, Understand, Analysis
	UNIT 2: Linked Structure	Remember, Understand, Analysis

dynamic memory management, datatypes, algorithms. They will understand the basic data structures such as arrays, linked lists, stacks and queues and apply algorithm for solving problems like sorting, searching, insertion and deletion of data.	UNIT 3: Stacks and Queues	Remember, Understand, Analysis, Apply
	UNIT 4: Binary Trees	Remember, Understand, Analysis
	UNIT 5: Searching	Remember, Understand, Analysis, Apply
	UNIT 6: Sorting	Remember, Understand, Analysis, Apply
	UNIT 7: Analysis of Algorithm	Remember, Understand, Analysis, Apply

Paper Name: Database Management System Paper Code: BCA-HC- 3036

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
After successful completion students will be able to understand the basic concepts and applications of database system	UNIT 1: File Structure	Remember, Understand, Analysis
	UNIT 2: Overview of Database Management System	Remember, Understand, Analysis
	UNIT 3: Relational Models	Remember, Understand, Apply, Create
	UNIT 4: Database Design	Remember, Understand, Analysis, Apply, Create

Paper Name: Web Technology Paper Code: BCA-SE- 3014

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
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On completion of this course, a student will be familiar with client server architecture and able to develop a web application using html and javascript.	UNIT 1: Overview of the World Wide Web and the internet	Remember, Understand
	UNIT 2: Inside the firewall and Linking database to the Web	Remember, Understand, Analysis
	UNIT 3: HTML editors and tools	Remember, Understand, Analysis, Apply, Create
	UNIT 4: Java Script	Remember, Understand, Analysis, Apply, Create

4th Semester

Paper Name: Computer Organization and Architecture Paper Code: BCA-HC- 4016

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
On completion of the course, student will be able to demonstrate computer architecture concepts related to design of modern processors, memories and I/Os.	UNIT 1: Introduction	Remember, Understand
	UNIT 2: Register Transfer Logic	Remember, Understand, Analysis
	UNIT 3: Processor Logic Design	Remember, Understand, Analysis
	UNIT 4: Control Logic Design	Remember, Understand, Analysis
	UNIT 5: I/O Subsystem	Remember, Understand, Analysis
	UNIT 6: Memory Subsystem	Remember, Understand, Analysis

Paper Name: Object Oriented Programming in C++ Paper Code: BCA-HC- 4036

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
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Upon successful completion, a student will be able to understand the C++ language features, use the control structure and datatypes in C++, write programs using classes and objects and can implement overloading, inheritance concepts.	UNIT 1: Introduction to object oriented programming	Remember, Understand, Analysis
	UNIT 2: Classes and objects	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 3: Function and operator overloading	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 4: Inheritance	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 5: Streams	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 6: Files	Remember, Understand, Analysis, Evaluate, Apply

Paper Name: Advanced Web Technology Paper Code: BCA-SE-4034

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
On completion of the course, student will be able to develop a web applications using PHP and JSP and other web development techniques. Students will gain the skills and project based experience needed for entry into	UNIT 1: Web Development Techniques <ul style="list-style-type: none"> • Server Side Scripting with PHP • Server Side Scripting with JSP • Intermediate Web Development Techniques 	Remember, Understand, Analysis, Apply, Create

web application and development careers.	UNIT 2: Current Trends in Web Technology	Remember, Understand, Analysis, Evaluate
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Paper Name: Information Security and Cyber Laws Paper Code: BCA-HG-4026

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
<p>After successful completion a student will be able to determine and analyze software vulnerabilities and security solutions to reduce the risk of exploitation and also he/she will be able to analyze and evaluate the need of cyber security in an organization.</p> <p>A student will also have the knowledge of different cyber laws.</p>	UNIT 1: Course Introduction	Remember, Understand
	UNIT 2: Digital Crime	Remember, Understand
	UNIT 3: Information Gathering Techniques	Remember, Understand, Analysis
	UNIT 4: Risk Analysis and Threat	Remember, Understand, Analysis
	UNIT 5: Introduction to Cryptography and Applications	Remember, Understand, Analysis
	UNIT 6: Safety Tools and Issues	Remember, Understand, Analysis
	UNIT 7: Cyber laws to be covered as per IT 2008	Remember, Understand,

