JHARGRAM RAJ COLLEGE

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

B.A HONOURS IN BENGALI

Programme Outcome:-

Course code	Course Name	Course Outcome
C1T	বাংলা ভাষার উদ্ভব ও পরিচয়	অন্যান্য ভারতীয় ভাষা ও বাংলাভাষার উৎস ও বাংলাভাষার বিশেষ বৈশিষ্ট্য সম্পর্কে সাধারণ ধারণা নির্মাণ।
C2T	বাংলা সাহিত্যের ইতিহাস (প্রাচীন ও মধ্যযুগ)	প্রাচীন ও মধ্যযুগীয় বাংলা সাহিত্যের কালোচিত বৈশিষ্ট্য ও বিভিন্ন ধারা সম্পর্কে পরিচিতি। বিশিষ্ট কবি ও তাদের কাব্য সম্পর্কে সাধারন ধারণা নির্মাণ।
GE-1	বাংলার ভূখণ্ড ও জাতির উৎপত্তি, ধর্ম ও সংস্কৃতির ইতিহাস এবং লোকসাহিত্য	বাংলা নামক ভূখণ্ডের উৎস ও ইতিহাস, বাঙালি জাতির উৎস ও ইতিহাস সম্পর্কে ধারণা। বাঙালির ধর্ম ও সংস্কৃতির ইতিহাস সম্পর্কে ধারণা। বাংলা লোকসাহিত্য সম্পর্কিত ধারণা।
GE-1	বাংলা ভাষার বিভিন্নস্তর ও বাংলা ভাষাচর্চা	বাংলা ভাষার বিবর্তনে উদ্‌ভূত বিভিন্ন পর্যায় ও তার বৈশিষ্ট্য সংক্রান্ত ধারণা।
CC-1	বাংলা সাহিত্যের ইতিহাস ও বাংলা ভাষাতত্ত্ব	বাংলা সাহিত্যের বিভিন্ন পর্যায়, বিভিন্ন ধারার বৈশিষ্ট্য এবং গুরুত্বপূর্ণ কবিদের সম্পর্কে পরিচিতি। অন্যান্য ভারতীয় ভাষা ও বাংলাভাষার উৎস ও বাংলাভাষার বিশেষ বৈশিষ্ট্য সম্পর্কে সাধারণ ধারণা নির্মাণ।
AECC-1(MIL)	বাংলা ভাষা-প্রসঙ্গ	অন্যান্য ভারতীয় ভাষা ও বাংলাভাষার উৎস ও বাংলাভাষার বিশেষ বৈশিষ্ট্য সম্পর্কে সাধারণ ধারণা নির্মাণ।
AECC-1(MIL)	বাংলা অনুবাদ	অনুবাদের সাধারণ নিয়ম এবং অন্যান্য ভাষা, বিশেষত ইংরিজী থেকে বাংলায় অনুবাদ শেখা।
AECC-1(MIL)	বাংলা কথন দক্ষতা	বাংলায় কথা বলার নিয়মবিধি সম্পর্কে সচেতনতা বৃদ্ধি এবং কথোপকথনে দক্ষতা বৃদ্ধি।
C3T	প্রাচীন ও মধ্যযুগের পদপাঠ	চর্যাপদাবলী, প্রাচীন যুগের অন্যান্য পদ, শ্রীকৃষ্ণকীর্তন ইত্যাদি কাব্যপাঠ।
C4T	চৈতন্যজীবনী ও মঙ্গলকাব্য সাহিত্যপাঠ	চৈতন্যভাগবত কাব্য পাঠ, রামেশ্বরের শিবায়ণ কাব্য এবং ভারতচন্দ্রের অন্নদামঙ্গল কাব্যপাঠ।
GE-2	কাব্যসাহিত্যের ধারা ও বৈষ্ণব পদাবলী পাঠ	বৈষ্ণব পদাবলী সম্পর্কে সাধারণ ধারণা নির্মাণ, গুরুত্বপূর্ণ পদকারের নির্বাচিত পদপাঠ এবং বিভিন্ন পর্যায় ও কবিদের বৈশিষ্ট্য উপলব্ধি।
GE-2	নাট্য সাহিত্যের ধারা এবং কাব্য ও নাটক পাঠ	বাংলাভাষায় রচিত নাটকের ইতিহাস এবং গুরুত্বপূর্ণ নাট্যকারদের সম্পর্কে ধারণা নির্মাণ।
C5T	উনিশ-বিশ শতকের প্রবন্ধ ও কাব্য সাহিত্যের ইতিহাস এবং আখ্যান সাহিত্য পাঠ	উনিশ-বিশ শতকে বাংলায় রচিত প্রবন্ধ ও কাব্য সাহিত্যের ইতিহাস এবং বিশিষ্টতা সম্পর্কিত ধারণানির্মাণ। এই সময়ে নবগঠিত আখ্যান সাহিত্য পাঠ।
C6T	ছন্দ-অলঙ্কার ও নির্বাচিত কবিতা পাঠ	বাংলা ছন্দের গতিপ্রকৃতি ও বিশিষ্টতা সম্পর্কিত ধারণা নির্মাণ। কবিতার ছন্দবিশ্লেষণ করতে শেখা। বাংলাভাষায় প্রচলিত বিভিন্ন অলঙ্কারের বৈশিষ্ট্য ও পার্থক্য সম্পর্কে ধারণানির্মাণ ও অলঙ্কার বিশ্লেষণ করতে শাখা।
C7T	প্রবন্ধ সাহিত্য পাঠ	ঊনবিংশ ও বিংশ শতকে লিখিত বিশেষ কয়েকটি প্রবন্ধ পাঠ ও প্রাবন্ধিকদের রচনাবৈশিষ্ট্য সম্পর্কে অবহিত হওয়া।
GE-3	বাংলা প্রবন্ধ ও কথাসাহিত্যের ধারা এবং প্রবন্ধ পাঠ	ঊনবিংশ ও বিংশ শতকে বাংলাভাষায় লিখিত প্রবন্ধের বৈশিষ্ট্য ও গুরুত্বপূর্ণ প্রাবন্ধিকদের রচনার সঙ্গে পরিচিতি এবং বিশেষ কয়েকটি প্রবন্ধ পাঠ ও সেই প্রাবন্ধিকদের রচনাবৈশিষ্ট্য সম্পর্কে অবহিত হওয়া।

GE-3	বাংলা উপন্যাস ও ছোটগল্পপাঠ	বাংলার বিশিষ্ট গল্প ও উপন্যাস সম্পর্কে জানতে পারবে
SEC-1	লিখন নৈপুণ্য বৃদ্ধি	বাংলাভাষায় লেখার দক্ষতা বৃদ্ধি।
SEC-1	বাংলা ব্যাকরণ ও অনুবাদতত্ত্ব	বাংলা ব্যাকরণের নির্দিষ্ট কয়েকটি সূত্র ও বৈশিষ্ট্য সম্পর্কে দক্ষতা বৃদ্ধি। অনুবাদের সাধারণ নিয়ম শেখা। বিশেষত ইংরিজি থেকে বাংলা ভাষায় অনুবাদ দক্ষতা বৃদ্ধি।
C8T	উনিশ ও বিশ শতকের নাট্য ও কথাসাহিত্যের ইতিহাস এবং ছোটগল্প পাঠ	আধুনিক বাংলা সাহিত্যের প্রথম পর্বের নাটক, কথাসাহিত্য ও ছোটগল্প সম্পর্কে জানতে পারবে
C9T	কাব্য পাঠ	রবীন্দ্রনাথ, মধুসূদন, জীবনানন্দের বিশিষ্ট কাব্য সম্পর্কে ধারণা লাভ
C10T	উপন্যাস পাঠ	বঙ্কিম, রবীন্দ্রনাথ, তারাশঙ্করের উপন্যাস সম্পর্কে ধারণালাভ
GE-4	বাংলা গীতিসাহিত্য, শিশু সাহিত্য ও রম্যরচনার ধারা	বাংলায় রচিত গান ও তার বিবর্তনের ধারা, শিশুসাহিত্যের ধারা এবং রম্যরচনার ধারা বিষয়ে পরিচিতি এবং বিশিষ্ট লেখকদের লেখনী সম্পর্কে সচেতনতা বৃদ্ধি।
GE-4	বাংলা সাহিত্য এবং দার্শনিক, রাজনৈতিক ও সামাজিক চিন্তা	বাংলা সাহিত্যে আগত বিভিন্ন দার্শনিক, সামাজিক ও রাজনৈতিক চিন্তার প্রতিফলনের প্রভাব এবং সেই সংক্রান্ত সাহিত্য সম্পর্কে পরিচিতি।
SEC-2T	বাংলা ভাষা ও সাহিত্য বিষয়ক প্রকল্প রচনা ও প্রকল্পের উপস্থাপনা	বাংলা সাহিত্যের যেকোনও প্রাঙ্গনকে বেছে নিয়ে সেই সম্বন্ধে নিবিড় চর্চার স্বাধীনতা এবং বিষয়টি নিয়ে স্বতন্ত্র বিশ্লেষণ ও মতপ্রকাশ। চিন্তা, চেতনা, বিশ্লেষণ, সাহিত্যবোধ এবং লিখনদক্ষতা বৃদ্ধি।
SEC-2T	চিত্রনাট্য রচনা ও সাম্প্রতিক ঘটনা-বিশ্লেষণ	চিত্রনাট্য রচনার মূল বৈশিষ্ট্যচর্চা এবং তার বাস্তবপ্রয়োগ শিক্ষা। সমসময় বা অতীত ভবিষ্যতের যেকোনও প্রাঙ্গনকে বেছে নিয়ে সেই সম্বন্ধে নিবিড় চর্চার স্বাধীনতা এবং বিষয়টি নিয়ে স্বতন্ত্র বিশ্লেষণ, মতপ্রকাশ এবং শিল্পচেতনার উদ্ভাস। চিন্তা, চেতনা, বিশ্লেষণ, শিল্পবোধ, লিখনদক্ষতা বৃদ্ধি।
C11T	নাট্য পাঠ	দীনবন্ধু, দ্বিজেন্দ্রলাল, রবীন্দ্রনাথের বিশিষ্ট নাটক সম্পর্কে জানতে পারবে
C12T	কাব্যতত্ত্ব, পাশ্চাত্য সাহিত্য সমালোচনা-তত্ত্ব ও সাহিত্যের রূপরীতি	অতুলচন্দ্র গুপ্তের 'কাব্যজিজ্ঞাসা'র ধ্বনি ও রস প্রবন্ধ পাঠ। কাব্য-কবিতা, উপন্যাস, ছোটগল্প, প্রবন্ধের রূপ ও রীতি সম্বন্ধ চর্চা। ক্লাসিসিসম, রোমান্টিসিসম, রিয়্যালিজম, ন্যাচারালিজম, সাররিয়্যালিজম, সিম্বলিজম, স্ট্রাকচারালিজম, পোস্ট-স্ট্রাকচারালিজম, ফেমিনিজম, সাইকো-অ্যানালিসিস, ন্যারেটোলজি - সংক্রান্ত সাধারণ পরিচয়।
DSE-1	প্রাচীন সাহিত্যতত্ত্ব ও সাহিত্যতাত্ত্বিক	অলঙ্কার, ধ্বনি, গুণ, রীতি, বক্রোক্তি, ঔচিত্য, রস ইত্যাদি প্রস্থান ও প্রস্থানকার সম্পর্কিত ধারণা। প্রাচ্য সাহিত্যতত্ত্বের সাধারণ ধারণা।
DSE-1	প্রাচীন বাংলা সাহিত্যে প্রভাব	প্রাচীন বাংলা সাহিত্যে সংস্কৃতের প্রভাব সম্পর্কিত চর্চা।
DSE-1	প্রাচীন সাহিত্য আন্দোলন, সমালোচনা ও রূপরীতি	সাহিত্যের বিভিন্ন আন্দোলন, সমালোচনা ও সাহিত্যের রূপ সম্পর্কে জানবে.
DSE-2	জীবনী সাহিত্য ও পত্রসাহিত্য	বাংলায় লিখিত জীবনী সাহিত্য ও পত্রসাহিত্য সম্পর্কিত চর্চা।
DSE-2	বাংলা বিতর্কমূলক, সৌন্দর্যমূলক ও বিজ্ঞান চেতনামূলক গ্রন্থপাঠ	বাংলায় রচিত বিশিষ্ট ধারার বিতর্কমূলক, সৌন্দর্যমূলক ও বিজ্ঞান চেতনামূলক গ্রন্থপাঠ।

DSE-2	বাংলা ছোটগল্প, ভ্রমণ কাহিনি ও গোয়েন্দা কাহিনি পাঠ	বাংলা ছোটগল্প, ভ্রমণ কাহিনি ও গোয়েন্দা কাহিনির সম্যক পরিচয় পাবে।
DSE-2	বাংলা রঙ্গমঞ্চ, সাময়িক পত্র ও অনুবাদ সাহিত্যের ইতিহাস	বাংলা রঙ্গমঞ্চ, সাময়িক পত্র ও অনুবাদ সাহিত্যের ইতিহাস সম্পর্কিত চর্চা।
C13T	লোকসাহিত্য	বাংলা লোকসংস্কৃতি ও লোকসাহিত্যের বিশিষ্ট অঙ্গ সংক্রান্ত চর্চা।
C14T	সংস্কৃত, ইংরেজি ও প্রতিবেশী সাহিত্যের ইতিহাস	সংস্কৃত, ইংরেজি ও প্রতিবেশী সাহিত্যের ইতিহাস সম্পর্কে জানবে
DSE-3	গদ্যসাহিত্য পাঠ	বাংলা গদ্য সাহিত্য সম্পর্কে জানবে
DSE-3	নাট্যসাহিত্য পাঠ	বাংলা নাট্য সাহিত্য সম্পর্কে জানবে
DSE-4	রবীন্দ্রসাহিত্য পাঠ	রবীন্দ্রসাহিত্য সম্পর্কে জানবে
DSE-4	উপন্যাস সাহিত্য পাঠ	বাংলা উপন্যাস সাহিত্য সম্পর্কে জানবে
DSE-4	প্রকৃতিচেতনামূলক, জাতীয়তামূলক ও বিশ্বমানবতামূলক সাহিত্য পাঠ	প্রকৃতিচেতনামূলক, জাতীয়তামূলক ও বিশ্বমানবতামূলক সাহিত্য পাঠ করবে
DSE-4	বাংলা সাহিত্য এবং চিত্র, চলচ্চিত্র ও ক্রীড়া	বাংলা সাহিত্য এবং চিত্র, চলচ্চিত্র ও ক্রীড়া সম্পর্কে জানবে

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

B.A HONOURS IN ENGLISH

Programme Outcome:-

- All encompassing and integrated knowledge of British Literature and writers writing in English and even translated works are thoroughly and meticulously taught to get a substantial knowledge of the literature and language.
- This helps to develop an aesthetic sense and promote students to develop a literary sense and artistic competence.

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
ENGH- C1T	Core 1- C1T:British Poetry and Drama:Beginning to 14th century and History of English Language	Introduces the origin and growth of English Literature and Language to trace the template of evolution
C2T	Core 2- C2T: British Poetry and Drama:Renaissance to 17th and 18th Centuries	The variety that the Renaissance encompasses and the diversities of Restoration and 18th century offer are foregrounded through the versatality of the poets and dramatists.
GE-1	Academic Writing and Composition	The methodology of academic writing, editing, books and media review is an attempt at reconstructive effort directed at the students with a more academic bent of mind
AECC-1(Elective)	English Communications	To promote English Communication through speaking and writing skills, Reading and Comprehension and thereby meet the needs of the day.
C3T	Core 3- British Literature (fiction and non-fiction): 18th century	Introduces the growing compexities of English literature and understand the conformity and subversion in the texts, which are products of enlightenment and neo-classicism
C4T	Core 4: British Romantic Literature (1788-1832)	British Romantic literature brought with it the unfettered use of imagination in the study of Nature and Revolution. A variety of text expose the students to the 'Venetian Richness' of this era
GE2	Media and Communication Skill	Media and Communication skill in terms of advertisement, media writing and the Cyber and Social media is an attempt to meet the needs of modern era.
GE2	Text and Performance	Theories and historical overview,tradition and forms of theatrical production are introduced to encourage students to take up other professional courses
C5T	Core 5: British Literature:19th century (1832-1900)	The currents and cross currents of Victorian era offer a fascinating site of study to understand the slow emergence of modernity through the regressive doubt and optimism of faith
C6T	Core 6 :British Literature: The Early 20th Century	To intoduce a variety of culture, movements and ideologies that contribute towards enriching the flow of human creativity. The existential crisis and angst of Modern man recur throughout the texts

C7T	Core7: American Literature	The hegemony of America in World Politics is extended to literature as it showcases its contribution to Poetry, Novel, Drama. The distictive Social realism and the emerging American dream is combinrd with its folklore and Black writings to foreground its claim to eminence.
GE-3	Language and Linguistics	Language and linguistic are explored in terms of Structuralism, Post-Structuralism, Phonology and Morphology, Syntax and Sementics - to explore the fabric of linguistic construction.
GE-3	Contemporary India:Women and empowerment	Contemporary India : Women and Empowerment is introduced to understand the social construction of Gender, History of Eomen's Movement, Women and law and environment. this will help to locate the changing patterns of Patriarchy
SEC-1	English Language Teaching	To introduce the methodology of English language and to empower the students language skill
SEC-1	Soft Skill	Soft skills are encouraged and based on team work, emotional intelligence, adaptability, leadership and problems solving capacities
SEC-1	Translation Studies	Theory and exercises in different modes of Translations are taught to the students in view to transfer their expertise in terms of job necessity
C8T	Core8: European Classical Literature	The students are exposed to the rich world of Homer, Sophocles, Plautus and Ovid to display the template that formed and shaped European Literature.Every modern trend and ideology may be located in the rich world of the classics
C9T	Core 9: Modern European Drama	Modern European Drama offers yet another complex and fascinating facet of evolving literature. The changed Political, Social and ideological structures manifested itself in the texts and offers the fascinating scope for analysis in its blend of realism and absurdity
C10	Core 10: Popular Literature	Popular literature consists of the canonical and the subversive as it explores caste, gender, identity, ethics and education in Childer's literature, Non-sense verses and the graffic novel.

GE4	Gender and Human Rights	It explains and propagates the rights of all the genders through the texts written by them.The difference between human rights and natural rights, duties, background of human rights movements and various theories of human rights are expained through the texts prescribed.
GE4	Environment and Literature	Save the earth, stop polluting the soil, water, air are campaigned through certain texts in this paper
SEC-2	Creative Writing	Creative Writing is a way through which the students are empowered and ready for the job market
SEC-2	Business Communication	Business Communication is a way through which the students are empowered and ready for the job market
SEC-2	Technical Writing	Technical Writing is a way through which the students are empowered and ready for the job market
C11T	Core 11: Postcolonial Literatures	The theory of Post colonialism is scrutinised and the colonial hegemony as reflected in the works of the authors of the countries, once colonised are discussed to understand the colonial legacy
C12T	Core 12: Women's Writing	To trace the changing patterns of patiarchy the works of women writers are highlighted and studied along with the various waves of feminist movement
DSE 1	19th century European Realism	The realist art movement of France as reflected in the literature of whole Europe is examined through the prescribed texts and research the way they have challenged the imagination of Romanticism of the first half of nineteenth century
DSE-2	World Literatures	Not only British Literature, but a knowledge about the literary background and richness of the works written all over the world is studied to understaand the currents and cross-curents among the works
C13T	Core 13: Indian Classical Literature	Newly introduced this section highlights the Indian students of English literature their own Sanskrit origin and richness of the works of Klaidasa, Vyas, Puranas, Upanisads
C14T	Core 14: Indian Writing in English	Indian writing in English and in Translation concretise the impact of colonialism and its entirety. Poems, Novels and Dramas represent the attempts by the colonise to either fall into the line of European tradition or attempt to forge a unique style that may be identified as Indian.
DSE-3	Science Fiction and Detective Literature	Various trends of literature like the science fiction and detective stories areincluded in the curricullam to bring a variety in the knowledge imparted to the students

DSE-3	Literature and Cinema	Literature focusing on the art of cinema making, , production, script writing , camera rolling, advertisement media and performance studies are taught through texts to expose the students in various job sectors.
DSE-4	Partition Literature	Works of writers affected by the political event "partition" are given to make the current readers conscious about the trauma and ills of partition
DSE-4	Travel Writing	Travelogue was a famous genre since ages. Literature focusing on travel writings and adventure element are focused

B.A GENERAL IN ENGLISH

Programme Outcome:-

- Representative texts from all the eras of English literature are taught to get an overview of English Literature.

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
Core 1 (DSC-1A)	Poetry and Short Story	A bunch of poetry and some short stories of varied ages are taught to give the students the flavour of English literature
AECC-1(Core) (Language Core)	English 1- British Poetry 1	Representative poems from different ages of English literature are taught to get a flavour of English Poerty
AECC-1(Core) (Language Core)	English 1- Language, Variety and Stylistics	Basic Phoenetics, Speech organs, sounds, stress pattern and intonation and stylistic patterns are introduced to the students to understand the mechanism of speech and writing a foreign language
AECC Elective	English	Basic English writing skill and comprehension study is given to students of all disciplines to make them suitable in the job market.
Core 3 DSC-1B	Essay, Drama and Novel	Essays, Dramas and Novels of various ages are studied in all their diversities and concretise the social cultural and literary trends of the respective ages.
Core-5 DSC-1C	Contemporary India: Women and Empowerment	It explains and propagates the rights of all the genders through the texts written by them. The difference between human rights and natural rights, duties, background of human rights movements and various theories of human rights are explained through the texts prescribed.
AECC-3 (Core) (Language Core)	English 2- British Poetry 2	Representative poems from different ages of English literature are taught to get a flavour of English Poerty
AECC-3 (Core) (Language Core)	English2- Language, Imagination and Creativity	Language study, imaginative power and creative skill are explored through the poems selected from all the ages

SEC-1	Soft Skills	Soft skills are encouraged and based on team work, emotional intelligence, adaptability, leadership and problems solving capacities
SEC-1	Film Studies	The art of film making, , production, script writing , camera rolling, advertisement media and performance studies are taught to expose the students in various job sectors.
Core 7(DSC-1D)	Academic Writing and Composition	The methodology of academic writing, editing, books and media review is an attempt at reconstructive effort directed at the students with a more academic bent of mind.
Sec-2	Creative Writing	Creative Writing is a best way through which the students are empowered and are made ready for the job market
Sec-2	Technical Writing	Technical Writing is a way through which the students are empowered and ready for the job market
DSE-1A	British Literature	A brief knowledge of overall British literature is imparted to the students to give a sketchy background of the authors and heir works.
DSE-1A	Indian Literature in Translation	Indian writing in Translation concretise the impact of colonialism and its entirety. Poems, Novels and Dramas represent the attempts by the colonise to either fall into the line of European tradition or attempt to forge a unique style that may be identified as Indian.
SEC-3	Translation Studies	Theory and exercises in different modes of Translations are taught to the students in view to transfer their expertise in terms of job necessity
SEC-3	English Language Teaching	To introduce the methodology of English language and to empower the students language skill
DSE-2	Partition Literature	Works of writers affected by the political event "partition" are given to make the current readers conscious about the trauma and ills of partition
DSE-2	Nation, Culture and India	Texts of Tagore and Amartya Sen on Nationalism are taught to enrich the students the concept of Nationalism
SEC-4	Business Communications	Business Communication is a way through which the students are empowered and ready for the job market
SEC-4	Spoken English	An attempt to develop the skill of spoken language of the students is taken to meet the needs of the day.
GE-1	Gender and Human Rights	It explains and propagates the rights of all the genders through the texts written by them. The difference between human rights and natural rights, duties, background of human rights movements and various theories of human rights are explained through the texts prescribed.

GE-1	Contemporary India: Women and Empowerment	It explains and propagates the rights of all the genders through the texts written by them. The difference between human rights and natural rights, duties, background of human rights movements and various theories of human rights are explained through the texts prescribed.
GE-1	Academic Writing and Composition	The methodology of academic writing, editing, books and media review is an attempt at reconstructive effort directed at the students with a more academic bent of mind.
GE-2	Environment and Literature	Save the earth, stop polluting the soil, water, air are campaigned through certain texts in this paper
GE-2	Novel and Prose	Novel and Prose pieces of various ages are studied in all their diversities and concretise the social cultural and literary trends of the respective ages.
GE-2	Language and Linguistics	Language and linguistic are explored in terms of Structuralism, Post-Structuralism, Phonology and Morphology, Syntax and Sementics - to explore the fabric of linguistic construction.

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

B.A HONOURS IN HISTORY

Programme Outcome:-

- The course gives a comprehensive idea of Indian and World polity, society, economy & culture.

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
C1T	Greek and Roman Historians	Early historigraphical endeavours by Greek and Roman historians.
C2T	Early Historic India (proto history to 6th century B.C.)	The course gives a comprehensive idea of Early Indian polity, society, economy & culture upto the rise of the Sixteen Mahajanapadas.
C3T	Maurya and Gupta Empire	The course gives a comprehensive idea of Early Indian polity, society, economy & culture from the Mauryan to the Gupta period.
C4T	Political History of Early Medieval India (600 AD to 1200 AD)	The course gives a comprehensive idea of Early Medieval Indian polity, society, economy & culture.
C5T	Delhi Sultanate	The course gives a comprehensive idea of Indian polity, society, economy & culture during the Delhi Sultanate period.
C6T	The Feudal Society	Feudalism, Crusades and economy of Medieval Europe.
C7T	Akbar and the making of Mughal India	The course gives a comprehensive idea of Indian polity, society, economy & culture during the Mughal period.
C8T	Renaissance and Reformation	1. European cultural and artistic production during the Renaissance. 2. Transformation of the European mind and Reformation in Christianity.
C9T	The French Revolution and Napoleon Bonaparte	Various aspects of the French Revolution and the career of Napoleon Bonaparte.
C10T	19th century Revolutions in Europe	Emergence of the idea of Modernity and the various historical factors that went into it.
C11T	Select Themes in the Colonial impact on Indian Economy and Society	Impact of colonial intrusion in the Indian society and economy and how it fashioned Modern India.

C12T	Peasant and Tribal uprisings in colonial India in the 19th century	The contribution of the peasants in India's freedom struggle.
C13T	International Relations after the Second World War	1. Makes one aware of the post World War II international relations 2. Cold War politics and how it affected Indian foreign policy
C14T	Modern Nationalism in India	The contribution made by various participants in the freedom struggle.
DSE1T	Europe in the Ancient Regime	Make one aware of the Feudal nature of the European past and ideas of absolutism, totalitarianism and Enlightened despotism.
DSE1T	Modern Transformation of China (1839-1949)	Emergence of Modern China.
DSE2T	Modern Transformation of Japan	Emergence of Modern Japan.
DSE2T	Women and Social change in Nineteenth century	Gender sensitization
DSE3T	The Russian Revolution	Russian Revolution and how it changed the world.
DSE3T	War and Diplomacy, 1914-1945	International relations during the WW I and WW II.
DSE4T	Pre-colonial South East Asia	Pre-colonial South East Asian polity, economy and society.
DSE4	Project Work	To develop research skills in History.
SEC-1	Archaeology and Museum making in Colonial India	How the very idea of archaeological excavations, explorations & preservations originated in India.
SEC-1	Literature and History: Bengal	1. The emergence of novel writing in the Vernacular in India 2. The historical background to the production literature in Bengal
SEC-1	Art appreciation-an introduction to Indian Art	The various aspects of India's artistic past.

SEC-2	The making of Indian Foreign Policy	Post-colonial Indian Foreign Policy with a focus on India's Nuclear policy.
SEC-2	Colonial Science in India: Institutions and Practices	The emergence of science as a discipline as a result of colonial encounter with India.
SEC-2	Understanding Popular Culture	A study of the popular cultural productions in India.
SEC-2	Understanding Heritage	Make one aware of the rich cultural heritage of the Indian past.
GE1T	Theories of the Modern State	The major theories of the Modern State and the ideas of Citizenship and Civil Society.
GE2T	Science and Empire	The emergence of science as a discipline as a result of colonial encounter with India.
GE3T	Some Perspectives on Women's Rights in India	Gender sensitization
GE4T	Gender and Education in India	Various problems and contestations related to gender and education in India.
GE4T	History of Indian Journalism	The emergence of journalism in India.

B.A GENERAL IN HISTORY

Programme Outcome:-

- The course gives a comprehensive idea of Indian and World polity, society, economy & culture.

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
DSC-1AT (CC-1)	Ancient India	The course gives a general idea of Early Indian polity, society, economy & culture.
DSC-1BT (CC-2)	Medieval India	The course gives a general idea of Early Indian polity, society, economy & culture.
DSC-1CT (CC-3)	Select Themes in the Colonial impact on Indian Economy and Society	Impact of colonial intrusion in the Indian society and economy and how it fashioned Modern India.

DSC-1DT (CC-4)	Modern Nationalism in India	The contribution made by various participants in the freedom struggle.
DSE-1AT	Renaissance and Reformation	1. European cultural and artistic production during the Renaissance. 2. Transformation of the European mind and Reformation in Christianity.
DSE-1AT	Europe in the Ancient Regime	Make one aware of the Feudal nature of the European past and ideas of absolutism, totalitarianism and Enlightened despotism.
DSE-1AT	Environmental Issues in India	The consequences of British imperialist policies towards the preservation/destruction of Indian ecology/environment.
DSE-1BT	Modern Europe	Emergence of the idea of Modernity and the various historical factors that went into it.
DSE-1BT	Post World War-II Politics	1. Makes one aware of the post World War II international relations 2. Cold War politics and how it affected Indian foreign policy
DSE-1BT	Research Methodology in History	Various methods to effectively conduct researches in History.
SEC-1	The making of Indian Foreign Policy	Post-colonial Indian Foreign Policy with a focus on India's Nuclear policy.
SEC-1	Archaeology and Museum making in Colonial India	How the very idea of archaeological excavations, explorations & preservations originated in India.
SEC-2	Literature and History: Bengal	1. The emergence of novel writing in the Vernacular in India 2. The historical background to the production literature in Bengal
SEC-2	Understanding Heritage	Make one aware of the rich cultural heritage of the Indian past.
SEC-3	Colonial Science in India: Institutions and Practices	The emergence of science as a discipline as a result of colonial encounter with India.
SEC-4	Art appreciation-an introduction to Indian Art	The various aspects of India's artistic past.
SEC-4	Understanding Popular Culture	A study of the popular cultural productions in India.
GE-1T	Life and Thought of Rabindranath Tagore	Inculcates the social, cultural, political thought of Rabindranath Tagore.

GE-1T	Theories of the Modern State	The major theories of the Modern State and the ideas of Citizenship and Civil Society.
GE-1T	Science and Empire	The emergence of science as a discipline as a result of colonial encounter with India.
GE-1T	History of Indian Journalism	The emergence of journalism in India.
GE-2T	Gender and Education in India	Various problems and contestations related to gender and education in India.
GE-2T	Visual and Performative Culture in Modern Bengal	Make one aware of the visual and performative culture in Modern Bengal.
GE-2T	Some Perspectives on Women's Rights in India	Gender sensitization

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

B.A HONOURS IN PHILOSOPHY

Programme Outcome:-

- A deep understanding of inferential knowledge of philosophy which will develop the power of argumentation, sprituality, moral values etc. in academic as well as personal sphere of the student.

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
C1T	Indian Philosophy	This Subject explores the rich heritage of Indian Philosophy .Make the students familiar with many concepts such as Dharma ,Karma, Reincarnation, Dukha, Renunciation, Meditation as discussed in the Nastika school. It also explores the Jnana kanda of Nyaya School
C2T	History of Western Philosophy	It will introduce students with the basic tenets of early Greek philosophers , with Plato , Aristotle and the chief exponents of Rationalism inspiring them for further studies.
C3T	Outlines of Indian Philosophy	This subject expertise the students in astika schools like Samkhya, Yoga , Adaitya & Visistadaita Vedanta. Helps the student to meditate.
C4T	History of Western Philosophy	It explains the basic tenets of emperiricism with main focus to Locke, Berkley, Hume & also the philosophy of Immanuel Kant inspiring them for further studies.
C5T	Philosophy of Mind	This subject helps the student acquire scientific knowledge about mind, its different functions like Perception, sensation, leaning ,memory etc., its different levels.
C6T	Social and Political Philosophy	Scoiety , Its origin, its different forms, different organs are explored in this subject. Along with this different political theories are also discussed.
C7T	Philosophy of Religion	Students expertise to analyse Religion rationally ,questions religious beliefs to find out whether there is any rational ground behind it
C8T	Western Logic-I	A brilliant presentation of WESTERN LOGIC , both deductive & inductive will certainly help the students towards a proper logical way of thinking .
C9T	Western Logic-II	A brilliant presentation of Symbolic Logic will certainly help the students towards a proper logical way of thinking .
C10T	Epistemology and Metaphysics	Students expertise in Analytic philososphy, Learns different analysis of term used in Philosophical Discussion.
C11T	Nyaya Logic and Epistemology-I	Students will learn detailed analysis of NYAYA epistemology which will enhance their intelligence.
C12T	Ethics (Indian)	This subject will help the students to realize the spiritual values of life.
C13T	Nyaya Logic and Epistemology-II	Students will learn detailed analysis of NYAYA Logic which will enhance their intelligence.
C14T	Ethics (Western)	This exposure arms students with the skills and knowledge needed for them to make ethical decisions in their own careers. Naturally it will enlighten the students regarding the moral and social values.

DSE1T	Philosophy of Language (Indian)	This subject enhances the skill of the students to analyse sabda pramana the Indian heritage
DSE2T	Ethics (Applied Ethics)	students are acquinted with different debates involved in Abortion, Euthanatia, environmental Ethic etc
DSE2T	Philosophy of Language (Western)	Students expertise in analysing different term, definition,sentence Criterion etc..
DSE3AT	An Enquiry Concerning Human Understanding- D. Hume	This classic book will help the students to be free from all dogmatism which is important for higher studies in Philosophy .
DSE3AT	The Problem of Philososphy- Bertrand Russell	Students will learn from this subject , how Russell used Logic to clarify issues in Philosophy .
DSE3BT	Vedantasara: Sadananda Yogindra Saraswati	This classical text explores the basic principal of Adaita School of Philosophy
DSE3BT	Srimadbhagabadgita	It enhances the learners about the princile of niskama karma of Bhagabatgita
DSE4AT	Swami Vivekananda	It explores the Spirituality in indian Culture and philosophy of Vedas.
DSE4BT	Rabindranath Tagore	It helps the student to understand about spiritualism of Brihat ami.
DSE4CT	Sri Aurobindo	It helps the student to understand about spiritualism of aurobinda
DSE4DT	M.K.Gandhi	This subject enarms the learner to use the concept of ahimsa in practial life.
SEC1T	Computer Application	It gives basic concept of Computer, Its operations and Programmes.
SEC1T	Philosophy of Human Rights	It explains difference with natural rights, duties and background of human rights
SEC2T	Man and Environment	it discuss different issues and debates relating environments
GE1T	Ethics: Indian and Western	This exposure arms students with the skills and knowledge needed for them to make ethical decisions in their own careers. Naturally it will enlighten the students regarding the moral and social values.
GE1T	Western Logic	A brilliant presentation of WESTERN LOGIC , both deductive & inductive will certainly help the students towards a proper logical way of thinking .
GE2T	Feminism	It
GE2T	Philosophy of Mind	This subject helps the student acuire scientific knowledge about mind, its different functions like Perception, sensation, leaning ,memory etc., its different levels.
GE3T	Theoy of God in Nyaya Metaphysics	It explains God in Nyaya Metaphysics

GE3T	Theory of Inference in Nyaya	A deep understanding of inferential knowledge (Indian)will develop their power of argumentation in academic as well as personal sphere.
GE4T	Environmental Ethics	It discuss different issues and debates relating environments
GE4T	Termination of Life and Ethics	It describes the philosophical debates regarding Euthanasia, abortion, suicide etc.

B.A GENERAL IN PHILOSOPHY

Programme Outcome:-

- A deep understanding of inferential knowledge of philosophy which will develop the power of argumentation, sprituality, moral values etc. in academic as well as personal sphere of the student.

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
DSC-1AT(CC-1)	Indian Philosophy	This Subject explores the rich heritage of Indian Philosophy .Make the students familiar with many concepts such as Dharma ,Karma, Reincarnation, Dukha, Renunciation, Meditation as dicussed in the Nastika and astika school. It aloso explores the Jnana kanda of Nyaya School
DSC-1BT(CC-2)	Western Philosophy	The concepts used in western epistemology and metaphysics are discussed here.
DSC-1CT(CC-3)	Logic	It forms an initial mathematical for students essential for all competitive examinations .
DSC-1DT(CC-4)	Contemporary Indian Philosophy	An unparalleled collection of essays of eminent modern thinkers will increase open – mindedness & receptivity in student for newer ideas.
DSE1T	Philosophy of Religion	Students expertise to analise Religion rationally ,questione religious beliefs to find out whether there is any rational ground behind it
DSE1T	Emerging Trends of Thoughts	The philosophical thought of this century will enlighten the students regarding the reality of life .
DSE2T	Tarkasamgraha with Dipika	A deep understanding of inferential knowledge (Indian)will develop their power of argumentation in academic as well as personal sphere.
DSE2T	Feminism	it helps the students to identify the gender biasness in Language, socio-economic behaviour, customs etc.
SEC1T	Philosophy of Human Rights	It explains difference with natural rights, duties and background of human rights
SEC1T	Ethics in Practice	This exposure arms students with the skills and knowledge needed for them to make ethical decisions . Also make them aware the Indian heritage of rta, yajna, rna brata ahimsa etc.

SEC2T	Philosophical Analysis	It enhances the learners concept of Definition, word meaning, criterion of knowledge, relation with truth and concept.
SEC2T	Man and Environment	it discuss different issues and debates relating environments
SEC3T	Philosophy in Practice	it trains the students to impliment the principle of philosophy in real life
SEC3T	Value Education	This exposure arms students with the skills and knowledge needed for them to make moral decisions in their life. Also make them aware the Indian heritage of rta, yajna, rna,brata ahimsa etc.
SEC4T	Computer Applications	It gives basic concept of Computer, Its operations and Programmes.
SEC4T	Logical Reasoning and Application	it enhances the apptitute of reasoning

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

B.A HONOURS IN POLITICAL SCIENCE

Programme Outcome:-

- Students should aware about the political system in detailed of the nation along with global

Course code	Course Name	Course Outcome
C1T	Understanding Political Theory	It consists various Political theory
C2T	Constitutional Government and Democracy in India	It deals with governance system and basic features of Indian Democracy
C3T	Political Theory Concepts and Debates	Student get to know the concepts of various political theory and critics thereof
C4T	Political Process in India	It explains the process of Indian political system
C5T	Introduction to Comparative Government and Politics	Gives basic ideas about comparative government and politics
C6T	Perspectives on Public Administration	The basic idea of public administration and compare to politics
C7T	Perspective on International Relations	It explains the relation of India with rest of the world
C8T	Political Process and Institutions in Comparative Politics	student get to know about the fundamental idea about institution and politics and also the process of political system
C9T	Public Policy and Administration in India	It consists publics policy and administration in India
C10T	Global Politics	It gives an introspection about the international politics
C11T	Classical Political Philosophy	It highlights the Philosophy behind the classical politics
C12T	Indian Political Thought-I	It explains various Indian political thoughts
C13T	Modern Political Philosophy	It explores some modern Indian political philosophy
C14T	Indian Political Political Thoght-II	It explains various Indian political thoughts
DSE1T	India's Foreign Policy in Globalising World	It gives idea of Indian foreign policy particularly in globalised environment
DSE1T or	Development Process and Social Movementts in Contemporary India	Student should understand the contemporary social movements in India
DSE2T	Understanding South Asia	It gives idea about South Asian State's politics
DSE2T or	United Nations and Global Conflict	It explores the basic features of united nation and the global conflict

DSE3T	Citizenship in a Globalising World	It gives idea about citizenship in a globalised world
DSE3T or	Women , Power and Politics	It highlights relation among women power and politics
DSET4	Human Rights in a Comparative Perspective	It explores the human rights
SEC1T	Democratic Awerness with legal Literacy	It gives basic idea about legal aspects of democracy
SEC1T or	Public Opinion and Survey Research	It helps the student to collect the opinion of the public
SEC2T	Legislative Practices and Procedures	It deals with legislative procedure of India
SEC2T or	Peace and Conflict Resolution	Students should understand about the peace and conflict resolution
GE1T	Nationalism in India	It gives an outline of nationalism movement in India
GE1T	Feminism: Theory and Practice	Helps to identify the student covert gender biasness in socio economic structure, language, thought etc.
GE2T	Approaches to Political Economy	It gives a basic idea about the political economy
GE2T	Governance: Issues and Challenges	It highlights the Indian governance system and its issues and challenges
GE3T	Gandhi and the Conteporary World	It explores the political thought of Gandhi
GE3T	Understanding Ambedkar	It deals about the understanding of the contribution of Ambedkar
GE4T	Politics of Globalisation	It pinpointed the politics behind globalisation movement
GE4T	United Nations and Global Conflict	It explores the basic features of united nation and the global conflict

B.A GENERAL IN POLITICAL SCIENCE

Programme Outcome:-

- Students should aware about the political system in detailed of the nation along with global scenario

Course code	Course Name	Course Outcome
DSC1AT	Introduction to Political Theory	It consists various western and Indian Political theory
DSC1BT	Indian Government and Politics	It deals with Indian government and the political environment
DSC1CT	Comparative Government and Politics	It helps to understand the politics behind the governance system
DSC1DT	Introduction to International Politics	Student should understand the political relation of India with the rest of the world
DSE1AT	Themes in Comparative Political Theory	Students should learn to compare various political theory
DSE1AT or	Democracy and Governance	It highlights the relation between democracy and governance
DSE1BT	Aministration and Public Policy: Concepts and Theories	It consists publics policy and administration in India
DSE1BT or	Understanding Globalisation	It deals with concept , features and challenges of Globalisation
SEC1T	Legislative Support	It deals with legislative support system of India
SEC2T	Public Opinion and Survey Research	It helps the student to collect the opinion of the public

SEC3T	Democratic Awerness with legal Literacy	It gives basic idea about legal aspects of democracy
SEC4T	Conflict and Peace Building	Students should understand about the peace and conflict resolution
GE1T	Reading Gandhi	It explores the political thought of Gandhi
GE1T or	Nationalism in India	It gives an outline of nationalism movement in India
GE1T or	Understanding Ambedkar	It deals about the understanding of the contribution of Ambedkar
GE2T	Human Rights , Gender and Environment	Gives basic ideas about distinction between natural rights, human rights and the background of movements of human rights and gender issues
GE2T or	Contemporary Political Theory	It deals with some recent political theories in India
GE2T or	United Nations and Global Conflict	It explores the basic features of united nation and the global conflict