5th Semester

Paper Name: Java Programming Paper Code: BCA-HC- 5016

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
Upon completion of the course	UNIT 1: JAVA language basics	Remember, Understand, Analysis

<p>students will be able to use an integrated development environment to write, compile, run and test simple object oriented java programming.</p> <p>Students will be able to read and make elementary modifications to java programs that solve real-world problems.</p>	UNIT 2: Operators and Control Statements	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 3: Classes and Methods	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 4: Inheritance	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 5: Exception handling	Remember, Understand, Analysis, Evaluate, Apply

Paper Name: Operating System Paper Code: BCA-HC- 5026

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
<p>Upon completion of the course students will be able to understand the fundamental OS abstractions such as processes, threads, files, etc.</p> <p>Students will also be analyze important algorithms eg. Process scheduling and can categorize the operating system's resource management techniques, memory management techniques, deadlock management techniques.</p>	UNIT 1: Introduction	Remember, Understand, Analysis
	UNIT 2: Processes	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 3: Process Synchronization	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 4: Scheduling	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 5: Deadlocks	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 6: Memory management	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 7: File system	Remember, Understand, Analysis, Evaluate, Apply

	UNIT 8: I/O management	Remember, Understand, Analysis, Evaluate, Apply
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Paper Name: Programming in Python Paper Code: BCA-HE-5046

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
At the end of the course, students will be able to explain basic principles of python programming language and implement object oriented concepts and database and GUI applications.	UNIT 1: Planning the Computer Program	Remember, Understand, Analysis
	UNIT 2: Techniques of Problem Solving	Remember, Understand, Analysis, Evaluate
	UNIT 3: Overview of Programming	Remember, Understand, Analysis,
	UNIT 4: Introduction to Python	Remember, Understand, Analysis
	UNIT 5: Creating Python Programs	Remember, Understand, Analysis, Apply
	UNIT 6: Iteration and Recursion	Remember, Understand, Analysis, Apply
	UNIT 7: Strings and Lists	Remember, Understand, Analysis, Apply
	UNIT 8: Object Oriented Programming	Remember, Understand, Analysis, Evaluate
	UNIT 9: Data Structures	Remember, Understand, Analysis, Evaluate
	UNIT 10: Searching and Sorting	Remember, Understand, Analysis, Evaluate

6th Semester

Paper Name: System Administration using Linux Paper Code: BCA-HC- 6016

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
At the end of the course, students will be able to explain structure of linux operating system and use linux commands to manage files and file systems. Students will also be able to create and execute BASH scripts.	UNIT 1: Introduction	Remember, Understand
	UNIT 2: Linux file system	Remember, Understand, Analysis
	UNIT 3: Basic Linux Commands	Remember, Understand, Analysis, Apply
	UNIT 4: Process Creation	Remember, Understand, Analysis, Apply
	UNIT 5: General User Administration	Remember, Understand, Analysis, Apply
	UNIT 6: Networking in Linux	Remember, Understand, Analysis

Paper Name: Computer Networks Paper Code: BCA-HC- 6026

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
At the end of the course, students will be able to explain basic concepts, OSI model, services and	UNIT 1: Physical Layer	Remember, Understand, Analysis
	UNIT 2: Digital Transmission	Remember, Understand, Analysis
	UNIT 3: Data Link Layer	Remember, Understand, Analysis

role of each layer TCP/IP, network device and transmission media. Students will also be able to apply channel allocation, framing, error and flow control techniques.	UNIT 4: Network Layer	Remember, Understand, Analysis
	UNIT 5: Transport Layer	Remember, Understand, Analysis
	UNIT 6: Application layer & Network Security	Remember, Understand, Analysis

Paper Name: Automata Theory and Languages Paper Code: BCA-HE-6016

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
At the end of the course, students will be able to understand the basic properties of formal languages and grammars. They will be able to differentiate regular, context-free and recursively enumerable languages	UNIT 1: Finite Automata	Remember, Understand, Analysis, Evaluate
	UNIT 2: Regular Languages and Regular Grammar	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 3: Properties of Regular Languages	Remember, Understand, Analysis, Evaluate, Apply
	UNIT 4: Context Free languages	Remember, Understand, Analysis, Evaluate, Apply
They will be able to make grammars to produce strings from a specific language	UNIT 5: Pushdown Automata	Remember, Understand, Analysis, Evaluate, Apply

Paper Name: Distributed System Paper Code: BCA-HE-6046

Course Outcome	Unit No. and Title	Bloom's Taxonomy Level
At the end of the course, students will be able to gain knowledge in	UNIT 1: Introduction	Remember, Understand
	UNIT 2: Communication	Remember, Understand, Analysis

distributed architecture, naming, synchronization, consistency and replication, fault tolerance, security and distributed file systems.	UNIT 3: Synchronization	Remember, Understand, Analysis, Evaluate
	UNIT 4: Election Algorithms	Remember, Understand, Analysis, Evaluate, Apply
They will also be able analyze the current popular distributed systems such as peer-to-peer systems.	UNIT 5: Consistency and replication	Remember, Understand, Analysis, Evaluate
	UNIT 6: Fault tolerance	Remember, Understand, Analysis

5.i. MA Assamese

PROGRAMME OUTCOME (MA Assamese)

- The Syllabus contains different categories of Assamese literature like Oral literature, Literature of Pre Vaishnavite period, Vaishnavite Period, Post Vaishnavite Period, Romantic Literature, Modern Literature, Post Modern Literature, Growth And Development of Languages, Ariyan and Non Ariyan Languages, Assamese Language, Its origin and Development. Scripts History and Assamese Scripts, Script Reading, Culture, and different categories of culture, Socio culture, Socio Linguistics, Comparative Studies of different literature of various New Indo-Ariyan Languages with Assamese Literature, Back ground of Assamese religion and its significant and Indian context tradition. This syllabus also covers the translation studies and its practices also.
- This syllabus will give the specific idea about the languages, literature, culture and formation of Assamese. Student will find a specific idea about the language, Culture, Literature, Religion of Assamese Back ground.
- This syllabus will also help to know on the development of Indian literature and tradition through the comparative part of the syllabus.

- From the Translation part of the syllabus Student will know the trend and development of world literature

5.i. M.A.(ASSAMESE)

COURSE OUTCOME

MA Assamese Syllabus (CBCS) 1st Semester

Paper Name: Rise and Development of the Assamese Language Paper Code: ASM 1016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
<p>After the completion of this course, the students will be able to,</p> <ul style="list-style-type: none">• Reconstruct the social history of Assam in the light of the rise of Assamese language.• Justify the relationship between tradition of religion and formation of Assamese language.• Compare and contrast the social history of early Assamese form of language with that of the Modern Assamese language.	Unit I: Emergence of regional languages in India, spoken words versus literary language, language and religion, polity and language: Inscriptions, Charyapada	Remember, Understand, Analysis
	Unit II: Assamese as a literary language; royal patronage and reproduction of epics in Assamese; early Assamese texts: Hem Saraswati's Prahrad Charit and Madhav Kandali's Ramayana.	Remember, Understand, Analysis
	Unit III: Cultural and linguistic encounters: Emergence of Brajabali; emergence of Assamese prose, Buranjis and Charit Puthis.	Remember, Understand, Analysis
	Unit IV: Colonialism and Modern Assamese: Shaping of Modern Assamese language, the roles of Missionaries and Assamese intellectuals, print media and the language; standardization of the language.	Remember, Understand, Analysis, Apply