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

B.A HONOURS IN SANSKRIT

Programme Outcome:-

- It helps the student to read and write Sanskrit language. It makes a broad idea of various subjects which were popular in ancient India such as grammar, philosophy, poetry, drama etc

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
CC 1	CLASSICAL SANSKRIT LITERATURE (POETRY)	it explores some selected part of popular poetry in sanskrit literature written by famous poets
CC 2	CLASSICAL SANSKRIT LITERATURE (PROSE)	it explores some selected part of popular prose in sanskrit literature written by famous poets
GE 1	BASIC SANSKRIT	it helps the student to understand sanskrit language including some basic Grammer.
DSC 1 A	SANSKRIT POETRY	it explores some selected part of popular poetry in sanskrit literature written by famous poets
CC 3	CRITICAL SURVEY OF SANSKRIT LITERATURE	it deals with the history of various branches of sanskrit literature like the Veda, the Purana etc.
CC 4	SELF MANAGEMENT IN GITA	it gives some knowledge about anicent indian philosophy and techniques for self-control
GE 2	INDIAN CULTURE AND SOCIAL ISSUES	It deals with some socio anthropological aspects of ancient society.
GE 2	SANSKRIT AND OTHER MODERN INDIAN LANGUAGE	It highlights sanskrit as a Indo-European language and it compares sankrit with its sister languages.
GE 2	INDIAN EPIGRAPHY AND PALEOGRAPHY	It gives idea about various inscriptions in India and throws light in ancient Indian history.
DSC 1 B	SANSKRIT PROSE	it explores some selected part of popular prose in sanskrit literature written by famous poets
CC 5	CLASSICAL SANSKRIT LITERATURE (DRAMA)	it explores some selected part of popular sanskrit drama written by famous poets
CC 6	POETICS AND INDIAN CRITICISM	it gives some formats of the poetry, prose and drama in sanskrit andevaluation techniques thereof
CC 7	INDIAN SOCIAL INSTITUTIONS AND POLITY	it explores the governance system and social institutions of ancient India

SEC -1	ACTING AND SCRIPT WRITING	It gives knowledge of acting and scripts writing in ancient India
SEC -1	READING SKILLS IN BRAHMI SCRIPTS	It helps the student to read and write the brahmi scripts
GE 3	INDIAN AESTHETICS	It describes many aspects of indian Aesthetics
GE 3	FUNDAMENTAL OF INDIAN PHILOSOPHY	Fundamental concepts of various branches of Indian Philosophy
GE 3	ANCIENT INDIAN POLITY	It explores the governance system and social institutions ofancient india
CC 8	INDIAN EPIGRAPHY, PALEOGRAPHY AND CHRONOLOGY	It gives idea about various inscriptions in India and throws light in ancient Indian history.
CC 9	MODERN SANSKRIT LITERATURE	it explores the modern works in sanskrit literature
CC 10	SANSKRIT AND WORLD LITERATURE	it highlights the impact of the sanskrit literature upon the world literature
SEC -2	MACHINE TRANSLATION TOOLS AND TECHNIQUES	It gives various techniques for translation
SEC -2	EVOLUTION OF INDIAN SCRIPTS	It explores the evolution of various regional scripts of India
SEC -2	SANSKRIT METER AND MUSIC	It deals with various meter used in sanskrit poetry. And also give the basic concept of indian classical music
GE 4	BASIC PRINCIPLES OF INDIAN MEDICINE SYSTEM (AYURVEDA)	It deals with the anicent Indian mdecin and surgery
GE 4	NATIONALISM AND INDIAN LITERATURE	It explores the concepts of nationalism in sanskrit literature
GE 4	COMPUTER APPLICATION FOR SANSKRIT	It gives some basic knowledge about the devanagari scripts in computer

B.A GENERAL IN SANSKRIT

Programme Outcome:-

- It helps the student to understand Sanskrit language. It makes a broad idea of various subjects which were popular in ancient India.

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
DSC 1 A	SANSKRIT POETRY	it explores some selected part of popular poetry in sanskrit literature written by famous poets
DSC 1 B	SANSKRIT PROSE	it explores some selected part of popular prose in sanskrit literature written by famous poets
DSC 1 C	SANSKRIT DRAMA	it explores some selected part of popular sanskrit drama written by famous poets
SEC -1	COMPUTER AWARENESS FOR SANSKRIT	It gives some basic knowledge about the debnagari scripts in computer
SEC -1	INDIAN ARCHITECTURE SYATEM	Highlights architecture system in ancient India
DSC 1 D	SANSKRIT GRAMMAR	It explains the Sanskrit grammatical rules
SEC 2	BASIC ELEMENTS OF AYURVEDA	It deals with the ancient Indian medicine and surgery scripts in computer
SEC 2	YOGASUTRA OF PATANJALI	It explains the Yogasutra of Patanjali

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

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B.SC HONOURS IN PHYSICS

Programme Outcome:-

Programme Specific Outcomes:-

Course Outcomes of CC, SEC & DSEC Courses of Physics Honours

SEM I		
Course code	**Course Name**	**Course Outcome**
C-1T	**Mathematical Physics -I**	• Students gain a solid understanding of calculus concepts, which are fundamental to all branches of physics. • They understand and apply the concepts of divergence, gradient, and curl, along with their physical interpretations, which are essential for theories in electricity and magnetism. • Students will be able to write detailed solutions using orthogonal curvilinear coordinates and identify divergence of gradients, curl, and Laplacian in Cartesian coordinates. • Students will be able to identify random variables, write detailed probability distribution functions, and recognize binomial, Gaussian, and Poisson functions. • Students will be able to define and identify the Dirac Delta function, understand its function as a localization operator, and recognize its formal mathematical limitations. They will also perceive 2D and 3D problems as distinct concepts, not merely special cases of each other.
C-1P	**Mathematical Physics -I Lab**	• In the laboratory course, students will learn the fundamentals of Python programming and its applications in solving basic physical problems, including interpolation, differentiation, integration, differential equations, and root-finding.
C-2T	**Mechanics**	• Students will demonstrate a solid grasp of the fundamental principles of classical mechanics, including Newton's laws of motion, work-energy theorem, and conservation of momentum. • In fluid dynamics, they will understand the core concepts such as fluid statics, fluid kinematics, and the principles of fluid flow, including the Bernoulli equation and the Navier-Stokes equations. • Students will be able to apply analytical and mathematical techniques to solve complex problems in mechanics, such as those involving rigid body dynamics, oscillatory motion, and mechanical vibrations.

		• Students will be equipped to apply the principles of mechanics and fluid dynamics to real-world engineering problems.
C-2P	**Mechanics Lab**	completion of the experiments, students will: • Gain knowledge in measuring length or diameter using vernier calipers, screw gauges, and travelling microscopes, and understand the motion of a spring to calculate its spring constant, gravitational acceleration (g), and modulus of rigidity. • Determine the moment of inertia of a flywheel, measure the coefficient of viscosity of water using the Capillary Flow Method (Poiseuille's method), and determine the elastic constants of a wire using Searle's method. • Calculate the value of gravitational acceleration (g) using both Bar Pendulum and Kater's Pendulum methods.

Course Outcomes (Continued)

SEM I

GE -1T	**Elements of Modern Physics**	• Recognize the limitations of classical mechanics and comprehend the historical progression of quantum mechanics. Interpret experiments highlighting the dual nature of matter. • Grasp the theory of quantum measurements, wave packets, and the uncertainty principle. • Grasp key quantum mechanics concepts: wave functions, momentum, energy operators, Schrödinger equation, probability density and normalization techniques. Develop problem-solving skills in one-dimensional rigid boxes, tunneling through potential barriers, step potentials and rectangular barriers. • Understand nuclear properties viz, density, size, binding energy, and nuclear forces. Explore the structure of atomic nuclei using liquid drop model and nuclear shell model, and learn about mass formulas. • Calculate decay rates and lifetimes for various radioactive decays, including alpha, beta, and gamma decay. Investigate the role of neutrinos in beta decay. • Gain insight into fission and fusion processes, essential for producing nuclear energy in reactors and stellar energy in stars. • Explore the interactions of electromagnetic radiation with matter, including electron-positron pair creation.
GE -1P	**Elements of Modern Physics Lab**	• Students will determine the value of the Boltzmann constant using the V-I characteristics of a PN diode. • Students will determine Planck's constant using LEDs of at least four different colors. • They will investigate the photoelectric effect by analyzing photocurrent versus light intensity and wavelength, and the maximum energy of photoelectrons versus light frequency.
Course Outcomes (Continued) **SEM II**		
C-3T	**Electricity and Magnetism**	• Students will learn Gauss's law and Coulomb's law for the electric field, applying them to systems of point charges and line, surface, and volume charge distributions.

		• They shall be able to explain and differentiate between vector (electric fields, Coulomb's law) and scalar (electric potential, electric potential energy) formalisms of electrostatics. • They apply Gauss's law of electrostatics to solve various problems. • Gain knowledge of electric current, resistance, and capacitance in terms of electric field and electric potential. • Students will learn working of capacitors. • Students will describe the magnetic field produced by magnetic dipoles and electric currents. • They shall be able to explain Faraday-Lenz and Maxwell's laws to articulate the relationship between electric and magnetic fields. • They will understand dielectric and magnetic properties of materials and the phenomena of electromagnetic induction. • They can describe how magnetism is produced and provide examples of its effects. • Students can apply Kirchhoff's rules to analyze AC circuits consisting of parallel and/or series combinations of voltage sources and resistors, and describe the graphical relationship of resistance, capacitance, and inductance. • They develop the idea to apply various network theorems such as Superposition, Thevenin, Norton, Reciprocity, and Maximum Power Transfer in electronics, electrical circuit analysis, and electrical machines.
C-3P	**Electricity and Magnetism Lab**	• Student will be proficientto handle the equipment such as multimeters, oscilloscopes, power supplies, and magnetic field sensors to measure voltage, current, resistance, and magnetic fields. • Collecting accurate data through experiments they understand sources of error, and learn how to analyze and interpret the results. This includes plotting graphs, calculating error, and drawing meaningful conclusions from the data. • They will be proficient in problem-solving skills by setting up experiments to test hypotheses, troubleshooting experimental setups, and refining techniques based on initial outcomes.
C-4T	**Waves and Optics**	• Students will gain a comprehensive understanding of the fundamental properties of waves, including wave types (mechanical, electromagnetic), wave parameters (wavelength, frequency, amplitude, speed), and the mathematical descriptions of wave phenomena. • They will be able to analyze and predict wave behavior in various media and contexts. • Students will master key principles of optics, including the laws of reflection and refraction, the principles of interference and diffraction, and the behavior of light in different media. They will be able to apply these principles to solve problems related to physical optics.

C-4P	**Waves and Optics Lab**	• Students will develop strong experimental skills through laboratory work, including designing experiments, collecting and analyzing data, and interpreting results related to waves and optics. • They will be proficient in using optical instruments and wave measurement tools. • By applying analytical methods,they will be proficient to validate their experimental findings.
Course Outcomes (Continued) **SEM II**		
GE-2T	**Thermal Physics and Statistical Mechanics**	• Achieve expertise in thermodynamics, encompassing laws, entropy, potentials, and Maxwell's relations. • Grasp kinetic theory principles, including Maxwell-Boltzmann distribution, energy equipartition, mean free path, viscosity, thermal conductivity, diffusion, and Brownian motion. • Explore real gas equations, the Joule-Thomson effect, and laws governing black body radiation. • Study quantum statistics, including Bose-Einstein and Fermi-Dirac distributions.
GE-2P	**Thermal Physics and Statistical Mechanics Lab**	• Students will determine the thermal conductivity of copper using Searle's apparatus. • They shall determine thermal conductivity of a bad conductor using Lee and Charlton's disc method. • They will measure the temperature coefficient of resistance using a platinum resistance thermometer.
Course Outcomes (Continued) **SEM III**		
C-5T	**Mathematical Physics -II**	• Students will gain proficiency in solving partial differential equations and will learn about special functions such as Bessel functions, Legendre polynomials, and Hermite functions. These tools are essential for modeling and solving problems in various branches of physics. • Students will understand and apply Fourier and Laplace transforms to analyze and solve physical problems involving wave propagation, heat conduction, and electrical circuits. • Students will understand the definition and properties of the Gamma function, Beta function and error function. • They will be able to solve problems involving the Gamma function, Beta function and error function and use it in various

		contexts, such as in evaluating integrals, the calculation of probabilities andthe analysis of Gaussian functions.
C-5P	**Mathematical Physics -II Lab**	• Students will develop a strong understanding of numerical methods for solving differential equations, linear algebra problems, and other mathematical physics problems. • They will gain hands-on experience in implementing these methods through programming. • They will learn to use computational tools and software (like Python with libraries like NumPy and SciPy) to model and solve physical systems. • They will be able to translate physical problems into computational tasks and analyze the results with plotting graph by Python library (matplotlib.pyplot).
C-6T	**Thermal Physics**	• Students will understand the First and Second Laws of Thermodynamics and be able to solve related problems. • Students will grasp the concept of entropy. • Students will learn about thermodynamic potentials: internal energy, enthalpy, Helmholtz free energy, and Gibbs free energy. • Students will study the Maxwell-Boltzmann distribution law and solve related problems. • Students will learn about the behavior of real gases and deviations from the ideal gas equation.
C-6P	**Thermal Physics Lab**	Upon completion of the experiments, students will be able to: • Determine the Mechanical Equivalent of Heat using Callender and Barne's constant flow method. • Determine the Coefficient of Thermal Conductivity of copper using Searle's Apparatus. • Determine the Coefficient of Thermal Conductivity of a poor conductor using Lee and Charlton's disc method. • Determine the Temperature Coefficient of Resistance using a Platinum Resistance Thermometer (PRT). • Study the variation of Thermo-EMF of a Thermocouple with the difference of temperature of its two junctions.
C-7T	**Digital Systems and Applications**	• Understand the basic working of an oscilloscope, including its different components, and use it to study various waveforms and measure voltage, current, frequency, and phase. • Gain firsthand knowledge of different components, both active and passive, to understand circuits using discrete components and learn about integrated circuits. • Learn about analog and digital systems, their differences, fundamental logic gates, and number systems. Study combinational and sequential circuits, synthesizing Boolean

		functions, and simplifying and constructing digital circuits using Boolean algebra. • Explore sequential systems using Flip-Flops as building blocks, constructing multivibrators and counters, and gain a basic understanding of memory, including RAM, ROM, and memory organization.
C-7P	**Digital Systems and Applications Lab**	Upon completion of the experiments: • Students will learn to measure voltage and time period of periodic waveforms using a CRO, and gain proficiency in testing diodes and transistors using a multimeter. • They will design a transistor-based switch (NOT gate) and verify/design basic logic gates (AND, OR, NOT, XOR) using NAND gates. • They will design combinational logic systems based on specified Truth Tables, convert Boolean expressions into logic circuits using logic gate ICs, and optimize given logic circuits. • Students will construct various digital circuits including Adders, Subtractors, Flip-Flops, and Counters using appropriate ICs and analyze their timing diagrams. • They will design astable and monostable multivibrators using a 555 Timer according to specified requirements.
SEC-1T	**Electrical Circuits and Network skills**	• Students will be able to understand the basic principles of electrical circuits, including Ohm's Law, Kirchhoff's Laws, nodal and mesh analysis, and circuit simplification techniques. They will be able to apply these principles to analyze and solve both DC and AC circuits. • Students will develop the ability to analyze complex electrical networks using various techniques such as superposition, Thevenin's and Norton's theorems, and frequency domain analysis. • Students will learn real-world applications of electrical circuits and networks across various engineering disciplines, including electronics, power systems.
Course Outcomes (Continued) **SEM III**		
GE-3T	**Solid state Physics**	• Grasp concepts regarding crystalline and amorphous substances, including lattice structures, unit cells, Miller indices, reciprocal lattice, Brillouin zones, and X-ray diffraction. • Gain knowledge of lattice vibrations, phonons, and theories of specific heat by Einstein and Debye. • Understand various types of magnetism, such as diamagnetism, ferromagnetism, hysteresis loops, and energy loss.

		• Acquire comprehension of the dielectric and ferroelectric properties of materials. • Familiarize themselves with the band theory of solids and distinguish between insulators, conductors, and semiconductors. • Comprehend the basic principles of superconductors and their classifications.
GE-3P	**Solid state Physics Lab**	Upon completion of the experiments, students will: • Learn to measure the susceptibility of paramagnetic solutions using the Quinck's Tube Method. • Able to determine the coupling coefficient of piezoelectric crystals. • Measure the dielectric constant of materials as a function of frequency. • Study the PE Hysteresis loop of Ferroelectric Crystals. • Analyze the BH curve of iron using a Solenoid and calculate energy loss. • Measure the resistivity of a semiconductor (Ge) crystal with temperature using the four-probe method and determine its band gap. • Determine the Hall coefficient of semiconductor samples. Combine into a single paragraph.
Course Outcomes (Continued) **SEM IV**		
C-8T	**Mathematical Physics III**	• Students will learn Complex Analysis, including Euler's formula, De Moivre's theorem, roots of complex numbers, functions of complex variables, analyticity, and Cauchy-Riemann conditions. They will study analytic functions and singular functions, enabling them to calculate poles, branch points, order of singularity, and branch cuts, as well as integrate functions of a complex variable. • Students will derive Cauchy's Integral formula for both simply and multiply connected regions, and study Laurent and Taylor expansions, residues, and the Residue Theorem, with applications in solving definite integrals. • Students will learn the basics of Fourier Transforms, including the Fourier Integral theorem, examples of Fourier transforms of trigonometric, Gaussian, finite wave train, and other functions, and the representation of the Dirac delta function as a Fourier Integral. They will also derive the Inverse Fourier transform and the Convolution theorem, and apply Fourier Transforms to differential equations such as the one-dimensional wave and diffusion/heat flow equations.

		• Students will learn matrix operations including addition and multiplication, and study various types of matrices: null, diagonal, transpose, symmetric, skew-symmetric, Hermitian, skew-Hermitian, singular, non-singular, orthogonal, and unitary. They will also learn about the trace of a matrix and inner product, and calculate eigenvalues and eigenfunctions of matrices.
C-8P	**Mathematical Physics III Lab**	• In this lab students learn how to solve differential equation, and other mathematical problems using computer.
C-9T	**Elements of Modern Physics**	• Students will understand Planck's Quantum Theory, including the concept of photons and explanations of the photoelectric effect and Compton scattering. They will learn about De Broglie wavelengths, matter waves, and the Davisson-Germer experiment. • Students will grasp Bohr's quantization rule, atomic stability, and energy levels for hydrogen-like atoms, explaining the instability of atoms and discrete atomic spectra. • Students will explore the Gamma ray microscope thought experiment, wave-particle duality, and the Heisenberg uncertainty principle, estimating the minimum energy of confined particles. They will understand the linear superposition principle, matter waves, and wave amplitude through the double slit interference experiment. • Students will solve the Schrödinger equation for non-relativistic particles, understand momentum and energy operators, stationary states, and the physical interpretation of wave functions. They will normalize wave functions and calculate probabilities and probability current densities. They will compute energy eigenvalues and eigenfunctions for a one-dimensional rigid box and understand quantum mechanical scattering and tunneling across potential barriers. • Students will gain a basic understanding of the nuclear force, NZ graph, and calculate the semi-empirical mass formula and binding energy. They will learn about the law of radioactive decay, mean life, half-life, decay energy, and Pauli's neutrino prediction. • Students will understand fission, neutron emission, nuclear reactors, fusion, and thermonuclear reactions. They will calculate mass deficits, relativity, and energy generation.
C-9P	**Elements of Modern Physics Lab**	Upon completion of these experiments, students will: • Measure Planck's constant using black body radiation and a photo-detector, investigate the photoelectric effect by examining the relationship between photo current and light intensity/wavelength and the maximum energy of photo-electrons and light frequency, and determine Planck's constant using LEDs of at least four different colors.

		• Determine the electronic charge by Millikan oil drop apparatus and also determine the value specific charge of electron (e/m) by Magnetic focusing method. • Determine the wavelength of a laser source using both single and double slit diffraction, and measure the wavelength and angular spread of a He-Ne laser using a plane diffraction grating.
C-10T	**Analog Systems and Applications**	• Students will learn about conductivity, mobility, drift velocity, and PN junction fabrication. • Students will understand the principles and structures of LEDs, photodiodes, and solar cells. • Students will study n-p-n and p-n-p transistors and their characteristics in CB, CE, and CC configurations. • Students will learn about transistors as 2-port networks, h-parameter equivalent circuits, and analyze single-stage CE amplifiers using the hybrid model. They will also learn about output impedance, and current, voltage, and power gains, and classify Class A, B, and C amplifiers. • Students will explore op-amp applications, including inverting and non-inverting amplifiers, adders, subtractors, differentiators, integrators, log amplifiers, zero-crossing detectors, and Wein bridge oscillators.
C-10P	**Analog Systems and Applications Lab**	In this lab students will: • Perform various experiments to characterize various devices including p-n junction diodes, LEDs, Zener diodes, solar cells. • Study characteristics of pnp and npn transistors and construct amplifiers and oscillators using discrete components. • Study inverting and non-inverting amplifiers using op-amps.
SEC-2T	**Applied Optics**	• Students will grasp the basics of lasers, including spontaneous and stimulated emissions, laser action theory, Einstein's coefficients, light amplification, and the characterization of laser beams. They'll focus on He-Ne lasers and semiconductor lasers. • Students will learn spatial frequency filtering concepts and the Fourier transforming property of thin lenses. They'll also learn about Fourier Transform Spectroscopy (FTS), a method widely used in atmospheric remote sensing and NMR spectrometry. • Students will develop basic principles in holography, including coherence, resolution, types of holograms, such as white light reflection holograms, and applications in microscopy, interferometry, and character recognition. • Students will study optical fibers, including light propagation principles, numerical aperture, attenuation, and types such as single mode and multimode fibers. Additionally, they'll explore fiber optic sensors, focusing on Fiber Bragg Grating.