Paper Name: History of Assamese Literature: 1889-2015 Paper Code: ASM 1026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
<p>After the completion of this course, the students will be able to,</p> <ul style="list-style-type: none"> Trace the phases of Romantic and Modern Assamese Poetry, Plays, novels and short stories. 	<p>Unit I: Salient features of Mafizuddin Ahmad Hazarika's poetry, Salient features of Bhabananda Datta's criticism of poetry, Salient features of Bhaben Barua's poetry and Salient features of Jnan Pujari's poetry.</p>	Understand, Analysis, Apply
<ul style="list-style-type: none"> Categorise Assamese poetry (1889-2015) in groups of Romantic and Modern Phases. Describe experience of reading Romantic and Modern Assamese Poetry. Differentiate between Romantic and Modern Poetry. 	<p>Unit II: Salient features of Nakul Chandra Bhuyan's plays, Salient features of Atul Chandra Hazarika's plays and Salient features of Himendra Barthakur's plays.</p>	Understand, Analysis, Apply
	<p>Unit III: Salient features of Dandinath Kalita's novels, Salient features of Umakanta Sarma's novels, Salient features of Yeshe Dorje Thongchi's novels and Salient features of Arupa Patangia Kalita's novels.</p>	Understand, Analysis, Apply
	<p>Unit IV: Salient features of Rama Dash's short stories, Salient features of Birendra Kumar Bhattacharyya's short stories, Salient features of Silabhadra's short stories and</p>	Understand, Analysis, Apply

	Salient features of Bipul Khataniar's short stories.	
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Paper Name: Study of Culture of Assam Paper Code: ASM 1036

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, <ul style="list-style-type: none"> Trace the phases of Assamese Culture. Reconstruct religious belief of the people of Ancient Assam and compare it with that of the rest of ancient India. 	Unit I: Definition, classification and scope of culture with special reference to the culture of Assam.	Remember, Understand, Analysis
	Unit II: Culture of Assam in the early period (from the pre-historical times to the tenth century CE).	Remember, Understand, Analysis
	Unit III: Culture of Assam in the medieval period (from the eleventh century CE to the eighteenth century CE).	Remember, Understand, Analysis
	Unit IV: Culture of Assam in the modern period (from the nineteenth century CE till the present time).	Remember, Understand, Analysis

Paper Name: History of Sanskrit Literature: History, Features and Genres Paper Code: ASM 1046

Course Outcome	Unit with Name	Bloom's Taxonomy Level
<p>After the completion of this course, the students will be able to,</p> <ul style="list-style-type: none"> Trace the history and heritage of Indian literary tradition. Describe the features of Sanskrit Literature which is considered as the mother of all regional Literature including Assamese. Grasp the Indianans in Indian Literature. 	Unit I: Poetry: Mahakavya and Khandakavya	Remember, Understand, Analysis
	Unit II: Drama and Campu: Theories of origin, features, types and chronological history	Remember, Understand, Analysis
	Unit III: Prose: Features, genres and introduction to prose works	Remember, Understand, Analysis
	Unit IV: Sanskrit writing in Assam: Pre Sankaradeva, Sankaradeva and Post- Sankaradeva periods.	Remember, Understand, Analysis

Paper Name: Creative Writing (Value Added Course) Paper Code: ASM 1054

Course Outcome	Unit with Name	Bloom's Taxonomy Level
<p>After the completion of this course, the students will be able to,</p> <ul style="list-style-type: none"> 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: Imitation, Imagination, Anatomical components of poetry drama and fiction.	Remember, Understand, Analysis, Apply
	Unit II: Trends in poetry, drama and fiction, Language of modern poetry and modern novel.	Remember, Understand, Analysis
	Unit III: Performance (Traditional and experimental) Functional writing.	Remember, Understand, Analysis

	Unit IV: Project	Remember, Understand, Analysis, Apply
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2nd Semester

Paper Name: Assamese Poetry: 1889-2015 Paper Code: ASM 2016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to,	Unit I: Romantic Poetry (First Wave): Chandra Kumar Agarwala: 'Ajeya', Hem Chandra Goswami: 'Puwa', Lakshminath Bezboroa: Malati.	Remember, Understand, Analysis,
<ul style="list-style-type: none"> • Categorise Assamese poetry (1889-2015) in groups of Romantic and Modern Phases. • Describe experience of reading Romantic and Modern Assamese Poetry. <ul style="list-style-type: none"> • Identify the difference between Romantic and Modern Poetry. • Develop intellectual history of Assam with the help of knowledge of stone and copperplates. 	Unit II: Romantic Poetry (Second Wave): Raghunath Chaudhury: 'Giri Mallika', Ambikagiri Raychoudhury: 'Mor Bina', Devakanta Barua: 'Aprakarsh'.	Remember, Understand, Analysis
	Unit III: Modern Poetry (First Wave): Hem Barua: 'Poharatkoi Endhar Bhal', Navakanta Barua: 'Samratar Para', Ajit Barua: 'Dukhar Kabita' and Nilmoni Phookan: 'Olami Thaka Golapi Jamur Lagna'.	Remember, Understand, Analysis
	Unit IV: Modern Poetry (Second Wave): Hirendra Nath Dutta: 'Chhayamoya', Anis Uz Zaman:	Remember, Understand, Analysis,

<ul style="list-style-type: none"> Enumerate the institutions and describe their role in preserving Assamese culture. 	'Ai Tor Andharar Hatkhan Bhangi Dilon', Sameer Tanti: 'Mor Pratito Din aru Ratir Arombhani', Anubhav Tulasi: 'Cihnajatnar Keitiman Jalamagna Drisya' and Nilim Kumar: 'Guwahati'	
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Paper Name: Assamese Prose: 1846-2015 Paper Code: ASM 2026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, <ul style="list-style-type: none"> Trace the development of Assamese prose from 1846 to 2015. Interpret the changes occurring in Assamese prose. State the present features of Assamese prose. 	Unit I: Anandaram Dhekial Phukan: 'Asam Deshar Sangkhep Katha', Nidhi Lebi Farwel: 'Bidya aru Gyan Labhar Phal Ki' and Ratneswar Mahanta: 'Manobritti'	Remember, Understand, Analysis
	Unit II: Lakshminath Bezbaroa: Mor Jivan Sowaran, Satyanath Bora: 'Bor Lokar Charitra Adhyayan' and Kaliram Medhi: 'Sankardev aru Chaitanyadev'.	Remember, Understand, Analysis
	Unit III: Banikanta Kakati: 'Soundarjyar Pratarana', Krishna Kanta Handique: 'Biswa Sahityar Patabhumit Asamiya Sahitya and Trailokyanath Goswami: 'Prachin Aru Adhunik Sahitya'.	Remember, Understand, Analysis

	<p>Unit IV: Atul Chandra Baruah: ‘Samaj, Krisi aru Gaonor Itibritta’, Hiren Gohain: ‘Mahan Oupanyasik Birinchi Kumar Barua’and Homen Borgohain: ‘Asamiya Chutigalpa (1940-1970)’.</p>	Remember, Understand, Analysis,
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Paper Name: Assamese Drama and Performance: 1857-2015 Paper Code: ASM 2036