SEC-2P	**Applied Optics Lab**	Upon completion of these experiments, students will: • Determine the width of a wire or slit using the diffraction pattern obtained from a He-Ne or solid-state laser. • Analyze the V-I characteristics of an LED to understand its electrical behavior. • Investigate the characteristics of a Light Dependent Resistor (LDR) and its response to varying light intensities. • Study the properties and performance of a photovoltaic cell, including its efficiency and power output.
Course Outcomes (Continued) **SEM IV**		
GE-4T	**Electricity and Magnetism**	Upon completion of this course, students will: • Develop a solid understanding of vector analysis, including vector algebra, gradient, divergence, curl, and their significance in physical contexts. They will also gain proficiency in vector integration and familiarity with Gauss-divergence and Stokes' theorems. • Gain idea of electrostatics, including the electrostatic field, electric flux, and Gauss's theorem. They will be able to calculate electric fields for various charge distributions, understand electric potential, calculate capacitance for different configurations, and grasp concepts related to dielectric media and energy in electrostatic fields. • Acquire a foundational understanding of magnetism, including magnetostatics, the application of Biot-Savart's law to different geometries, the divergence and curl of magnetic fields, magnetic vector potential, and Ampere's circuital law. They will also learn about the magnetic properties of materials and different types of magnetism. • Understand the principles of electromagnetic induction, including Faraday's laws, Lenz's law, and the concepts of self and mutual inductance. They will be able to calculate inductance and understand energy stored in magnetic fields. Additionally, they will learn Maxwell's equations, the equation of continuity, displacement current, and the

		Poynting vector, and will study electromagnetic wave propagation, the transverse nature of EM waves, polarization, and energy density in electromagnetic fields.
GE-4P	**Electricity and Magnetism Lab**	Upon completion of these experiments, students will: • Gain proficiency in using a multimeter to measure resistances, AC and DC voltages, DC current, and check electrical fuses. • Study Understand the characteristics of a series RC circuit. • Study a series LCR circuit to understand it's characteristic and also determine its resonant frequency and quality factor. • Determine a low resistance using Carey Foster's Bridge method. • Learn to verify Thevenin and Norton theorems and also verify Superposition and Maximum Power Transfer theorems.
Course Outcomes (Continued) **SEM V**		
C-11T	**Quantum Mechanics and Applications**	• Students will learn about the time-dependent Schrödinger equation, the evolution of quantum states, wave function properties, wave function interpretation, probability densities, and normalization conditions. • Students will learn linearity, eigenvalues, operators for position, momentum, and energy, along with the time-independent Schrödinger equation, expectation values, and free particle wave function. • Students will explore the spread of Gaussian wave packets for a free particle, wave and Fourier transforms, momentum space wave functions, and the position-momentum uncertainty principle. • Students will study wave function continuity, boundary conditions, and energy levels in 1D square well potential and simple harmonic oscillator, eigenfunctions, Hermite polynomials, ground state energy, and uncertainty principle. • Students will learn quantum theory for hydrogen-like atoms, radial wave functions, probability densities, orbital angular momentum, electron shells, atomic fields, electron spin, and the Stern-Gerlach experiment, exploring quantum mechanics' key concepts. • Students will cover advanced topics including the Zeeman effect, gyromagnetic ratio, Bohr magneton, and the Paschen-Back and Stark effects, gaining insights into the broader implications of quantum mechanics in various physical phenomena. • Students will grasp Pauli's Exclusion Principle and concepts of symmetric and antisymmetric wave functions. They'll explore

		fine structure, spin-orbit coupling, spectral notations, total angular momentum, vector model, and Hund's Rule. • Students will develop knowledge about Spectra of Hydrogen and Alkali Atoms
C-11P	**Quantum Mechanics and Applications Lab**	• Python computations will enhance student understanding of theoretical nuances. • Through computational programming in the lab, students will solve the Schrödinger equation for ground state energy and wave functions of simple quantum mechanical potentials.
C-12T	**Solid State Physics**	• Students will acquire an overview of crystalline and amorphous substances, including lattice structures, unit cells, Miller indices, reciprocal lattice, Brillouin zones, and X-ray diffraction. • Students will understand the lattice vibrations, phonons, and comprehensive knowledge of the Einstein and Debye theories of specific heat in solids. • Students will familiar with various types of magnetism, ranging from diamagnetism to ferromagnetism, hysteresis loops, and energy loss. • Develop proficiency in comprehending the dielectric and ferroelectric properties of materials. • Students will study the band theory of solids, enabling differentiation between insulators, conductors, and semiconductors. • They will grasp of the fundamental principles of superconductors and their categorization.
C-12P	**Solid State Physics Lab**	• Students will conduct experiments to measure magnetic susceptibility, dielectric constant, and trace hysteresis loops, applying theoretical knowledge. • They will utilize four-probe methods to measure electrical conductivity and the Hall setup to determine the Hall coefficient of semiconductors.
DSE-1T	**Classical Dynamics**	• Students learn the fundamental principles of classical dynamics as described by Newton's laws of motion. This includes comprehending the concepts on Lagrangian, Hamiltonian, small oscillation, fluid dynamics and special theory of relativity. • Students will be proficient to approach alternative formulations of classical mechanics that provide powerful tools for solving complex problems and gaining deeper insights into the behaviour of physical systems.
DSE-2T	**Nuclear and Particle Physics**	• Understand the ground state properties of nuclei, including constituents, mass number, atomic number, radius-mass number relationship, average density, force range,

		saturation, stability curve, packing fraction, and binding energy. Explore the binding energy per nucleon vs. mass number graph and its implications for fusion and fission. • Learn about nuclear models like the liquid drop and shell models, their roles in explaining nucleus properties, such as shell structure, magic numbers, ground state spin, parity, and consistency with Pauli exclusion principles. • Study radioactivity, covering decay laws, emission of alpha, beta, and gamma rays, mechanisms of emissions, theories of alpha and beta decay, electron capture, fine structure of alpha particle spectrum, Geiger-Nuttall law, and radioactive series. • Understand basic aspects of nuclear reactions, including Q-value derivation, conservation laws, reaction cross-sections, types of reactions (direct and compound), and Rutherford scattering by Coulomb potential. • Learn about the interaction of nuclear radiation with matter, including gamma ray interactions like photoelectric effect, Compton scattering, pair production, ionization-induced energy loss, and Cerenkov radiation. • Familiarize with nuclear radiation detectors like Geiger-Mueller counters, scintillation counters, photomultiplier tubes, solid-state, and semiconductor detectors. • Gain knowledge of particle accelerator principles and constructions, such as Van-de-Graff generator, cyclotron, betatron, and synchrotron, along with an overview of accelerator facilities in India. • Learn basic aspects of particle physics, covering fundamental interactions, classifications of particles (leptons, hadrons, quarks, gauge bosons), and their associated quantum numbers and conservation laws.

Course Outcomes (Continued)
SEM VI

C-13T	**Electromagnetic Theory**	• Students will study Maxwell's equations, displacement current, vector and scalar potentials, and gauge transformations (Lorentz and Coulomb gauge). They'll explore boundary conditions, wave equations, and plane waves in dielectric media. • Additionally, students will learn about Poynting's theorem, Poynting vectors, and the physical concepts of electromagnetic field energy, momentum, and angular momentum density. • Students will learn about plane EM waves in vacuum and isotropic dielectric mediums, their transverse nature, refractive index, and wave impedance. Along with their propagation in conducting media, considering factors like relaxation time and skin depth. • Students will know Wave propagation through dilute plasma, electrical conductivity of ionized gases, plasma frequency, refractive index, skin depth, application to propagation through ionosphere. • Students will understand boundary conditions at interfaces, reflection, and refraction of plane waves between dielectric media. They'll study Fresnel's formulae, Brewster's law, reflection, transmission coefficients, total internal reflection, and evanescent waves. • Students will understand linear, circular, and elliptical polarization, propagation in anisotropic media, dielectric tensor symmetry, Fresnel's formula, and uniaxial and biaxial crystals. • They'll study Nicol prisms, double refraction, O-ray and E-ray,quarter-wave and half-wave plates, Babinet compensators, rotatory polarization, and specific rotation. • Students will understand planar optical waveguides, including dielectric waveguides and conditions at interfaces. • They'll learn total reflection shifts, eigenvalue equations, guided wave velocities, power transmission, and numerical aperture concepts for step and graded indices.

C-13P	**Electromagnetic Theory Lab**	Upon completion of these experiments, students will: • In the lab, students conduct experiments on interference, refraction, and diffraction of light with monochromatic sources. • Determine the specific rotation of a sugar solution using a polarimeter, understanding the principles of optical rotation and its applications. • Measure the wavelength and velocity of ultrasonic waves in liquids like kerosene oil or xylene by studying diffraction through an ultrasonic grating, gaining insights into wave propagation in different media. • Verify Stefan's law of radiation and determine Stefan's constant, enhancing their understanding of thermal radiation and blackbody radiation concepts. • Determine the Boltzmann constant using the V-I characteristics of a PN junction diode, reinforcing their knowledge of semiconductor physics and the fundamental constants in thermodynamics.
C-14T	**Statistical Mechanics**	• Students will develop concepts such as microstate, macrostate, ensemble, phase space, thermodynamic probability, and partition function. Study distinguishable and indistinguishable particles leading to Maxwell-Boltzmann, Bose-Einstein, and Fermi-Dirac distribution laws. • Understand the connection and dichotomy between classical and quantum statistical mechanics. • Apply classical statistical mechanics to derive the law of equipartition of energy and specific heat. • Develop concepts like the Gibbs paradox, equipartition of energy, and negative temperature in a two-level system. • Derive classical radiation laws such as Wien's law, Rayleigh-Jeans law, and the ultraviolet catastrophe. Understand Saha ionization formula. • Calculate macroscopic properties of degenerate photon gas using Bose-Einstein distribution law, including Bose-Einstein condensation and liquid helium. Understand Bose's derivation of Planck's law. • Grasp the concept of Fermi energy and Fermi level. Calculate macroscopic properties of completely and strongly degenerate Fermi gas, including electronic contribution to specific heat of metals. • Apply Fermi-Dirac statistical distribution law to derive thermodynamic functions of degenerate Fermi gas, electron gas in metals, and their properties. • Calculate electron degeneracy pressure and understand Chandrasekhar mass limit and stability of white dwarfs against gravitational collapse.
C-14P	**Statistical Mechanics Lab**	

		• During the laboratory course, students utilize Python programming to validate various laws and principles concerning statistical mechanics.
DSE-3T	**Communication Electronics**	• Students should grasp the fundamental principles underlying communication electronics, including concepts such as modulation, demodulation, signal processing, and transmission techniques. This includes understanding different types of signals (analog and digital), frequency bands, and the behavior of electronic components in communication systems. They able to correlate these concepts with application of daily life. • Students should develop the ability to design and analyze communication systems and circuits. This involves practical skills such as designing amplifiers, filters, oscillators, and mixers. • Students should cultivate critical thinking skills and the ability to solve complex problems in communication electronics. This involves analyzing communication system requirements, selecting appropriate components and techniques, and optimizing system performance.
DSE-3P	**Communication Electronics Lab**	• The course equips students with the practical skills to apply theoretical concepts in communication electronics. Through hands-on experiments students learn how to design, analyze, and troubleshoot circuits commonly used in communication systems. • Students develop proficiency in using various laboratory equipments essential for communication electronics experimentation. This includes oscilloscopes, function generators, spectrum analyzers, and. They learn proper measurement techniques. • Students encounter real-world challenges in circuit design and operation, requiring them to diagnose issues and implement effective solutions. • Students learn to articulate their experimental procedures, results, and conclusions clearly and concisely through formal lab reports and presentations. Emphasis is placed on experimental setups, measurements, and observations accurately.
DSE-4T	**Experimental Techniques**	• Students will gain proficiency in designing experiments, including formulating hypotheses, selecting appropriate variables, and determining control conditions. • Students will develop competence in collecting, recording, and analyzing experimental data using both manual and automated methods. They will learn statistical techniques for data analysis, including descriptive statistics, inferential statistics, and graphical representation of data.

DSE-4P	**Experimental Techniques Lab**	• Through laboratory sessions, students will acquire practical skills in using a variety of experimental instruments and equipment relevant to their field of study such as LVDT, temperature sensor, ultrasonic wave generator etc. They will learn proper handling techniques, calibration procedures, and safety protocols associated with each instrument. • Students will develop competence in collecting, recording, and analyzing experimental data using both manual and automated methods. Students will learn systematic approaches to diagnose and rectify common problems encountered during experiments.

B.SC GENERAL IN PHYSICS

Programme Outcome:-

Programme Specific Outcomes:-

SEM I		
Course code	**Course Name**	**Course Outcome**
DSC - 1AT	**Mechanics**	• Students will explore into classical mechanics, beginning with foundational concepts such as reference frames, Newton's Laws, and momentum dynamics. • They will advance to explore energy theorems, forces, and conservation laws within the framework of classical mechanics. • Further topics will include collisions, rotation dynamics, fluid kinematics, oscillations, and gravitational laws. • Additionally, students will investigate non-inertial frames and hone problem-solving skills pertinent to relativistic scenarios. • This comprehensive approach ensures a thorough understanding of classical mechanics' principles and applications.
DSC - 1AP	**Mechanics Lab**	• Students will perform precise length and diameter measurements using vernier calipers, screw gauges, and travelling microscopes. • Determine the moment of inertia of a flywheel, evaluate elastic constants using Searle's method, and calculate acceleration due to gravity (g) with bar and Kater's pendulums.

SEM II		
DSC - 1BT	**Electricity and Magnetism**	• Students will gain knowledge of Electric Field and Electric Potential and develop problem-solving skills in related areas. • They will acquire an understanding of Dielectric Properties of Matter. • The course will cover Magnetic Properties of Matter. • Students will learn about key electrical theorems including Thevenin, Norton, Superposition, Reciprocity, and Maximum Power Transfer. • Problem-solving abilities in magnetism will be emphasized throughout the course.
DSC - 1BP	**Electricity and Magnetism Lab**	• Students will use a multimeter to measure resistances, voltages, currents for both AC and DC.and check fuses. • They'll study series RC and LCR circuits, determine resonant frequency and quality factor. • Mmeasure low resistance with Carey Foster's Bridge. • Verify Thevenin, Norton, Superposition, and Maximum Power Transfer theorems.
SEM III		
DSC - 1CT	**Thermal Physics and Statistical Mechanics**	• Students will grasp the First and Second Laws of Thermodynamics and apply them to problem-solving. • They will understand the concept of Entropy. • The curriculum will cover Thermodynamic Potentials including Internal Energy, Enthalpy, Helmholtz Free Energy, and Gibb's Free Energy. • Students will study the Maxwell-Boltzmann Law of Distribution and its application in problem-solving. • The course will explore Maxwell-Boltzmann law, velocity distribution, and Quantum statistics, including Fermi-Dirac and Bose-Einstein distribution laws, along with a comparison of the three statistics. • Additionally, students will learn about the Behavior of Real Gases and Deviations from the Ideal Gas Equation.
DSC - 1CP	**Thermal Physics and Statistical Mechanics Lab**	• Students will determine the thermal conductivity of copper using Searle's apparatus and of a bad conductor using Lee and Charlton's disc method. • They will measure the temperature coefficient of resistance with a platinum resistance thermometer.

SEC -1T	**Physics Workshop Skill**	• Students will acquire proficiency in measuring units, including conversion to SI and CGS, and effectively utilize instruments like meter scales, Vernier calipers, and screw gauges for dimensional measurements. • Students will develop mechanical skills through workshop practices, understanding manufacturing methods such as casting, machining, and welding, and gaining familiarity with common machine tools like lathes and drills. • They gain competence in electrical and electronic skills, including the use of multimeters, soldering circuits with discrete components and ICs, operating oscilloscopes, and constructing electronic circuits like timers and switches. • They understand the fundamentals of prime movers, including mechanisms, gear systems, levers, and pulleys, and demonstrate practical applications such as lifting heavy weights and power generation systems.
SEM IV		
DSC - 1DT	**Waves and Optics**	Students will explore: • The concepts of Linearity and the Superposition Principle, examining their application in oscillations with both equal and different frequencies (beats). • Graphical and Analytical Methods, including the interpretation of Lissajous Figures with varying frequencies. • Transverse waves on strings, encompassing traveling and standing waves, normal modes, and discussions on Group velocity and Phase velocity. • The properties of Plane waves, Spherical waves, and Wave intensity, Simple Harmonic Motion, forced vibrations, and resonance phenomena. • The Electromagnetic nature of light, focusing on the definition and properties of wave fronts • Interference phenomena, including classes such as Division of Amplitude and Division of Wavefront. Diffraction phenomena, its classification-Fraunhofer Diffraction, covering Single slit, Double Slit, Multiple slits, and Diffraction grating, along with their respective classes. • The Transverse nature of light waves, with an emphasis on Plane polarized light production and analysis, as well as Circular and elliptical polarization.
DSC - 1DP	**Waves and Optics Lab**	• Students will perform Schuster's focusing technique and determine the angle of a prism. • They will measure the refractive index and dispersive power of a prism's material using sodium.

		• They will determine the wavelength of sodium light using Newton's Rings.
SEC-2T	**Electrical Circuits and Network skills**	• Students will understand voltage, current, resistance, and power, apply Ohm's law to circuits, distinguish between AC and DC electricity, and proficiently use multimeters, voltmeters, and ammeters. • Students will learn to identify and combine circuit elements, analyze DC and AC circuits, understand single-phase and three-phase AC sources and power factors, interpret schematics, and track connections for current and voltage analysis. • Students will know about DC power sources, AC/DC generators, transformers, and the principles of inductance, capacitance, and impedance. They'll understand motor design, operation, and interfacing for speed and power control. • Students will handle resistors, inductors, capacitors, diodes, and rectifiers, analyzing their response to DC or AC sources. They'll efficiently combine components in series or shunt configurations. • Students will apply protective measures like relays, fuses, and circuit breakers, along with grounding techniques. They'll handle phase reversal and surge protection and differentiate conductor types, calculate voltage drops, and use measuring instruments. Additionally, they'll prepare extension boards and make splices efficiently.
SEM V		
DSE - 1T	**Elements of Modern Physics**	• Students will understand Planck's quantum concepts, including photons, the photoelectric effect, and Compton scattering. They will learn about De Broglie wavelengths, matter waves, and the Davisson-Germer experiment. • Students will understand Bohr's quantization rule and atomic stability. They will calculate energy levels and spectra for hydrogen-like atoms and observe atomic instability and discrete spectra. • Students will understand the Gamma ray microscope thought experiment, relate to wave-particle duality and the Heisenberg uncertainty principle, and estimate the minimum energy of a confined particle using the uncertainty principle and the energy-time uncertainty principle. • Students will understand the linear superposition principle, matter waves, and wave amplitude. They will solve the Schrodinger equation for non-relativistic particles and learn about momentum and energy operators. They will grasp stationary states, the physical interpretation of wave functions, normalizing wave functions, and calculating probabilities and

		probability current densities in one dimension. • Student can under the nature of nuclear force, NZ graph, • Student will be able to calculate semi-empirical mass formula and binding energy. • Student will be able to calculate Law of radioactive decay, Mean life and half-life; decay. • Student will be able to explain decay - energy released, spectrum and Pauli's prediction of neutrino; -ray emission. • Student can calculate Mass deficit, relativity and generation of energy. • Student will understand Fission - nature of fragments and emission of neutrons. • Student will know about nuclear reactor: slow neutrons interacting with Uranium 235; Fusion and thermonuclear reactions.
DSE - 1P	**Elements of Modern Physics Lab**	• Students will determine the value of the Boltzmann constant and Planck's constant using the V-I characteristics of a PN diode and LEDs of at least four different colors respectively. • They will also investigate the photoelectric effect by analyzing photocurrent versus light intensity and wavelength, and maximum energy of photoelectrons versus light frequency. • They will study the Millikan oil drop experiment to determine the charge of an electron.
SEC-3T	**Renewable Energy and Energy Harvesting**	• Students will understand the limitations of fossil fuels and nuclear energy, motivating the exploration of renewable and non-conventional energy sources. • They'll delve into various renewable energy systems, including offshore wind, tidal, wave, ocean thermal, solar, biomass, geothermal, and hydroelectric systems. • Students will study solar energy applications, wind energy fundamentals, ocean energy potential, and energy harvesting methods like piezoelectric and electromagnetic, along with environmental impacts and sustainability aspects.
SEC-3P	**Renewable Energy and Energy Harvesting Lab**	• Students will perform the practical training modules on solar energy, wind energy, and other renewable sources, students will: • Demonstrate a comprehensive understanding of the principles and applications of solar and wind energy systems. • Develop practical skills in operating and maintaining solar panels, wind turbines, and related equipment.
SEM VI		

DSE-2T	**Digital and Analog Circuits and Instrumentation**	• Students will explore integrated circuits and gates, De Morgan's Theorems, Boolean laws, and logic circuit simplification. • They will learn about adders, subtractors, 4-bit binary adders/subtractors, and sequential circuits. • The course covers computer memory organization, addressing, interfacing, and various shift registers. • They will study conductivity, mobility, drift velocity, and PN junction fabrication. • Students will learn the principles of LEDs, photodiodes, and solar cells. • They will study n-p-n and p-n-p transistors, CB, CE, and CC configurations, and transistors as 2-port networks. • This includes h-parameter circuits, CE amplifier analysis, impedance, current, voltage, and power gains, and Class A, B, and C amplifiers. • Finally, students will examine op-amp applications such as inverting and non-inverting amplifiers, adders, subtractors, differentiators, integrators, log amplifiers, zero crossing detectors, and Wein bridge oscillators.
DSE-2P	**Digital and Analog Circuits and Instrumentation Lab**	• Students will measure the voltage and frequency of periodic waveforms using a CRO and verify and design AND, OR, NOT, and XOR gates using NAND gates. • They will study the IV characteristics of PN diodes, Zener diodes, and light-emitting diodes, as well as the characteristics of a transistor in a CE configuration.
SEC-4T	**Weather Forecasting**	• Develop foundational knowledge and skills in weather forecasting techniques, including the analysis of weather data, selection of weather stations, interpretation of satellite observations and weather maps, and understanding uncertainty and predictability in forecasting.
SEC-4P	**Weather Forecasting Lab**	• Students will be able to interpret of synoptic charts and weather reports, along with the functioning of weather stations. • Acquire skills to process and analyze weather data to determine factors such as sunniest times, rainfall variations, temperature extremes, and humidity levels. • Students will learn to read and interpret various weather charts, including constant pressure, surface, and upper wind charts.