Course Outcome	Unit with Name	Bloom's Taxonomy Level
<p>After the completion of this course, the students will be able to,</p> <ul style="list-style-type: none"> • Reconstruct the history of Assamese drama and performance since 1857. • Describe the experience of viewing a play. • Enumerate the trends of Assamese Drama since 1857. 	<p>Unit I: Trends in Assamese Drama: 1857-2015 With special emphasis on amateur theatre, mobile theatre and radio plays</p>	Remember, Understand, Analysis,
	<p>Unit II: Rudraram Bordoloi: Bangal Bangalani, Padmanath Gohain Barua: Gaonburha, Lakshminath Bezbaroa: Chakradhwaj Sinha and Jyotiprasad Agarwala: Karengar Ligiri.</p>	Remember, Understand, Analysis, Apply
	<p>Unit III: Mahendra Borthakur: Saraguri Chapori, Arun Sarma: Sri Nibaran Bhattacharyya and Karuna Deka: Luitkanya.</p>	Remember, Understand, Analysis, Apply
	<p>Unit IV: Proscenium Theatre in Assam, Brechtian influence on Assamese Theatre, Recent experimental theatres of Assam.</p>	Remember, Understand, Analysis, Apply

Paper Name: Indian Criticism Paper Code: ASM 2046

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to, <ul style="list-style-type: none"> Describe the Indian systems of evaluating Literature. Trace the thought systems of ancient Indian Literary critics. Interpret Literature from Indian point of view. 	Unit I: Sabdashakti (Words and meaning; power of word) Dhvani: Concept, evolution and application Vakrokti: Concept and application	Remember, Understand, Analysis
	Unit II: Rasa: Concept, evolution and application, Guna and Riti: Concept and application	Remember, Understand, Analysis
	Unit III: Bhaktivadi rhetoricians of medieval India.	Remember, Understand, Analysis
	Unit IV: Nativism Western native, Indian features, origin and development	Remember, Understand, Analysis

Paper Name: Editing (Value Added Course) Paper Code: ASM 2054

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to,	Unit I: The philosophy and objectives of book-editing General book editing.	Remember, Understand, Analysis, Apply

<ul style="list-style-type: none"> Trace the phases of book history in India. Critique a manuscript. Identify the philosophy behind the book-editing 	Unit II: Acquisition and evaluation of manuscripts	Remember, Understand, Analysis, Apply
	Unit III: Copy-editing, Book making, Style, Proof Production and printing.	Remember, Understand, Analysis, Apply
	Unit IV: Relationship between editorial and other departments of publishing.	Remember, Understand, Analysis, Apply

3rd Semester

Paper Name: Assamese Novel: 1890-2015 Paper Code: ASM 3016

Course Outcome	Unit with Name	Bloom's Taxonomy Level
<p>After the completion of this course, the students will be able to,</p> <ul style="list-style-type: none"> Categorise the Assamese novels into different trends. Explain the effects of the socio-political development on Assamese novels. Design a spectrum of different themes used in Assamese novels. 	Unit I: Trends of Assamese novel	Remember, Understand, Analysis
	Unit II: Rajanikanta Bordoloi: Rahdai Ligiri, Rasna Barua: Seuji Patar Kahini, Medini Choudhury: Banduka Behar.	Remember, Understand, Analysis
	Unit III: Debendranath Acharya: Jangam, Mamani Roysom Goswami: Nilakanthi Braja, Homen Borgohain: Pitaputra	Remember, Understand, Analysis

	Unit IV: Bhupendranarayan Bhattacharya: Marudyan, Debabrat Das: Dhusratar Kabya	Remember, Understand, Analysis
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Paper Name: Translation: Theory and Practice Paper Code: ASM 3026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
After the completion of this course, the students will be able to,	Unit I: Linguistic aspects of translation with special attention to Roman Jakobson's essay 'On Linguistic Aspects of Translation'.	Remember, Understand, Analysis,
<ul style="list-style-type: none"> • 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 II: Cultural aspects of translation, and Translation and nationalism with special attention to Krishnakanta Handiqui's essay 'Anubadar Katha'.	Remember, Understand, Analysis
	Unit III: Equivalence in translation, loss and gain in translation, faithful translation. Ad- verbatim translation, semantic translation, idiomatic translation. Translation of scientific and literary texts, transcreation, adaptation, translation through apps.	Remember, Understand, Analysis, Apply