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

B.SC. HONOURS IN BOTANY

Programme Outcome:-

- Knowledge on plant biology, systematices, economic botany and its application on human welfare..

Course code	Course Name	Course Outcome
C1T	Phycology and Microbiology	Concept on microorganism and algal life history, their importance and application on civilization
C1P	Phycology and Microbiology	Practically Identify, characterize and classification of microorganism and algae.
C2T	Bio-molecules and Cell Biology	Concept on cell and its different metabolism at molecular level,
C2P	Bio-molecules and Cell Biology	Knowing Ultra structure of prokaryotic and eukaryotic cells and cell divisional phages with chromosomal studies,
C3T	Mycology and Phytopathology	Concept on fungi and their life history, their importance and application on civilization
C3P	Mycology and Phytopathology	Practically Identify, characterize and classification of fungi and plant diseases.
C4T	Archegoniate	Concept on bryophytes, pteridophytes, gymnosperm and their life history, their importance and application on civilization
C4P	Archegoniate	Practically Identify, characterize and classification of bryophytes, pteridophytes, gymnosperm
C5T	Anatomy of Angiosperms	Knowledge on Plant tissue, organ and structural organization on reproductive biology.
C5P	Anatomy of Angiosperms	Observed Plant cell, tissue and reproductive organization.
C6T	Economic Botany	Studies on orogin morphology and economic uses of plants
C6P	Economic Botany	Practically training on micropropagation and study on economically important plants.
C7T	Genetics	Concept on heredity sex determination and sexlinked inheritance, population genetices and crop improvement.
C7P	Genetics	Practically training on Chi-squre analysis, mutation, chromosomal abnormality and hybridization.

C8T	Molecular Biology	Concept on cell and its different metabolism at molecular level,
C8P	Molecular Biology	Knowing Ultra structure of prokaryotic and eukaryotic cells and cell divisional phages with chromosomal studies,
C9T	Plant Ecology and Phytogeography	Knowledge on biotic and abiotic interaction, Identify, characterize, classification and distribution of plant groups.
C9P	Plant Ecology and Phytogeography	Interaction study in field, Practically Identify, characterize and classification of plant groups.
C10T	Plant Systematics	Knowledge on Identification, characterize, classification of plant groups.
C10P	Plant Systematics	Practically Identify, characterize and classification of plant groups.
C11T	Reproductive Biology of Angiosperms	Knowledge on Plant reproductive structure and its role on reproductive biology.
C11P	Reproductive Biology of Angiosperms	Observed Plant cell, tissue and reproductive organization.
C12T	Plant Physiology	Concept on plant metabolism, phytohormones and their application on agriculture, horticulture and forestry.
C12P	Plant Physiology	Practically studies plant physiological processes and identification of biochemical compound.
C13T	Plant Metabolism	Concept on plant metabolism, phytohormones and their application on agriculture, horticulture and forestry.
C13P	Plant Metabolism	Practically studies plant physiological processes and identification of biochemical compound.
C14T	Plant Biotechnology	Concept on tissue culture recombinant DNA technology, gene transfer and its application.
C14P	Plant Biotechnology	Practically training on culture media preparation and tissue culture and micropropagation technique.
SEC1T	Biofertilizers	Concept on Boifertilizer, their importance and application on on agriculture, horticulture and forestry
SEC1T	Floriculture	Knowledge on field preparation,seedling growth and maintanance and floriculture

SEC2T	Medicinal Botany	Knowledge on medicinal plant biology, systematices, economic botany and its application on human welfare.
SEC2T	Mushroom Culture Technology	Knowledge on fungi, spawn preparation, mushroom culture.
DSE1T	Natural Resource Management	Concept on Natural resources and its proper scientific management.
DSE1P	Natural Resource Management	Determination of plant diameter at breast height, ecological footprint
DSE1T	Biostatistics	Concept of central tedency correlation, regression, 't' test and Chi-squre test
DSE1P	Biostatistics	Calculation of central tedency correlation coefficient and 'F' value
DSE2T	Plant Breeding	Concept on crop improvement method, quantitative inheritance, heterosis and breeding.
DSE2P	Plant Breeding	Calculation of Chi squre value and pollen viability test
DSE2T	Stress Biology	Knowledge on several stress management mechanism of plant.
DSE2P	Stress Biology	Estimation of enzymatic activity like peroxydase, catalase.
DSE3T	Industrial and Environmental Microbiology	Concept on bioreactor and microbial production, microbial flora of water.
DSE3P	Industrial and Environmental Microbiology	sterilization techniques and preparation of microbial culture media
DSE3T	Bioinformatics	Knowledge on biological sequence database handelling, phylogeny and applications.
DSE3P	Bioinformatics	Sequence alignment, construction of phylogenetic tree.
DSE4T	Analytical Techniques in Plant Sciences	Concept on microscopy centrifugation, chromatography and characterization of protein and nucleic acid
DSE4P	Analytical Techniques in Plant Sciences	Study of Blotting technique, chromatography and double staining methods.

DSE4T	Research Methodology	Basic concept of method and methodology, data collection and plant microtechnique.
DSE4P	Research Methodology	Hands on training on plant microtechnique and scientific article writing.
GE1T	Biodiversity	Concept on plant diversity, their importance and application on civilization
GE1P	Biodiversity	Practically Identify, characterize and classification of plant groups.
GE2T	Plant Ecology and Taxonomy	Knowledge on biotic and abiotic interaction, Identify, characterize and classification of plant groups.
GE2P	Plant Ecology and Taxonomy	Interaction study in field, Practically Identify, characterize and classification of plant groups.
GE3T	Economic Botany and Plant Biotechnology	Studies on orogin morphology and economic uses of plants
GE3P	Economic Botany and Plant Biotechnology	Practically training on micropropagation and study on economically important plants.
GE4T	Plant Anatomy and Embryology	Knowledge on Plant tissue, organ and structural organization on reproductive biology.
GE4P	Plant Anatomy and Embryology	Observed Plant cell, tissue and reproductive organization.
GE4T	Plant Physiology and Metabolism	Concept on plant metabolism, phytohormones and their application on agriculture, horticulture and forestry.
GE4P	Plant Physiology and Metabolism	Practically studies plant physiological processes and identification of biochemical compound.

B.SC. GENERAL IN BOTANY

Programme Outcome:-

- Concept on plant diversity, their importance and application on civilization

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
DSC-1AT	Biodiversity	Concept on plant diversity, their importance and application on civilization
DSC-1AP	Biodiversity	Practically Identify, characterize and classification of plant groups.
DSC-1BT	Plant Ecology and Taxonomy	Knowledge on biotic and abiotic interaction, Identify, characterize and classification of plant groups.
DSC-1BP	Plant Ecology and Taxonomy	Interaction study in field, Practically Identify, characterize and classification of plant groups.
DSC-1CT	Plant Anatomy and Embryology	Knowledge on Plant tissue, organ and structural organization on reproductive biology.
DSC-1CP	Plant Anatomy and Embryology	Observed Plant cell, tissue and reproductive organization.
DSC-1DT	Plant Physiology and Metabolism	Concept on plant metabolism, phytohormones and their application on agriculture, horticulture and forestry.
DSC-1DP	Plant Physiology and Metabolism	Practically studies plant physiological processes and identification of biochemical compound.
SEC-1T	Biofertilizers	Concept on Boifertilizer, their importance and application on agriculture, horticulture and forestry
SEC-1T	Nursery and Gardening	Knowledge on field preparation,seedling growth and maintanance and floriculture
SEC-2T	Herbal Technology	Concept on herbs, their medicinal importance and crude preparation with the help of technology
SEC-2T	Mushroom Culture Technology	Knowledge on fungi, spawn preparation, mushroom culture.
SEC-3T	Floriculture	Knowledge on field preparation,seedling growth and maintanance and floriculture
SEC-3T	Ethnobotany	Knowledge on plant biology, systematices, economic botany and its application on human welfare.

SEC-4T	Medicinal Botany	Knowledge on medicinal plant biology, systematices, economic botany and its application on human welfare.
SEC-4T	Plant Diversity and Human Welfare	Concept on plant diversity, their importance and application on civilization
SEC-4T	Intellectual Property Rights	Knowledge on iventory patents, copyrights trade mark as well as protection of traditional information.
DSE-1AT	Cell and Molecular Biology	Concept on cell and its different metabolism at molecular level,
DSE-1AP	Cell and Molecular Biology	Knowing Ultra structure of prokaryotic and eukaryotic cells and cell divisional phages with chromosomal studies,
DSE-1AT	Economic Botany and Biotechnology	Studies on orogin morphology and economic uses of plants
DSE-1AP	Economic Botany and Biotechnology	Practically training on micropropagation and study on economically important plants.
DSE-1AT	Bioinformatics	Knowledge on biological sequence database handelling, phylogeny and applications.
DSE-1AP	Bioinformatics	Sequence alignment, construction of phylogenetic tree.
DSE-2AT	Genetics and Plant Breeding	Concept on heredity sex determination and sexlinked inheritance, population genetices and crop improvement.
DSE-2AP	Genetics and Plant Breeding	Practically training on Chi-squre analysis, mutation, chromosomal abnormality and hybridization.
DSE-2AT	Analytical Techniques in Plant Sciences	Concept on microscopy centrifugation, chromatography and characterization of protein and nucleic acid
DSE-2AP	Analytical Techniques in Plant Sciences	Study of Blotting technique, chromatography and double staining methods.
DSE-2AT	Research Methodology	Basic concept of method and methodology, data collection and plant microtechnique.
DSE-2AP	Research Methodology	Hands on training on plant microtechnique and scientific article writing.

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

B.SC. HONOURS IN CHEMISTRY

Programme Outcome:-

- It gives the detailed idea about stereo chemistry, basic organic and physical chemistry.

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
C1T	Organic Chemistry-I	Understanding the basic idea and mechanism of organic reaction
C1P	Organic Chemistry-I Lab	Model study of organic molecules
C2T	Physical Chemistry-I	Understanding the principles of physical and chemical process
C2P	Physical Chemistry-I Lab	Understanding the principles of physical and chemical process in laboratory
GE-1T	Section A: Inorganic Chemistry-I Section B: Organic Chemistry-I	Understanding about the atom, molecular structure, mechanism and reactivity of the reaction
GE-1P	Section A: Inorganic Chemistry –Lab Section B: Organic Chemistry-I Lab	Understanding about the atom, molecular structure, mechanism and reactivity of the reaction in laboratory
C3T	Inorganic Chemistry-I	Understanding about the atom, molecular structure
C3P	Inorganic Chemistry-I Lab	Understanding about the atom, molecular structure in laboratory with model
C4T	Organic Chemistry-II	Explore the preparation with mechanism of organic molecules
C4P	Organic Chemistry-II Lab	Explore the preparation with mechanism of organic molecules in laboratory
GE-2T	Section A: Physical Chemistry-I Section B: Inorganic Chemistry-II	Understanding the principles of physical and chemical process and comparative study of Periodic elements
GE-2P	Section A: Physical Chemistry-I Lab Section B: Inorganic Chemistry-II Lab	Understanding the principles of physical and chemical process and comparative study of Periodic elements in Laboratory
C5T	Physical Chemistry-II	Understanding the feasibility, reaction kinetics of the reaction,
C5P	Physical Chemistry-II Lab	Development the practical training of feasibility, reaction kinetics of the reaction,
C6T	Inorganic Chemistry-II	Understanding the comparative study of Periodic elements
C6P	Inorganic Chemistry-II Lab	Understanding the comparative study of Periodic elements in Laboratory
C7T	Organic Chemistry-III	It explores the reactivity, comparative study and preparation of aliphatic and aromatic organic molecules
C7P	Organic Chemistry-III Lab	Development of practical sense to prepare organic molecules in Laboratory
SEC-1T	Analytical Clinical Biochemistry	Understanding the basic structure, properties and functions of carbohydrates, lipids and proteins
SEC-1T	Pharmaceutical Chemistry	It helps to understand the preparation, use of chemicals in medicine and their side effect

SEC-1P	Analytical Clinical Biochemistry (Practical)	Understanding the use of chemicals and solvents in quantitatively in pathological detection in Laboratory
SEC-1P	Pharmaceutical Chemistry (Practical)	Development of practical sense to prepare the drug compounds and their starting materials
GE-3	Section A: Physical Chemistry-II Section B: Organic Chemistry-II	Understanding the feasibility, reaction kinetics of the reaction, reactivity and mechanistic study and preparation of organic compounds
GE-3P	Section A: Physical Chemistry-II Lab Section B: Organic Chemistry-II Lab	Understanding the feasibility, reaction kinetics of the reaction, reactivity and mechanistic study and preparation of organic compounds
C8T	Physical Chemistry-III	Understanding the application of thermodynamics, electrical property and quantum chemistry
C8P	Physical Chemistry-III Lab	It helps to measure the solubility of sparingly soluble salt, standardisation of solution by potentiometric method and pH metric titration
C9T	Inorganic Chemistry - III	Understanding the method for preparation of metals from its ore, preparation, use of inorganic polymer and comparative study of periodic elements,
C9P	Inorganic Chemistry – III Lab	Practical training for complex metric titration and inorganic preparation
C10T	Organic Chemistry -IV	It explores the reactivity, comparative study and preparation of nitro compounds and identification of organic molecules by spectroscopy
C10P	Organic Chemistry -IV Lab	Practical training of estimation of different compounds mainly daily usable compounds
SEC-2T	Basic Analytical Chemistry	It explores analysis of different substances mainly water, soil, cosmetics etc.
SEC-2T	Chemistry of Cosmetics & Perfumes	Understanding the preparation, use of cosmetics and perfumes
SEC-2T	Fuel Chemistry	It explores the use of different hydrocarbons use as fuel and their limitation
SEC-2T	Basic Analytical Chemistry (Practical)	Practical training to estimate the pH of soil, amount of calcium, magnesium in calcium carbonate by complex metric titration and separation by chromatography
SEC-2P	Chemistry of Cosmetics & Perfumes (Practical)	Practical training to prepare different types of daily usable chemicals
GE4T	Section A: Physical Chemistry-III Section B: Analytical and Environmental Chemistry	It helps to understand the basic concept of ideal, non-ideal solution, conductivity of the solution and EMF of a cell
GE4P	Section A: Physical Chemistry-III Lab Section B: Analytical and Environmental Chemistry Lab	Practical training to measure the conductance and titration by potentiometrically
C11T	Inorganic Chemistry - IV	Understanding the concept about structure and stability of inorganic complex molecules by VBT, CFT and comparative study of d and f block elements
C11P	Inorganic Chemistry – IV Lab	Practical training to separate mixtures by chromatographic technique, estimation of metal ions by gravimetric and spectroscopic analysis of complex molecule
C12T	Organic Chemistry - V	It explores the property, reactivity and synthesis of carbocyclic and heterocyclic, biomolecules and carbohydrates; concept about cyclic stereochemistry
C12P	Organic Chemistry – V Lab	Practical training to separate of the mixtures of dyes, amino acids, leaf pigments by different types chromatography technique

DSE-1T	Advanced Physical Chemistry	To understand the structure and stability of Crystal Structure, origin of random process and classification of several polymeric compounds with its property and synthesis
DSE-2T	Analytical Methods in Chemistry	It helps to determination of structure by spectroscopy and theoretical concept of several separation technique
DSE-2T	Instrumental Methods of Chemical Analysis	It gives the preliminary idea molecular spectroscopy and several separation techniques.
DSE-2P	Analytical Methods in Chemistry Lab	Practical training of the chromatography separation technique, solvent extraction and analysis of soil, BOD, COD.
DSE-2P	Instrumental Methods of Chemical Analysis Lab	Practical training of the determination of isoelectric pH of a protein, titration of amino acid and determination by atomic adsorption.
C13T	Inorganic Chemistry-V	It explores the utility of different metal ion and their enzymatic activity on human health; metal-carbon interaction and their uses as a catalyst in organic synthesis.
C13P	Inorganic Chemistry-V Lab	Practical training in qualitative analysis of in organic compounds.
C14T	Physical Chemistry-V	It explores the theoretical idea about the different molecular spectroscopy; photochemistry and surface phenomena of solid.
C14P	Physical Chemistry-V Lab	Practical training of the determination of surface tension CMC, verification of Lambert's Beer's Law.
DSE-3T	Green Chemistry	It gives the idea about the synthesis of several organic molecules by greens approach.
DSE-3T	Inorganic Materials of Industrial Importance	It explores use and preparation of daily needs, fertilizers, chemical explosive and surface coating agent; theoretical concept of properties and reactivity of catalyst.
DSE-3P	Green Chemistry Lab	Practical training of the preparation and characterisation of Au-nanoparticle by tea leaf and other chemical reaction by greases approaches.
DSE-3P	Inorganic Materials of Industrial Importance Lab	Practical training for the preparation of different fertilizer, pigment; analysis of cement and metal in allow.
DSE-4T	Polymer Chemistry	It explores the determination of molecular weight, function, properties, important and kinetic study of polymer.
DSE-4P	Polymer Chemistry Lab	Practical training for the synthesis and characterisation of polymer.

B.SC. GENERAL IN CHEMISTRY

Programme Outcome:-

- It covers the basic concept of chemistry

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
DSC-1AT (CC-1)	Atomic Structure, Bonding, general organic chemistry & aliphatic hydrocarbons.	It covers electronic configuration, molecular structures and basic concepts of chemistry
DSC1AP (CC-1)	Atomic structure, Bonding, general organic chemistry & aliphatic hydrocarbons (Practical)	It gives practical idea about the molecular structures in space
DSC-1BT (CC-1)	Chemical Energetics, Equilibria &Functional Organic Chemistry.	Students should learn about the reactivity of the organic molecules and feasibility of the reaction and uses of the compounds

DSC-1BP (CC-1)	Chemical Energetics, Equilibria & Functional Organic Chemistry (Practical)	It trains the reactivity of the organic molecules and feasibility of the reaction and uses of the compounds in reality
DSC-1CT (CC-1)	Solutions, Phase equilibrium, Conductance, Electrochemistry & Functional Organic Chemistry.	It consists of strength of the solution, conductivity of the compounds and reactivity of organic molecules
DSC-1CP (CC-1)	Solutions, Phase Equilibrium, Conductance, Electrochemistry & Functional Organic Chemistry (Practical)	It helps the student to prepare the solution which is the basic step of further chemical observation
DSC-1DT (CC-1)	Coordination Chemistry, States of matter Chemical Kinetics.	It gives the idea about activation energy of any reaction and uses of inorganic compounds in our real life
DSC-1DP (CC-1)	Coordination Chemistry, States of matter & Chemical Kinetics (Practical)	It gives the practical idea about activation energy of any reaction and uses of inorganic compounds in our real life
DSE-1T	Analytical Methods in Chemistry	It highlights the accurate measurement of the solution and helps how to separate the mixtures
DSE-1T	Polymer Chemistry	It's about various chemical compounds and their components
DSE-1T	Instrumental Methods of Chemical Analysis	It explores various instrumental methods regarding various chemical analysis
DSE-1T	Organometallics, Bioinorganic Chemistry, Polynuclear hydrocarbons and **UV,** IR Spectroscopy	It explores various metal carbon interaction, uses of different metal and enzymatic action on human health, and identification of compounds
DSE-1P	Analytical methods in Chemistry (Lab)	Students shouldn learn acurate measurement of the solution and helps how to separate the mixtures
DSE-1P	Polymer Chemistry (Lab)	It helps the students for preparation of various chemical compunds in labroatory
DSE-1P	Instrumental Methods of Chemical Analysis (Lab)	It 5tructure the instrument handeling
DSE-1P	**Section A**: Inorganic Chemistry: 1. Separation of mixtures by chromatography	It explore the isolation and purification of the compounds and basic idea of the atom and molecular structure
DSE-1P	2. Preparation of any two of the following complexes and measurement of their conductivity	It helps to give idea the conductivity of the complexes
DSE-1P	**Section B:** Organic Chemistry: Systematic Qualitative Organic Analysis of Organic Compounds	It explore the identifying the special elements and functional groups present in organic compounds and the particular organic compounds
DSE-2T	Applications of Computers in Chemistry.	It helps to draw the different chemical structures, curves and tables
DSE-2T	Green Chemistry	It helps to reduce the economy, energy and toxicity
DSE-2T	Industrial Chemicals and Environment	It helps the use of chemicals in daily life
DSE-2T	Quantum Chemistry, Spectroscopy & Photochemistry	Understanding of chemical phenomenon from microscopic stand point
DSE-2T	Molecular Modelling & Drug design	Understanding the modification of drug with time

DSE-2P	Applications of computers in chemistry (Lab)	Practical sense about molecular structure
DSE-2P	Green Chemistry (Lab)	It helps practically how to reduce the economy,energy and toxicity
DSE-2P	Industrial Chemicals & Environment (Lab)	Training for preparation of daily uses materials
DSE-2P	UV/Visible spectroscopy and Colourimetry	Understanding of fluorescence and photo-physical property of the compounds
DSE-2P	Molecular Modelling & Drug design (Lab)	Training to give how modify the drug with changing their functional groups
SEC-1T	Basic Analytical Chemistry	Understanding the error and accuracy
SEC-1T	Chemo informatics	Theory of Physical chemistry with computer
SEC-1P	Basic Analytical Chemistry (Practical)	Lab Training to measure the exact amount of the compounds
SEC-2T	Analytical Clinical Biochemistry	Use of chemicals for pathological detection
SEC-2T	Intellectual Property Rights (IPR)	Assignment of property rights through patent, copyright and trademarks.
SEC-2P	Analytical Clinical Biochemistry (Practical)	Practical training the use of chemicals for pathological detection
SEC-3T	Pharmaceutical Chemistry	Understanding the 6tructure and property of the compounds
SEC-3T	Chemistry of Cosmetics & Perfumes	Understanding the use of chemicals and solvents in Cosmetics and Perfumes
SEC-3P	Pharmaceutical Chemistry (Practical)	Training about the preparation of simple drug and its starting materials
SEC-3P	Chemistry of Cosmetics & Perfumes (Practical)	Lab Training to prepare the Cosmetics & Perfumes
SEC-4T	Pesticide Chemistry	Explore the use and preparation of chemicals to control the Pest
SEC-4T	Fuel Chemistry	Explore the use of different hydrocarbon as fuel and their limitation
SEC-4P	Pesticide Chemistry (Practical)	Training the preparation Pesticide

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

B.SC HONOURS IN ECONOMICS

Programme Outcome:-

- Learn economic theories and become able to analyse the economic features on the basis of spatial and temporal spheres

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
C1T	Introductory Microeconomics	It deals with basically the economic units and helps to take mainly economical decision at individual/ firm level
C2T	Mathematical Methods in Economics-I	It guides the students to use mathematical tools in economical decision
C3T	Introductory Macroeconomics	Helps to gather idea about the economical conditions of the nation as well as of the world which are very essential
C4T	Mathematical Methods in Economics-II	It guides the students to use mathematical tools in economical decision
C5T	Intermediate Microeconomics-I	It deals with basically the economic units and helps to take mainly economical decision at individual/ firm level
C6T	Intermediate Macroeconomics-I	Helps to gather idea about the economic conditions of the nation as well as of the world which are very essential
C7T	Statistical Methods for Economics	student should learn the process of application of statistics
C8T	Intermediate Microeconomics-II	It deals with basically the economic units and helps to take mainly economical decision at individual/ firm level
C9T	Intermediate Macroeconomics-II	Helps to gather idea about the economic conditions of the nation as well as of the world which are very essential
C10T	Introductory Econometrics	It helps to identify the relationship among the variables and helps to take the economic decision
C11T	International Economics	Knowledge about trade relations between various countries, international trade theories, BOP etc.
C12T	Public Economics	Knowledge about government revenue and expenditure, fiscal policy, distinction between private goods and public goods , problems of externality
C13T	Indian Economy	It deals with the problems and prospects of Indian economy

C14T	Development Economics	Explores problems of underdevelopment, how to address developmental issues
DSE1T	Economics of Health and Education	Its explore the economic policy relating to the Health and Education
DSE1T	Applied Econometrics	Learned econometric methods apply it in academic as well as corporate research work
DSE1T	Economic History of India (1857 - 1947)	Its explain the historical perspective of the Indian Economy
DSE2T	Political Economy-I	Various economic theories in the context of socio-economic features
DSE2T	Money and Financial Markets	It explore the financial system of India in detailed
DSE2T	Financial Economics	Its guides the students to take financial decision
DSE3T	Political Economy-II	Various economic theories in the context of socio-economic features
DSE3T	Environmental Economics	Cost and pricing of environmental disruption and understand the related issues from the perspective social cost-benefit analysis
DSE3T	Topics in Microeconomics - I	Helps to gather idea about the economical conditions of the nation as well as of the world which are very essential
DSE4T	Comparative Economic Development (1850-1950)	its explain the historical perspective of the indian Economy
DSE4T	Topics in Microeconomics - II	Helps to gather idea about the economic conditions of the nation as well as of the world which are very essential
DSE4	Project Work	It gives the opportunity for implementing the theoretical knowledge into the practical work
SEC1T	Data Analysis	It guided the students to analyse the data and interpret thereof
SEC1T	Conteporary Economic Issues	It highlights the recent economic issues and their remedies

SEC2T	Financial Economics	Its guides the students to take financial decision
SEC2T	Research Methodology	It deals with the techniques of market research and other important tools which are essential for any research relating to social science
GE1T	Introductory Microeconomics	It helps to take any economical decision at individual/ firm level
GE2T	Introductory Macroeconomics	Helps to gather idea about the economic conditions of the nation as well as of the world which are very essential
GE3T	Environmental Economics	cost and pricing of environmental disruption and understand the related issues from the perspective social cost-benefit analysis
GE3T	Money and Banking	It explore the financial system of India in detailed
GE4T	Economic History of India (1857 - 1947)	Its explain the historical perspective of the Indian Economy
GE4T	Public Finance	Knowledge about government revenue and expenditure, fiscal policy, distinction between private goods and public goods , problems of externality

B.SC GENERAL IN ECONOMICS

Programme Outcome:-

- learn economic theories and become able to analyse the economic features on the basis of spatial and temporal spheres

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
DSC-1AT (CC-1)	Microeconomics	It helps to take any economical decision at individual/ firm level
DSC-1BT (CC-2)	Macroeconomics	Helps to gather idea about the economic conditions of the nation as well as of the world which are very essential
DSC-1CT (CC-3)	Development Economics	It explores the trend of the development of the economic state of the nation and various development theory of the economics
DSC-1DT (CC-4)	Features of Indian Economy	It highlights the nature and prospects of Indian economy

DSE1T	Economic Development and Policy in India - I	It deals with the economic policy in India and 5 year plans
DSE1T	Money and Banking	It explore the financial system of India in detailed
DSE1T	Environmental Economics	It highlights the environmental perspective of economics
DSE1T	Applied Statistics	Student should learn the process of application of statistics
DSE1T	Econometrics	It helps to identify the relationship among the variables and helps to take the economic decision
DSE2T	Economic Development and Policy in India - II	It deals with the economic policy in India and 5 year plans
DSE2T	Public Finance	It explores the sources of public fund and its uses
DSE2T	Economic History of India (1857 - 1947)	Its explain the historical perspective of the Indian Economy
DSE2T	Basic Statistics	It gives the basic idea about summary statistics
DSE2	Project Work	It gives the opportunity for implementing the theoretical knowledge into the practical work
SEC1T	Basic Computer Applications	it helps the student to know about basic computer and its use in economics
SEC1T	Indian Financial System	It explores the basic structure and function of Indian financial system and its components
SEC1T	Indian Official Statistics	It gives an outline of various official institutions which are involved in collection of economic data
SEC2T	Computer Application in Economics	It gives a fundamental idea regarding the application of computer in Economics
SEC2P	Computer Application in Economics Practical	It helps to solve some economical problem or taking economical decision through use of the application of computer
SEC2T	Business Project Proposal	It helps the student to develop any business proposal
SEC2T	Financial Economics	Its guides the students to take financial decision
SEC3T	Research Methodology	It deals with the techniques of market research and other important tools which are essential for any research relating to social science
SEC3T	Contemporary Economic Issues	It highlights the recent economic issues and their remedies

SEC3T	Indian Stock Market Trading	It deals with the financial market and financial instruments
SEC4T	Data Analysis	It guided the students to analyse the data and interpret thereof
SEC4T	Entrepreneurship Development	It helps to established new entrepreneurship
SEC4T	Insurance Market and its Products	It's about the insurance market of India and its features

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

B.SC HONOURS IN PHYSIOLOGY

Programme Outcome:-

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
C1T	Cellular Basis of Physiology	students learn about the basic cellular and tissue organisation
C1P	Histology	it gives on hand experimentation experience about different cellular organalis
C2T	Biological Physics and Enzymes	students learn about thebasis of enzyme activity and different biophysical principles within the body
C2P	Biological Physics and Enzymes	it gives on hand experimentation about the assessment of enzyme activity
GE-1T	Blood and Immune System;Cardiovascular System	students learn about bodies defence system, circulation within the body
GE-1P	Practical	students experience practical knowledge about defence system and circulation within the body
C3T	Physiology of Nerve and Muscle Cells	its about the coordinated interaction between nerve and muscles
C3P	Histological Study, Experiment of Nerve and Muscle (Lab)	On hand experience about coordinated interaction between nerve and muscles
C4T	Chemistry of Bio-molecules	student learn about protein, carbohydrate, fat and nuclic acid as macro molecules
C4P	Biological Chemistry (Lab)	expermination to identify qualitatively different biochemicals
GE-2T	Developmental Biology/Embryology	learn the development of fetus to full form human baby
GE-2P	Developmental Biology/Embryology (Lab)	experimentation about the development of fetus to full form human baby
C5T	Circulating Body Fluids	knowledge about blood, lymph and other body fluids

C5P	Haematological Experiments	on hand experementation on different blood profile
C6T	Circulation	knowledge about blood, lymph and other body fluids
C6P	Cardiovascular Physiology Experimental	on hand experementation on circulating blood in heart
C7T	Functions of the Nervous System	knowledge about central and peripheral nervous system
C7P	Neurological Experimental	Experimentation about the nervous system
SEC1T	Detection of Food Additives/Adulterants	Knowledge about quality of food
SEC1T	Clinical Biochemistry	On hand knowledge about different biochemical measurement related to human health
TBD(GE-3)	Community and Public Health	knowledge about different cotageous diseases and general health and nutrition relted issues
C8T	Energy Balance, Metabolism and Nutrition	knowledge about metabolic pathways, energy yield and nutritional balance
C8P	Energy Balance, Metabolism and Nutrition (Lab)	On hand knowledge about metabolic pathways, energy yield and nutritional balance
C9T	Gastrointestinal Function	Students got aware about digestive system
C9P	Gastrointestinal Function (Lab)	Students got on hand experience about digestive system
C10T	Respiratory Physiology	Students gather knowledge about inner mechanism behind inhalation and exhalation
C10P	Respiratory Physiology (Lab)	Students gather on hand experience about inner mechanism behind inhalation and exhalation
TBD (SEC2T)	Computer Application in Health Science	Students gather knowledge about application of computer in Physiology
TBD (SEC2P)	Computer Application in Health Science	Students gather on hand experience of different application of computer in Physiology
TBD (SEC2T)	Physiological Techniques and Public Health Assessment	Knowledge about different techniques employed in Physiology as well as in Public Health
TBD (SEC2P)	Practical	On hand Knowledge about different techniques employed in Physiology as well as in Public Health
TBD (SEC2T)	Histopathological Techniques	learning about different pathological condition through the knowledge of tissues
TBD (SEC2P)	Histopathological Techniques	learning about different pathological condition through the knowledge of tissues

TBD (SEC2P)	Sports Medicine and Nutritional Physiology	Application of Physiology in different fields of sports and nutrition
TBD(GE-4T)	Nerve-Muscle Physiology; Nervous System and Sensory Physiology	its about the coordinated interaction between nerve and muscles, nervous system and the senses
TBD(GE-4P)	Histological Study, Experiment of Nerve and Muscle	its about the experimentation about coordinated interaction between nerve and muscles through the knowledge about cells respectively
TBD(GE-4T)	Excretory System & Body Temperature Regulation	Knowledge about removal of metabolic waste and body temperature
TBD(GE-4P)	Excretory System & Body Temperature Regulation (Lab)	On hand Experimentation about removal of metabolic waste and body temperature
TBD(GE-4T)	Environmental Pollution and Human Health	Students learn about hazards of environmental pollution on human health
TBD(GE-4P)	Environmental Pollution and Human Health (Lab)	On hand experimentation about hazards of environmental pollution on human health
C11T	Sensory Physiology	Learning about different senses
C11P	Sensory Physiology (Lab)	Learning about different senses
C12T	Endocrinology	Learning about different hormones and their mechanisms
C12P	Endocrinology (Lab)	Experiments about different hormones and their mechanisms
DSE-1T	Human Nutrition and Dietetics	Learning about formulation of diet chart in different condition
DSE-1P	Human Nutrition and Dietetics (Lab)	Formulation of diet chart in different condition
DSE-1T	Community Nutrition and Public Health	Knowledge about nutritional status varied with different communities in relation to public health

DSE-1P	Community Nutrition and Public Health (Practical)	Knowledge about nutritional status varied with different communities in relation to public health
DSE-1T	Clinical Haematology	Knowledge about blood and its alteration in relation to different diseases
DSE-1P	Clinical Haematology (Practical)	Experiments of blood and its alteration in relation to different diseases
DSE-1T	Biostatistics	Learning of Statistics in biology
DSE-1P	Biostatistics	Application of Statistics in biology
DSE-2T	Environmental Physiology	Learning about different aspect of environment in relation to physiology
DSE-2P	Environmental Physiology (Practical)	Experimentation about different aspect of environment in relation to physiology
DSE-2T	Pharmacology & Toxicology	Knowledge about different drugs and toxic materials and their actions
DSE-2P	Pharmacology & Toxicology (Practical)	Assessment of different drugs and toxic materials
DSE-2T	Sports Physiology, Work Physiology and Ergonomics	Application of Physiology in different fields of sports and nutrition
DSE-2P	Sports Physiology, Work Physiology and Ergonomics (Practical)	Application of Physiology in different fields of sports and nutrition
DSE-2T	Ergonomics and Occupational Health	Learning about work physiology
DSE-2P	Ergonomics and Occupational Health	Learning about work physiology
C13T	Reproductive Physiology; Embryology and Chronobiology	learning about fertility, developmental biology and biorhythm
C13P	Reproductive Physiology; Embryology and Chronobiology (Lab)	on hand exprience about fertility, developmental biology and biorhythm

C14T	Renal Physiology; Skin and Body Temperature Regulation; Biomedical Instrumenttion	Knowledge about removal of metabolic waste and body temperature and instruments used in biology
C14P	Renal Physiology; Skin and Body Temperature Regulation; Biomedical Instrumenttion (Lab)	on hand knowledge about removal of metabolic waste and body temperature and instruments used in biology
DSE3T	Medical Biochemistry	Knowledge about biochemical techniques employed in health segment
DSE3P	Medical Biochemistry (Practical)	On hand knowledge about biochemical techniques employed in health segment
DSE3P	Microbiology and Biotechnology	Knowledge about different micro organism and their modulation through biotechnology for human benefit
DSE3P	Microbiology and Biotechnology (Practical)	Knowledge of techniques about different micro organism and their modulation through biotechnology for human benefit
DSE3P	Medical Microbiology and Immunology (Practical)	Knowledge of techniques about different micro organism and their modulationon human defence system
DSE3T	Genetics; Molecular Biology and Bioinformatics	Learning about structure and function of genes to chromosomes, bio informatics
DSE3P	Genetics; Molecular Biology and Bioinformatics (Practical)	Learning about structure and function of genes to chromosomes, bio informatics
DSE4T	Cognitive Science	Knowledge about learning and memory
DSE4P	Cognitive Science (Practical)	Knowledge about learning and memory
DSE4T	Community Medicine, Epidemiological Data Analysis	Knowledge about data analysis in epidemic and related community medicine

DSE4P	Community Medicine, Epidemiological Data Analysis (Practical)	Knowledge about data analysis in epidemic and related community medicine
DSE4T	Patho-Physiological Basis of Diseases	Knowledge about pathological condition and their relation with alteration in homeostasis
DSE4P	Patho-Physiological Basis of Diseases (Practical)	Knowledge about pathological condition and their relation with alteration in homeostasis
DSE4T	Research Methodology and Design	Knowledge about Basic methodology in research
DSE4P	Research Methodology and Design (Practical)	Knowledge about Basic methodology in research

B.SC GENERAL IN PHYSIOLOGY

Programme Outcome:-

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
DSC-1AT(CC1T)	Cellular Physiology, Biophysical Principles, Biochemistry, Digestive System & Metabolism	students learn about the basic cellular and tissue organisation, different biophysical principles within the body, metabolic pathways and alimentary system
DSC-1AT(CC1P)	Fresh Tissue Experiment; Identification of Permanent Slide	students learn to identify different tissues in permanent slides
DSC-1BT	Blood, Body Fluids and Immune System, Cardiovascular System and Respiratory System	students learn about bodies defence system, circulation within the body, knowledge about respiration
DSC-1BP	Haematology; Human Experiment	on hand experementation on different blood profile
DSC-1CT	Nerve-Muscle Physiology; Nervous System; Skin and Body Temperature regulation	its about the coordinated interaction between nerve and muscles, knowledge about central and peripheral nervous system, body temperature regulation
SEC1T	Public Health and Epidemiology	knowledge about different cotageous diseases and general health and nutrition relted issues
SEC1T	Environmental Epidemiology	general awareness about environment and its relation to contageous diseases

DSC-1DT	Sensory Physiology, Endocrine and Reproductive System; Renal Physiology	Learning about sense organs, hormone and reproductive cell and removal of metabolic waste
DSC-1DP	Sensory Physiology, Endocrine and Reproductive System; Renal Physiology (Lab)	Learning about sense organs, hormone and reproductive cell and removal of metabolic waste
SEC2T	Biochemical Techniques	Learning about different techniques of in biochemistry
SEC2T	Medical Diagnostics	Learning about different techniques in diognostic procedures
SEC2T	Instumentation Techniques in Biology	Learning about different intruments and their usage in Physiology

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

B.SC HONOURS IN ZOOLOGY

Programme Outcome:-

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
C1T	Non chordates I	Students learn about the origin and evolution of phylum and internal as well as external characters of non chordates
C1P	Non chordates I Lab	Students experience practical knowledge about internal as well as external characters of invertebrates
C2T	Ecology	Students learn about the community and also the interdependence between nature and human being
C2P	Ecology Lab	Practical knowledge about different ecosystems and its parameter
C3T	Non chordates II	Students learn about the general characteristics of different phyla
C3P	Non chordates II Lab	Students experience practical kmowledge about internal and external morphology of non chordates
C4T	Cell Biology	Students learn about the cellular and tissue organisation
C4P	Cell Biology Lab	Students experience practical knowledge about the cell organelles and the stages of cell division
C5T	Chordates	Students learn about the basic concept,external morphology in vertebrates
C5P	Chordates lab	Students learn practical knowledge about external morphology of animals
C6T	Animal Physiology : Controlling & Coordinating systems	Learning about different organs within each system and their function
C6P	Animal Physiology : Controlling & Coordinating systems Lab	Practical knowledge about different haematological methods
C7T	Fundamentals of Biochemistry	Students learn about the different metabolism (Protein,Lipid,Carbohydrate) and also the enzymatic activities
C7P	Fundamentals of Biochemistry Lab	Practical knowledge on qualitative as well as quantitative estimation 0f different biomolecules
SEC 1	Apiculture	Students learn about the habitat and behaviour of honey bees and methods of beekeeping
SEC 1	Aquarium fish Keeping	Students understand the methods of fishkeeping in aquarium and their food habit,behaviour etc.