	<p>Unit IV: Evaluation of translated works (to examine the standard of translation): Comparison between the English Mrityunjay and the original Assamese Mrityunjay, Comparison between the poems in Ancient Gongs and their original Assamese versions available in Hiren Bhattacharyyar Kabita: Prathamara Para Ataibor, Comparison between Ahar Mahar Edin and the original Hindi Ashadh Ka Ek Din.</p>	Remember, Understand, Analysis, Evaluate, Apply
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Paper Name: Varieties of Assamese Language Paper Code: ASM 3066

Course Outcome	Unit with Name	Bloom's Taxonomy Level
<p>After the completion of this course, the students will be able to,</p> <ul style="list-style-type: none"> Describe different varieties of the Assamese Language in the Context of contemporary Linguistics. Organize geographical and social varieties of Assamese Language. 	<p>Unit I: Dialectology: Isogloss, Diaglossia; Dialect Geogra-phy: Methods of Regional Dialect Study; Regional Varieties in Assam: Upper Assam, and Lower Assam.</p>	Remember, Understand, Analysis, Apply
	<p>Unit II: Social Varieties: Methods of Social Dialect study, Social Varieties in Assam: Language forms of the Kaivartas and Moriyas.</p>	Remember, Understand, Analysis, Apply

	Unit III: Ethnic Varieties: Ethnicity and Language Variation, Methods of Ethnic Dialect Study, Ethnic varieties in Assam: Rabhamese, Mishing- Asamiya and Hajong-Asamiya.	Remember, Understand, Analysis, Apply
	Unit IV: Contemporary Assamese: Print and Electronic Media.	Remember, Understand, Analysis, Apply

Paper Name: Assamese Vaisnavite, Saiva and Sakta Literatures Paper Code: ASM 3096

Course Outcome	Unit with Name	Bloom's Taxonomy Level
<p>After the completion of this course, the students will be able to,</p> <ul style="list-style-type: none"> • Categorise religious literature of Assam and compare Assamese Vaisnavite literature with Assamese Saiva –Sakta literature. • Elaborate the concept of Vaishnavism, Saivism and Saktaism and Organize literary products under titles like Vaishnava, Sakta, and Saiva literature. • Interpret religious beliefs i.e. Vaishnava, Saiva and Sakta with 	Unit I: History, Philosophy and Background of Vaisnavite Movement in India with special reference to Assam.	Remember, Understand, Analysis
	Unit II: Concept of Vaisnavism (Bhaktibad) and Assamese Vaisnavite literature. Sankaradeva: Kirtan Ghosa Madhavadeva: Namghosa	Remember, Understand, Analysis
	Unit III: Concept of Saivism, history of Saivism in Assam and Assamese Saiva literature, Rudra Sinha: Siva Purana.	Remember, Understand, Analysis

keeping in mind their humanitarian outlook. • Generate human values out of the religious outlook prevalent in Assam.	Unit IV: Concept of Saktism, history of Saktism in Assam and Assamese Sakta literature, Ruchinath Kandali: Sri Sri Chandi.	Remember, Understand, Analysis
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4th Semester Paper Name: Textual Criticism and Script

Study

Paper Code: ASM 4016

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: Introduction: Definition, aims and objectives of Textual Criticism.	Understand, Analysis
	Unit II: Theory of Textual Criticism and its application	Understand, Analysis, Apply Evaluate
	Unit III: History of Textual Criticism in Assam.	Understand, Analysis, Evaluate
• Generate interest in preservation and restoration of intellectual heritage of a nation.	Unit IV: Manuscript and features, Assamese manuscripts including illustrated manuscripts, Manuscript reading, History of Assamese Script and Evaluation.	Understand, Analysis, Apply, Evaluate