C8T	Comparative Anatomy of Vertebrates	Students learn about the relationships between organisms by the comparative study of internal as well as external structures and also about their common ancestor
C8P	Comparative Anatomy of Vertebrates Lab	Practical experience about the relationships between organism by comparative study
C9T	Animal Physiology : Life Sustaining Systems	Learning about different organs within each system and their function
C9P	Animal Physiology : Life Sustaining Systems Lab	Students learn practical knowledge about the circulation within the body
C10T	Immunology	learn about body defense system and processes involved.
C10 P	Immunology Lab	practical knowledge on different immunologial tools and techniquea'
SEC 2	Medical Diagnostic Techniques	Learning about different techniques in diagnostic procedure
SEC 2	Sericulture	learn about basic methods and techniques regarding silk production.
C11T	Molecular Biology	student know about central dogma.
C11P	Molecular Biology lab	practical klowledge on extraction and estimation of nucleic acids.
C12T	Genetics	knowledge on genes and their hereditary patterns.
C12P	Genetics Lab	practical knowledge on the transmission patterns of genes using pedigree analysis.
DSE 1T	Animal behaviour and chronobiology	learning habits and habitats of animals.
DSE 1T	Fish & fisheries	learn about classification of fishes and different methods in fish culture.
DSE 1T	Reproductive Biology	knowledge on reproductive organs and physiology of reproduction.
DSE 1P	Animal behaviour and chronobiology Lab	observation on the habits and understanding their nature of response of animals.
DSE 1P	Fish & fisheries Lab	observing and identifying different fishes and gathering knowledge on fish culture by visiting fisheries.
DSE 1P	Reproductive Biology Lab	Practical knowledge about reproductive cells and organs
DSE 2T	Animal biotechnology	Students learn about transgenic animal development
DSE 2T	Microbiology	Students learn about microorganisms and respective diseases
DSE 2P	Animal biotechnology Lab	Practical knowledge about transgenic animal development
DSE 2P	Microbiology Lab	Practical knowledge on identification of microbes

C13T	Developmental biology	Learning about evolutionary significance in developing fetus and drawing phylogenetic relationship
C13P	Developmental biology Lab	Practical knowledge and experimental ideas of developing fetus
C14T	Evolutionary biology	Students learn basic principles and process of evolution
C14P	Evolutionary biology Lab	Profound knowledge on homology, analogy of characters and study on fossid records.
DSE 3T	Parasitology	Students learn about the parasites and their pathogenesis
DSE3P	Parasitology Lab	Practical knowledge on identification of parasites and their respective hosts
DSE 3T	Endocrinology	Learning on structure of endocrine glands and hormones
DSE 3P	Endocrinology Lab	Identification of different endocrine glands
DSE 4T	Biology of Insects	Students learn about entomological comments and their biology
DSE4P	Biology of Insects Lab	Dissection and identification of diffetent insects order
DSE 4T	Wildlife conservation & Management	Students learn about objective of conservation and management
DSE 4P	Wildlife conservation & Management Lab	Practical experience on type of conservation through educational tour
GE1T	Animal cell biotechnology	Students learn about basic principles of genetic engineering and steps involved in it
GE1P	Animal cell biotechnology Lab	Practical learning about the process of recombinant DNA technology
GE2T	Animal diversity	Learning about diverse animal phyla
GE2P	Animal diversity Lab	Practical knowledge on quantifying animal diversity
GE3T	Aquatic Biology	Students learn about aquatic ecosystem and its community
GE3P	Aquatic Biology Lab	Identification of aquatic fauna
GE4T	Insect vector & diseases	Study on the vector borne diseases and their causative agents
GE4P	Insect vector & diseases Lab	Identification of insect vectors
GE4T	Environment & public health	Learnig about different ecosystems and interaction with human health
GE4P	Environment & public health Lab	Practical knowledge on different ecosystem

B.SC GENERAL IN ZOOLOGY

Programme Outcome:-

Programme Specific Outcomes:-

Course code	Course Name	Course Outcome
DSC1AT	Animal diversity	Learning about diverse animal phyla
DSC1AP	Animal diversity Lab	Practical knowledge on quantifying animal diversity
DSC1BT	Comparative anatomy & developmental biology of vertebrates	Knowing evolutionary significance in developing fetus and drawing phylogenetic relationship
DSC1BP	Comparative anatomy & developmental biology of vertebratesLab	Observation and experimental ideas on developing fetus
DSC1CT	Physiology & Biochemistry	Learning the body building molecules and physiology of systems
DSC1CP	Physiology & Biochemistry Lab	Observation and experimental knowledge about cellular processes
DSC1DT	Genetics & evolutionary biology	Learning basic concepts of population genetics and process of evolution
DSC1DP	Genetics & evolutionary biology Lab	Observation and calculating changes in gene frequency within population
DSE1T	Applied Zoology	Learning the common pests as well as economically important animals
DSE1P	Applied Zoology Practical	Study and observation of pests and their nature of damage,control measures
DSE1T	Aquatic biology	Students learn about the aquatic community and their interactions
DSE1P	Aquatic biology Practical	Experiment and observation of aquatic community as well as water parameters
DSE1T	Immunology	Concept on basic components of body defense system and their role
DSE1P	Immunology Practical	Basic experiments and techniques used in immunology
DSE2T	Animal Biotechnology	Learning about transgenic animal development
DSE2P	Animal Biotechnology Practical	Experimental design to form transgenic animal
DSE2T	Reproductive Biology	Knowledge about reproductive structure as well as the process of reproduction
DSE2P	Reproductive Biology Practical	Experiment and observation of reproductive physiology
DSE2T	Insect, vector & diseases	Learning on insect vectors and their disease causing ability
DSE2P	Insect, vector & diseases Practical	Identification of insect vectors and their respective hosts
DSE2	Project work	Hands on experience to solve a basic fact
SEC1	Apiculture	Students learn about the habitat and behaviour of honey bees and methods of beekeeping
SEC2	Aquarium fish keeping	Students understand the methods of fishkeeping in aquarium and their food habit,behaviour etc.
SEC3	Medical diagnostics	Learning about different techniques in diagnostic procedure

SEC3	Research Methodology	Knowledge about basic methodology in research
SEC4	Sericulture	learn about basic methods and techniques regarding silk production.
GE1T	Animal cell biotechnology	Students learn about basic principles of genetic engineering and steps involved in it
GE1P	Animal cell biotechnology Lab	Practical learning about the process of recombinant DNA technology
GE2T	Animal diversity	Learning about diverse animal phyla
GE2P	Animal diversity Lab	Practical knowledge on quantifying animal diversity
GE3T	Aquatic Biology	Students learn about aquatic ecosystem and its community
GE3P	Aquatic Biology Lab	Identification of aquatic fauna
GE4T	Insect vector & diseases	Study on the vector borne diseases and their causative agents
GE4P	Insect vector & diseases Lab	Identification of insect vectors
GE4T	Environment & public health	Learnig about different ecosystems and interaction with human health
GE4P	Environment & public health Lab	Practical knowledge on different ecosystem

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

1.1 List of courses offered across Programme during last five years

Program code	Program Name	Course code	Course Name	Course Outcome	Year of introduction
I.A. / I.Sc. / P.U.	*I.A. / I.Sc. / P.U.*	*?*	*I.A. / I.Sc. / P.U.*		*1949*
B.Sc. (General) Mathematics	B.Sc. (General) Mathematics	MTMG	B.Sc. (General) Mathematics		1957
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	MTMH	B.Sc. (Honours) Mathematics		1960
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C1T	Calculus, Geometry & Differential Equation	Familiarize students with practical application of calculus. Enables students to handle geometrical entities like straight lines, planes, spheres. It helps students to solve differential equation.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C2T	Algebra	Learn to find roots of polynomial over real.Introduction to vector space and subspace. Give computational techniques and algebraic skills essential for the study of systems of Linear equations, matrix algebra, vector spaces, eigenvalues and eigenvectors.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C3T	Real Analysis	It gives the basic idea of real number,limit of a sequence and seris.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C4T	Differential Equations & Vector Calculus	It helps to student to solve differnt types of differential equation.Familiarize students with practical application of vector calculus.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C5T	Theory of Real Functions & Introduction to Metric space	Knowledge about continuous function,uniform continuty,Roll's Theorem, MVT Theorem,Taylor's Theorem and basic notions of metric space.	2017 - 2018

B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C6T	Group Theory - 1	It gives the basic idea of groups,subgroups,cyclic groups,normal subgroups and group homomorphisim.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C7T	Numerical Methods	Student will be able to solve Transcendental and polynomial equations,System of linear algebraic equations,Ordinary differential equations.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C7P	Numerical Methods Lab	Problem solve on numerical analysis by using Turbo C software.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C8T	Riemann Integration and Series of Functions	It gives the fundamental idea about Riemann Integration , Improper integrals,Fourier series,Power series.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C9T	Multivariate Calculus	Students would learn:- 1. Limit and contunity of functions of several variables,2.Double integration and triple integration,3 Divergence, curl, and Green’s theorem ,Stok's theorem, and Divergence theorem.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C10T	Ring Theory and Linear Algebra I	Students would learn:- 1.Ring, subrings,ideal, integral domains and field.2.Ring homomorphisms and Isomorphism theorems I, II and III.3.Vector spaces and Linear transformations	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C11T	Partial Differential Equations & Applications	Student will be able to solve first order partial differential equations, quasi linear equations, vibrating string problem and heat conduction problem and problems related to particle dynamics	2017 - 2018

B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C12T	Group Theory - II	Students would learn:- 1.Automorphism,2.Internal and External direct products of groups,3.Group actions,Sylow's theorems,Cauchy's theorem,and Simplicity of An for $n \geq 5$, non-simplicity tests.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C13T	Metric Spaces and Cpmplex Analysis	Learning and application of : 1.topology of metric spaces, 2. concept of convergence of a sequence and completeness, compactness,3. Limit and continuty of complex function.4.Familiarize students with analytic function, derivatives and Contour integrals of complex function.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	C14T	Ring Theory and Linear Algebra II	Introduction to rings and basic properties of rings and their homomorphisms and ideals. To learn the diagonalizability of matrices and linear transformations, geometry of inner product spaces and the properties of linear transformations on inner product spaces.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	DSE1T	Linear Programming	It provides basic rules to student to solve Linear Programming problem like transportation problem, assignment problem.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	DSE1T	Point Set Topology	Students would learn about countable,conncted and compact set in R	2017 - 2018

B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	DSE1T	Theroy of Equations	Mainly the course is designed so as to exemplify the applications of theroy ofequations.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	DSE2T	Probability and Statistics	To give students an acquaintance with the axiomatic development theory of probability &Statistics and develop a mathematical theory with the help of induced probability space and distribution functions	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	DSE2T	Boolean Algebra and Automata Theory	It imparts the knowledge about switching circuits and its application.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	DSE2T	Portfolio Optimization	It helps to take various financial decisions involving risk free assets and utilisation of funds	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	DSE3T	Mechanics	It gives an idea about motion of artificial satellites and three dimentional forces.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	DSE3T	Number Theory	Students would be able to know arithmetic functions,primitive roots and quadratic reciprocity law	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	DSE3T	Industrial Mathematics	This content is based on mathematics of X-ray CT scan based on the knowledge of calculus.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	DSE4T	Differential Geometry	It helps student to know about the surfaces and space curves.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	DSE4T	Mathematical Modelling	Enhancing students' overall development and to equip them with mathematical modeling abilities, problem solving skills.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	DSE4T	Bio Mathematics	It gives the idea about mathematical biology and modeling process.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	SEC1T	Objective Oriented Programming in C++	It provides basic rules regarding Programming in C++	2017 - 2018

B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	SEC1T	Logic and Sets	Formulate and develop mathematical arguments in a logical manner.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	SEC2T	Graph Theory	Students would learn about different types of graph, Eulerian circuits,Hamiltonian cycles and solve travelling salesman's problem.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	SEC2T	Computer Graphics	It gives an idea about computer graphics.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	SEC2T	Operating system: Linux	It provides basic rules regarding Programming in Operating system: Linux	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	GE1T	Calculus, Geometry & Differential Equation	Familiarize students with practical application of calculus. Enables students to handle geometrical entities like straight lines, planes, spheres. It helps students to solve differential equation.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	GE2T	Algebra	Learn to find roots of polynomial over real.Introduction to vector space and subspace. Use computational techniques and algebraic skills essential for the study of systems of Linear equations, matrix algebra, vector spaces, eigenvalues and eigenvectors.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	GE3T	Differential Equations & Vector Calculus	It helps to student to solve differnt types of differential equation.Familiarize students with practical application of vector calculus.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	GE3T	Group Theory I	It gives the basic idea of groups,subgroups,cyclic groups,normal subgroups and group homomorphisim.	2017 - 2018

B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	GE3T	Theory of Real Functions & Introduction to Metric space	Knowledge about continuous function,uniform continuty,Roll's Theorem, MVT Theorem,Taylor's Theorem and metric space.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	GE4T	Numerical Methods	Student will be able to solve Transcendental and polynomial equations,System of linear algebraic equations,Ordinary differential equations.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	GE4P	Numerical Methods Lab	Problem solve on numerical analysis by using Turbo C software.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	GE4T	Partial Differential Equations & Applications	Student will be able to solve first order partial differential equations, quasi linear equations, vibrating string problem and heat conduction problem.	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	GE4T	Ring Theory and Linear Algebra I	Students would learn:- 1.Ring, subrings,ideal, integral domains and field.2.Ring homomorphisms and Isomorphism theorems I, II and III.3.Vector spaces and Linear transformations	2017 - 2018
B.Sc. (Honours) Mathematics	B.Sc. (Honours) Mathematics	GE4T	Multivariate Calculus	Students would learn:- 1. Limit and contunity of functions of several variables,2.Double integration and triple integration,3 Divergence, curl, and Green’s theorem ,Stok's theorem, and Divergence theorem.	2017 - 2018

B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	DSC-1AT(CC-1)	Differential Calculus	Student will be to understand differentiation and fundamental theorem in differentiation and various rules. Geometrical representation and problem solving on MVT and Rolls theorem. Finding extreme values of function.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	DSC1BT(CC-2)	Differential Equations	It helps student to solve differnt types of differential equation.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	DSC1CT(CC-3)	Real Analysis	It gives the basic idea of real number,limit of a sequence and seris.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	DSC1DT(CC-4)	Algebra	It gives the basic idea of groups,subgroups,cyclic groups,normal subgroups and group homomorphisim,Ring & Field.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	DSE1T	Complex Analysis	Learning and application of limit and continuty of complex function.Familiarize students with analytic function, derivatives and Contour integrals of complex function.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	DSE1T	Matrices	This topics give computational techniques and algebraic skills essential for the study of systems of Linear equations, matrix algebra, vector spaces, eigenvalues and eigenvectors.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	DSE1T	Linear Algebra	Give computational techniques and algebraic skills essential for the study of systems of Linear equations, matrix algebra, vector spaces, eigenvalues and eigenvectors.	2017 - 2018

B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	DSE1T	Vector Calculus and Analytical Geometry	Familiarize students with practical application of vector calculus. Enables students to handle geometrical entities like straight lines, planes, spheres,cone.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	DSE2T	Mechanics	One dimensional motion is aimed to be studied for simplest cases.Vectors algebra recapitulation is motivated so that the forces in 2D and 3D in Statics can be given a general treatment (Vectorial treatment is encouraged).	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	DSE2T	Linear Programming	It provides rules to student to solve Linear Programming problem like transportation problem, assignment problem.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	DSE2T	Numerical Methods	Student will be able to solve Transcendental and polynomial equations,System of linear algebraic equations,Ordinary differential equations.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	DSE2T	Integer Programming and Theory of Games	It provides basic rules to student to solve integer Programming problem and game theory	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	SEC1T	Theory of Equations	Mainly the course is designed so as to exemplify the applications of theroy ofequations.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	SEC1T	Logic and Sets	Formulate and develop mathematical arguments in a logical manner.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	SEC1T	Boolean Algebra	It imparts the knowledge about switching circuits and its application.	2017 - 2018

B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	SEC2T	Graph Theory	Students would learn about different types of graph, Eulerian circuits,Hamiltonian cycles and solve travelling salesman's problem.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	SEC2T	Integral Calculus	It provides basic rules evaluation of length and area of a curve in the plane and volumes and surfaces of solid.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	SEC2T	Mathematical Finance	Understand, formulate and use quantitative models arising in social science, Business and other contexts.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	SEC3T	Number Theory	Students would be able to know arithmetic functions.Learn about application of Euler's phi-function	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	SEC3T	Bio-Matheatics	It gives the idea about mathematical biology and modeling process.	2017 - 2018
B.Sc. (General) in Mathematics	B.Sc. (General) in Mathematics	SEC3T	Mathematical Modelling	Enhancing students' overall development and to equip them with mathematical modeling abilities, problem solving skills.	2017 - 2018

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

B.A GENERAL IN PHYSICAL EDUCATION

Programme Outcome:-

- It is the only sports and games based subject which help the student for further study in the field of Physical Education and Sports, And also it is one of the elective subject which is the eligibility criteria of BPEd

Course code	Course Name	Course Outcome
DSC 1 A - SEMESTER I (CORE COURSE)	FOUNDATION AND HISTORY OF PHYSICAL EDUCATION	It is the only sports and games based subject which help the studenfor further study in the field of Physical Education and Sports, And alsoit is one of the elective subject which is the eligibility criteria of BPEd
DSC 1 B - SEMESTER II (CORE COURSE)	MANAGEMENT OF PHYSICAL EDUCATION	It is the only sports and games based subject which help the studenfor further study in the field of Physical Education and Sports, And alsoit is one of the elective subject which is the eligibility criteria of BPEd
DSC 1 C SEMESTER III (CORE COURSE)	ANATOMY,PHYSIOLOGY AND EXERCISE PHYSIOLOGY	It is the only sports and games based subject which help the studenfor further study in the field of Physical Education and Sports, And alsoit is one of the elective subject which is the eligibility criteria of BPEd
DSC 1 D - SEMESTER IV (CORE COURSE)	HEALTH EDUCATION, PHYSICAL FITNESS AND WELLNESS	It is the only sports and games based subject which help the studenfor further study in the field of Physical Education and Sports, And alsoit is one of the elective subject which is the eligibility criteria of BPEd
DSE 1 - SEMESTER I (ELECTIVE COuRSE)	TEST AND MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION OR PSYCHOLOGY IN PHYSICAL EDUCATION OR ENVIRONMENTAL EDUCATION	It is the only sports and games based subject which help the studenfor further study in the field of Physical Education and Sports, And alsoit is one of the elective subject which is the eligibility criteria of BPEd
DSC 2 - SEMESTER II (ELECTIVE COURSE)	SPORTS TRAINING OR PROJECT WORK	It is the only sports and games based subject which help the studenfor further study in the field of Physical Education and Sports, And alsoit is one of the elective subject which is the eligibility criteria of BPEd
SEC 1 - SEMESTER III (CORE COURSE)	INDIAN GAME AND RACKET GAME	It is the only sports and games based subject which help the studenfor further study in the field of Physical Education and Sports, And alsoit is one of the elective subject which is the eligibility criteria of BPEd
SEC 2 - SEMESTER IV (CORE COURSE)	BALL GAME	It is the only sports and games based subject which help the studenfor further study in the field of Physical Education and Sports, And alsoit is one of the elective subject which is the eligibility criteria of BPEd
SEC 3 - SEMESTER V (CORE COURSE)	GYMNASTIC AND YOGA OR COMPUTER APPLICATION IN EDUCATION	It is the only sports and games based subject which help the studenfor further study in the field of Physical Education and Sports, And alsoit is one of the elective subject which is the eligibility criteria of BPEd
SEC 4 - SEMESTER VI (CORE COURSE)	TRACK AND FIELD	It is the only sports and games based subject which help the studenfor further study in the field of Physical Education and Sports, And alsoit is one of the elective subject which is the eligibility criteria of BPEd

GE 1 - SEMESTER IV (CORE COURSE)	MODERN TRENDS AND PRACTICES IN PHYSICAL EDUCATION OR FOUNDATION AND HISTORY OF PHYSICAL EDUCATION OR MANAGEMENT OF PHYSICAL EDUCATION	It is the only sports and games based subject which help the studenfor further study in the field of Physical Education and Sports, And alsoit is one of the elective subject which is the eligibility criteria of BPEd
GE 2 - SEMESTER V (CORE COURSE)	HEALTH EDUCATION AND TEST AND MEASUREMENT IN PHYSICAL EDUCATION OR ANATOMY, PHYSIOLOGY AND EXERCISE PHYSIOLOGY OR YOGA EDUCATION	It is the only sports and games based subject which help the studenfor further study in the field of Physical Education and Sports, And alsoit is one of the elective subject which is the eligibility criteria of BPEd

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

B.COM HONOURS IN ACCOUNTING AND FINANCE

Programme Outcome:-

- Acquiring comprehensive knowledge in financial reporting, auditing, taxation, and financial management.
- Develops critical thinking, analytical, and ethical decision-making skills, preparing them for professional roles in accounting, finance, and business or for further academic pursuits.
- Inspire to become an entrepreneur;
- Improves the managerial skill coping with the dynamic business environment;

Course code	Course Name	Course Outcome
C1T	Financial Accounting	Students would learn:- 1. Basic fundamentals of accounting theory and procedures; 2. Conception of income and revenue recognition; 3. Preparation of Final Accounts
C1P	Financial Accounting (Practical)	Training for maintaining accounts through various Accounting software
C2T	Business law	Knowledge about Commercial and Industrial Laws that would help the students for establishing and running any business entity in the stipulated regulatory framework
GE-1	Micro Economics	It helps to take any economical decision at individual/ firm level.
C3T	Corporate Accounting	It gives an idea about the accounting procedure of corporate entities
C4T	Corporate Laws	It imparts the idea of how a corporate entity can function within the corporate legal framework
GE2T	Macro Economics	Helps to gather idea about the economical conditions of the nation as well as of the world which are very essential to take any business decision
C5T	Human Resource Management	Helps to understand the human aspects of the employees who are the main resources of any organisation
C6T	Income Tax Law and Practice	It provides basic rules regarding Income Tax and its implementation
C6P	Income Tax Law and Practice (Practical)	It trains the students for preparing the Income Tax returns in electronic version
C7T	Management Principles and Applications	Explores the technique of implementation of basic principles of managememt in business
GE3T	Business Statistics	It helps to collect, process and interpret the past business related date to determine the present trend
GE3P	Business Statistics (Practical)	It trains the students to use technical knowhow for statistical calculations
SEC-1	E.Commerce	It gives the fundamental idea about commercial activities at electronic platform
C8T	Cost Accounting	It teaches the scientific method to compute the cost of a prodcut/service

C9T	Business Mathematics	It gudies the students to use mathematical tools in decision making of an entreprise
C9P	Business Mathematics(Practical)	It trains the students for using computers in solving the business problem through various mathematical techniques
C10T	Computer Application in Business	In this electronic era, it explores how computer is an essential tool to run business
C10P	Computer Application in Business (Practical)	It explores various practical uses of computer in business
GE-4	Indian Economy	It highlights the present condition and trend of the economy of India
SEC-2	Entrepreneurship Or Personal Selling and Salesmanship	1. It insists to become an entrepreneur . 2. It helps to develop personal traits for marketing any product or services
C11T	Principles of Marketing	It extends the basic principles of marketing which are more essential in Indian perspective
C12T	Fundamentals of Financial Management	It helps to take various financial decisions involving optimum accumulation and utilisation of funds
C12P	Fundamentals of Financial Management (Practical)	It trains the students to use technical knowhow for taking any financial decision.
DSE-1	Management Accounting	It enables students to interpret financial data to aid managerial decisions, optimize resource allocation, enhance organizational performance and develop proficiency in cost analysis, budgeting, financial planning and decision-making.
DSE-2	Financial Markets, Institutions and Financial Services	It involves understanding the structure, functions and regulations of financial markets and institutions and develop skills in analyzing financial services for various stakeholders.
C13T	Auditing and Corporate Governance	It explores the technique to govern any business entity and procedure to examine the authenticity of the financial reporting
C14T	Indirect Tax Law	It gives a basic idea regarding indirect taxation including GST and Customs Act in Indian context.
DSE-3	Business Tax Procedure and Management	It equips students with knowledge and skills to effectively manage tax obligations, understand tax laws, and implement strategic tax planning for businesses.
DSE-4	Business Research Methods and Project Work	1. It enables students to develop skills in data collection, analysis, and interpretation, enabling them to address complex business problems. 2. The course culminates in a comprehensive project, demonstrating their ability to apply theoretical knowledge to real-world business problems, enhancing their analytical, problem-solving, and decision-making skills.