Paper Name: Applied Linguistics Paper Code: ASM 4026

Course Outcome	Unit with Name	Bloom's Taxonomy Level
<p>After the completion of this course, the students will be able to,</p> <ul style="list-style-type: none"> • Explain computational linguistics. • Review literature applying discourse analysis. • State the tools for analysing the Assamese language. 	<p>Unit I: Computational Linguistics: Natural Language Processing: analyzing and using co-occurrences of words in text; context-free grammars and parsing.</p>	Remember, Understand, Analysis, Apply
	<p>Unit II: Discourse Analysis: The structure of discourse; Narrative Analysis; Conversation Analysis.</p>	Remember, Understand, Analysis, Apply
	<p>Unit III: Lexicography: Analysis of the lexicon: relations between words, levels of the lexicon, lexical borrowing, lexical norm, linguistic purism; different types of dictionaries and different types of lexicographic design, electronic dictionaries, parts of the lexicographic entry, the microstructure and macrostructure of dictionary</p>	Remember, Understand, Analysis, Apply

	Unit IV: Application of linguistic knowledge for first and second language teaching methods: Difference between first and second language learning, language teaching methods, Application of Descriptive Linguistics, Sociolinguistics and Psycholinguistics in language teaching.	Remember, Understand, Analysis, Apply
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Paper Name: Assamese Short Story: 1892-2015 Paper Code: ASM 4046

Course Outcome	Unit with Name	Bloom's Taxonomy Level
<p>After the completion of this course, the students will be able to,</p> <ul style="list-style-type: none"> Trace the development of the major 	Unit I: Trends of Assamese Short Stories, Lakshminath Bezbaroa: 'Jayanti, Lakshi-dhar Sarma: 'Byarthatar Dan'and Syed Abdul Malik: 'Pran Powar Pichat'.	Remember, Understand, Analysis

<p>trends of Assamese short stories.</p> <ul style="list-style-type: none"> Describe the emotional effect of reading a few significant Assamese short stories. Interpret a short story. 	Unit II: Sourav Kumar Chaliha: ‘Ehat Daba, Mohim Bora: ‘Chakrabat, Nirupama Borgohain: ‘Anthropologyr Saponar Pachat’ and Bhaben-dranath Saikia: ‘Grahan’.	Remember, Understand, Analysis
	Unit III: Nagen Saikia: ‘Bandha Kothat Dhumuha’, Pranab Jyoti Deka: ‘Bewaris Las and Apurba Sarma: ‘Baghe Tapur Rati.	Remember, Understand, Analysis
	Unit IV: Jehirul Hussain: ‘Rang Kukurar Tupi’ and Manoj Kumar Goswami: ‘Nirbandhav’.	Remember, Understand, Analysis

Paper Name: Assamese Criticism Paper Code: ASM 4096

Course Outcome	Unit with Name	Bloom’s Taxonomy Level
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<p>After the completion of this course, the students will be able to,</p> <ul style="list-style-type: none"> • Grasp the history and trends of Assamese criticism. • Trace the influence of western and Indian criticism on Assamese criticism. • Produce a criticism of a text. 	Unit I: Trends of Assamese Criticism, Banikanta Kakati: ‘Dahikatara’ and Tirthanath Sarma: ‘Rahasyik Madhavadeva.	Remember, Understand, Analysis
	Unit II: Birinchi Kumar Barua: ‘Preface’ to Ankiya Nat (from Ankiya Nat) and Satyendra Nath Sarma: ‘Adhunik Kabyar Unmesh’.	Remember, Understand, Analysis
	Unit III: Hiren Gohain: ‘Aitihya aru Jibanar Batat’ and Bhaben Barua: Discussion on Ajit Barua’s ‘Jengrai 1963’.	Remember, Understand, Analysis
	Unit IV: Ranjit Kumar Dev Goswami: ‘Haramohanar Samajik Tatporya, Pradip Acharya: ‘Asamiya Kabitar Kurita Bachar’, Govinda Prasad Sarma: ‘Andre Maurois-r Ariel: Ekhan Natun Jivanir Rasaswadan’ and Sailen Bharali: ‘Samalochak Banikanta Kakati’.	Remember, Understand, Analysis