B.COM GENERAL

Programme Outcome:-

- Inspire to become an entrepreneur;
- Improves the managerial skill coping with the dynamic business environment;
- Acquiring knowledge of commerce, industry, accounting, taxation and their implementations in practical field.

Course code	Course Name	Course Outcome
C1T	Financial Accounting	Students would learn:- 1. Basic fundamentals of accounting theory and procedures; 2. Conception of income and revenue recognition; 3. Preparation of Final Accounts
C1P	Financial Accounting (Practical)	Training for maintaining accounts through various Accounting software
C2T	Business Organisation and Management	Explores the technique of implementation of basic principles of managememt in business
C3T	Business Law	Knowledge about Commercial and Industrial Laws that would help the students for establishing and running any business entity in the stipulated regualtory framework
C4T	Business Mathematics and Statistics	It gudies the students to use mathematical tools in decision making of an entreprise
C5T	Company Law	It imparts the idea of how a corporate entity can function within the corporate legal framework
C6T	Income Tax Law and Practice	It provides basic rules regarding Income Tax and its implementation
C6P	Income Tax Law and Practice (Practical)	It trains the students for preparing the Income Tax returns in electronic version
SEC-1T	Computer Application in Business	In this electronic era, it explores how computer is an essential tool to run business
SEC-1P	Computer Application in Business (Practical)	It explores various practical uses of computer in business
C7T	Corporate Accounting	It gives an idea about the accounting procedure of corporate entities
C8T	Cost Accounting	It teaches the scientific method to compute the cost of a prodcut/service
SEC2T	Business Communication/E-Commerce	It enables students to use various techniques and tools for effective communication in business
SECP	E-Commerce	It gives the fundamental idea about commercial activities at electronic platform
GE1T	Principles of Micro Economics	It helps to take any economical decision at individual/ firm level
SEC-3	Entrepreneurship	It insists to become an entrepreneur
SEC4T	Personal Selling and Salesmanship	It helps to deveop personal tratits for marketing any product or services

JHARGRAM RAJ COLLEGE

(Government of West Bengal)

affiliated to Vidyasagar University

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Criteria 2- Teaching- Learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcome

2.6.1 ***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

POST GRADUATION COURSES

M.SC HONOURS IN CHEMISTRY

Programme Outcome:-

Course code	Course Name	Course Outcome
CEM-102	Pericyclic reaction-1, Organic transformations/synthesis/reagents chemistry-1, natural products-terpenoids, Natural products-alkaloids, Retrosynthesis I.	Explain the use of reagents in organic synthesis, electro cyclic ring closing and ring opening reaction; Use and synthesis of natural products
CEM-103	Inorganic Chemistry: Symmetry and Group theory-I, Crystallography, Bioinorganic chemistry-I, Chemical toxicology.	Explain the of symmetry present in molecules; crystal structure; use of different metals ion and their enzymatic activity, toxicity on human health.
CEM-104	Food processing and preservation-I and Computer basics	It consists constituents of food, its processing and preservation; basic knowledge of computer.
CEM-105	Food processing preservation and packaging Practical And Inorganic Chemistry Practical.	Preparation of jams, jellies and estimation of food values and their packaging in laboratory.
CEM-201	Physical Chemistry: Quantum Mechanics-II, Chemical kinetics, electrochemistry-II, molecular spectroscopy-II	Understanding of the microscopic and classical aspect of physical chemistry by bridging the gap between the two elaborately; theoretical concept of molecular spectroscopy; kinetics study and electrolytic solution.
CEM-202	Pericyclic reaction-2, Organic transformations/synthesis/reagents chemistry2, Retrosynthesis II, Stereochemistry-1, Stereochemistry-2.	Explain the use of reagents in organic synthesis, electro cyclic ring closing and ring opening reaction; reactivity using stereo chemical approach.
CEM-203	Inorganic Chemistry: Organometallic chemistry –I, Allotropes of carbon and boron compounds, Chemistry of d-block elements.	Understanding the M-C interaction; several allotropes boron and carbon; molecular symmetry of inorganic molecules elaborately and comparative study of d-block elements.
CEM-204	Nanotechnology: Principles and Practices. Introduction, synthesis of nanomaterials, analysis techniques, application of nanotechlogy.	Basic concept, analysis and application of nanotechnology.
CEM-205	Organic Chemistry Practical and Physical Chemistry Practical	Practical training of the separation of the mixture of organic liquid sample; quantitative analysis of different compounds.
CEM-301	Approximate method in QM-I, Approximate method in QM-II, Group theory-I & Group theory-I I.	Understanding of the microscopic aspect of physical chemistry elaborately and theoretical concept about molecular symmetry.
CEM-302	Statistical mechanics, Chemical kinetics-I, Chemical Kinetics-II, Advanced Electrochemistry.	Understanding the equilibrium, kinetics of chemical reaction and conductance and EMF study of different solution.
CEM-303	NMR, ESR, LASER, PES, NQR, Photophysical Processes.	Understanding the photo-physical process and explain the concept and application of LASER, EPR, PES, NQR.
CEM-304	Introduction of Pharmaceutical Chemistry, Classification and nomenclature of drugs, Theory of drog action and factors affecting the drugs, Types of drugs, Antimalarial drugs.	Understanding the properties , preparation, classification of different drugs and their side effect.
CEM-305	Project work: Physical Chemistry special.	Training of pre-research work on physical chemistry.
CEM-301	Organometallic chemistry – II, Application of organometallic compounds and catalysis, Chemical	Understanding the application of organometallic compound in different organic synthesis; comparative study of f-block elements and application of group theory.

	application of group theory – I, Chemistry of f-block elements.	
CEM-302	Bioinorganic chemistry – II, Nuclear chemistry, Inorganic photochemistry Solid state chemistry.	It understanding the different enzymatic function in human body; mechanism of photo-synthesis, nuclear energy; inorganic photochemistry and solid state chemistry.
CEM-303	NMR, ESR, LASER, PES, NQR, Photophysical Processes.	Understanding the photo-physical process and explain the concept and application of LASER, EPR, PES, NQR.
CEM-304	Introduction of Pharmaceutical Chemistry, Classification and nomenclature of drugs, Theory of drog action and factors affecting the drugs, Types of drugs, Antimalarial drug.	Understanding the properties, preparation, classification of different drugs and their side effect.
CEM-305	Project work: Inorganic Chemistry special.	Training of pre-research work on inorganic chemistry.
CEM-301	Pericyclic reaction-III, Linear free energy relationship I and II, Organometallic chemistry.	Thermal and photochemical organic reaction, concept about free energy diagram of organic reaction and application of organometallics compound in organic synthesis.
CEM-302	Bioorganic and supramolecular Chemistry-1,2, and 3, Peptides and nucleic acids, Green chemistry.	Preliminary idea about the different type of interaction of bio-organic molecules and organic synthesis by greens approach.
CEM-303	NMR, ESR, LASER, PES, NQR, Photophysical Processes.	Understanding the photo-physical process and explain the concept and application of LASER, EPR, PES, NQR.
CEM-304	Introduction of Pharmaceutical Chemistry, Classification and nomenclature of drugs, Theory of drog action and factors affecting the drugs, Types of drugs, Antimalarial drugs.	Understanding the properties, preparation, classification of different drugs and their side effect.
CEM-305	Project work: Organic Chemistry special.	Training of pre-research work on organic chemistry.
CEM-401	Quantum mechanics of many electron atoms, Atomic Spectroscopy, QM of diatomic molecules, QM of polyatomic molecules.	Understanding of the microscopic aspect of many electron systems.
CEM-402	Non-equilibrium thermodynamics, Macromolecules & Bioploymers, Solid state-I, Solid state-II.	Understanding the non-equilibrium nature of natural processes under deterministic and stochastic domains.
CEM-403	Detailed 1H NMR, 13C NMR, CW and FT techniques, Principles of relaxation, NOE, Mass spectroscopy, Combined applications of spectroscopic techniques for structure elucidation, CD ORD, Moss-Bauer.	Theoretical concept of the determination of structure by the different spectroscopic method.
CEM-404	Milk products, Cereals, Legunes and nuts, Fats and oils, food safety, fruits and vegetables	Understanding of the processing and preservation of different milk product, cereals legumes, nuts fat, oil, fruit and vegetable.
CEM-405	Project work: Physical Chemistry special.	Training of pre-research work on physical chemistry.
CEM-401	Molecular magnetism-I, Molecular magnetism-II, Metal carbonyls, clusters and metal-metal bonded compounds Supramolecular chemistry and designing of molecular materials	It understanding the magnetic properties of inorganic molecules, interaction of M-C cluster and different types of interaction on its.
CEM-402	Reaction mechanism of transition metal complexes, Electron transfer reactions and twist mechanism. Analytical chemistry-I Analytical chemistry-II	It gives an idea about the structure, stability, reactivity and mechanistic study of different type of inorganic complexes; theoretical concept of different inorganic analytical instruments.

CEM-403	Detailed 1H NMR, 13C NMR, CW and FT techniques, Principles of relaxation, NOE, Mass spectroscopy, Combined applications of spectroscopic techniques for structure elucidation, CD ORD, Moss-Bauer.	Theoretical concept of the determination of structure by the different spectroscopic method.
CEM-404	Milk products, Cereals, Legunes and nuts, Fats and oils, food safety, fruits and vegetables.	Understanding of the processing and preservation of different milk product, cereals legumes, nuts fat, oil, fruit and vegetable.
CEM-405	Project work: Inorganic Chemistry spl.	Training of pre-research work on inorganic chemistry.
CEM-401	Organic photochemistry-1 & 2, Biological active molecules, Vitamins & co-enzymes, Heterocycles-2.	It gives detail idea about photo-chemical organic reaction and idea about biological active-molecules; synthesis and reaction of heterocyclic compounds.
CEM-402	Stereochemistry-3, Stereochemistry-4, Stereochemistry-5, Stereochemistry-6, Stereochemistry-7.	Mechanism study of organic reaction by stereo-chemistry elaborately.
CEM-403	Detailed 1H NMR, 13C NMR, CW and FT techniques, Principles of relaxation, NOE, Mass spectroscopy, Combined applications of spectroscopic techniques for structure elucidation, CD ORD, Moss-Bauer.	Theoretical concept of the determination of structure by the different spectroscopic method.
CEM-404	Milk products, Cereals, Legunes and nuts, Fats and oils, food safety, fruits and vegetable.	Understanding of the processing and preservation of different milk product, cereals legumes, nuts fat, oil, fruit and vegetable.
CEM-405	Project work: Organic Chemistry special.	Training of pre-research work on organic chemistry.
CEM-101	PHYSICAL CHEMISTRY - I	Understanding of the microscopic and classical aspect of physical chemistry by bridging the gap between the two.
CEM-102	ORGANIC CHEMISTRY- I	Explain the use of reagents in organic synthesis, electro cyclic ring closing and ring opening reaction; Use and synthesis of natural products
CEM-103	INORGANIC CHEMISTRY- I	Explain the symmetry present in molecules; crystal structure; use of different metals ion and their enzymatic activity, toxicity on human health.
CEM-104	FOOD PROCESSING AND PRESERVATION AND COMPUTER BASICS	It consists constituents of food, its processing and preservation; basic knowledge of computer.
CEM-195	INORGANIC CHEMISTRY (practical)	Practical training about quantitative analysis by gravimetric and volumetric method; analysis of metals, alloy, minerals and ores; synthesis and characterisation of complex molecules
CEM-196	FOOD PROCESSING AND PRESERVATION (practical)	Preparation of jams, jellies and estimation of food values and their packaging in laboratory.
CEM-201	PHYSICAL CHEMISTRY - II	Understanding of the microscopic and classical aspect of physical chemistry by bridging the gap between the two elaborately; theoretical concept of molecular spectroscopy; kinetics study and electrolytic solution.
CEM-202	ORGANIC CHEMISTRY- II	Explain the use of reagents in organic synthesis, electro cyclic ring closing and ring opening reaction; reactivity using stereo chemical approach.
CEM-203	INORGANIC CHEMISTRY- II	Understanding the M-C interaction; several allotropes boron and carbon; molecular symmetry of inorganic molecules elaborately and comparative study of d-block elements.
CEM-204	NANOTECHNOLOGY:PRINCIPLES AND PRACTICES(CBCS)	Basic concept, analysis and application of nanotechnology.
CEM-295	ORGANIC CHEMISTRY (practical)	Practical training of the separation of the mixture of organic liquid sample; quantitative analysis of different compounds.

CEM-296	PHYSICAL CHEMISTRY (practical)	Practical training of quantitative analysis of different compounds
CEM-301	ADVANCED SPECTROSCOPY-I (Common Paper)	Understanding the application of organometallic compound in different organic synthesis; comparative study of f-block elements and application of group theory.
CEM-302	ADVANCED PHYSICAL CHEMISTRY-I	Understanding of the microscopic aspect of physical chemistry elaborately and theoretical concept about molecular symmetry; radiation-matter interaction
CEM-303	ADVANCED PHYSICAL CHEMISTRY-II	Understanding the non-equilibrium nature of natural processes under deterministic and stochastic domains; electrical conductivity and defect in solid
CEM-302	ADVANCED INORGANIC CHEMISTRY-I	Understanding the application of organometallic compound in different organic synthesis; application of group theory
CEM-303	ADVANCED INORGANIC CHEMISTRY SPECIALISATION	It understanding the different enzymatic function in human body; mechanism of photosynthesis; photochemistry
CEM-302	ADVANCED ORGANIC CHEMISTRY-I	Thermal and photochemical organic reaction, concept about free energy diagram of organic reaction and application of organometallics compound in organic synthesis.
CEM-303	ADVANCED ORGANIC CHEMISTRY-II	Preliminary idea about the different type of interaction of bio-organic molecules and organic synthesis by greens approach.
CEM-304	INTRODUCTION TO PHARMACEUTICAL CHEMISTRY(CBCS) (Common paper)	Understanding the properties , preparation, classification of different drugs and their side effect.
CEM-395	CHEMISTRY PROJECT-I (PHYSICAL SPL/ORGANIC SPL/INORGANIC SPL)	Training of pre-research work.
CEM-401	ADVANCED SPECTROSCOPY-II (Common paper)	Theoretical concept of the determination of structure by the different spectroscopic method.
CEM-402	ADVANCED PHYSICAL CHEMISTRY-III	Understanding of the microscopic aspect of many electron systems.
CEM-403	ADVANCED PHYSICAL CHEMISTRY-IV	Understanding the non-equilibrium nature of natural processes under deterministic and stochastic domains.
CEM-404	CHEMISTRY IN TECHNOLOGY	Theoretical concept of analytical analytical instrument.
CEM-402	ADVANCED INORGANIC CHEMISTRY-III	It gives an idea about the magnetic property of different type of in organic complexes; theoretical concept of different inorganic analytical instruments.
CEM-403	ADVANCED INORGANIC CHEMISTRY-IV	Theoretical concept of the determination of reaction mechanism of different reaction.
CEM-404	CHEMISTRY IN TECHNOLOGY	Theoretical concept of analytical analytical instrument.
CEM-402	ADVANCED ORGANIC CHEMISTRY-III	It gives detail idea about photo chemical organic reaction and idea about biological active-molecules; synthesis and reaction of heterocyclic compounds.
CEM-403	ADVANCED ORGANIC CHEMISTRY-IV	Mechanism study of organic reaction by stereo chemistry elaborately.
CEM-404	CHEMICAL PRINCIPLES IN FOOD SCIENCE AND TECHNOLOGY	Concept about dairy processing, food safety, fat and oil processing
CEM-495	CHEMISTRY PROJECT-II (PHYSICAL SPL/ORGANIC SPL/ INORGANIC SPL)	Training of pre-research work.

M.SC IN ZOOLOGY

Programme Outcome:-

Course code	Course Name	Course Outcome
ZOO 102	Histochemistry & Animal Physiology	Learning the basic principles and procedure regarding histological studies
ZOO 103	Immunology & Methods in biology	Knowing the body defense system and process involved
ZOO 104	Cell biology & Cytogenetics	Basic knowledge on subcellular organelles and their function
ZOO 195	Non chordates, chordates, Histochemistry & Animal Physiology Practical	Knowing principles and procedures involved in particular area
ZOO 196	Immunology, Methods in biology, Cell biology & Cytogenetics Practical	Observation and experimental ideas in each discipline
ZOO 201	Biosystematics & Ecological principles	Classification of animals,knowing the rules of nomenclature
ZOO 202	Biophysics & Biochemistry	Learning properties of lights,basic knowledge of thermodynamics,chemical bonding
ZOO 203	Molecular biology & Parasitology	Learning central dogma of molecular biology and biology of the parasites
C ZOO 204	Wildlife & Ecomanagement & Aquainformatics	student learn about conservation strategies of wildlife.
ZOO 295	Ecological Principle, Biochemistry & Field Study	Knowing ecosystem principles and fieldbased studies.
ZOO 296	Biosystematics, Molecular biology , Parasitology & Biophysics	Learning about systematics, molecular taxonomy and pathogenesis of parasites.
ZOO 301	Basic & Applied Entomology & Eco toxicology	Gathers knowledge on economically important pest, integrated pest management etc.
ZOO 302	Molecular Evolution & Microbiology	Learning about molecular evolution and methods used in microbial cultures.
ZOO 303A	Fish Taxonomy & Biology & oceanography	student learning on identification of fishes and their habits and habitats.
ZOO 303B	Biodiversity & conservation Ecology & Aquatic Ecology	Learning about species diversity and conservation strategy of wildlfe.
ZOO 303C	Genetics & molecular Biology	Learning on concept of genes, chromosomes and their inheritance patterns.
ZOO 303D	Diversity & biology of Parasites & immunoparasitology	Student learning on pathogenesis and immunology of parasitic diseases.
C ZOO 304	Genetics & Haematology (CBCS)	knowledge on gene concepts, chromosome and hereditary consequences.
ZOO 395	Entomology, Ecotoxicology, Molecuar evolution & Microbiology	Learning on taxonomy and biology of insects, basics of toxicological studies.
ZOO 396 A	Fishery practical & field Trip	identifying fishes, basic knowledge on fish culture, induced breeding through field trips
ZOO 396B	Ecology Practical I & field Trip	
ZOO 369C	Genetics & Mol. Biology Practical I & Institute /Lab visit	Learning about different tools and techniques of molecular biology through visiting Institute.
ZOO 396 D	Parasitology Practical I & Institute/Lab Visit	Identifying parasites, learning on staining and mounting procedures.

ZOO 401	Environmental pollution & mamangement & Biostatistics	Introducing pollution and different statistical methods.
ZOO 402	Developmental biology & Neuroendocrinology	Knowledge on the development of a fetus into an adult.
ZOO 403A	Aquaculture & Inland & Marine fisheries	Profound knowledge on aquacultures including prawn, pearl culture.
ZOO 403B	Systems Ecology & Human ecology	Student learn about ecological principles and components of each ecosystem.
ZOO 403C	Human disease & Molecular analysis & applied Genetics	Knowing molecular basis of different genetic disorders and treatment.
ZOO 403D	Vector biology & vector borne parasites& molecular diagnosis & clinical parasitology	Introduction of the vectors having medical and veterinary importance, with special reference to their biology and preventive measures.
ZOO 495	Environmental management, Biostatistics, Developmental Bio & Neuroendocrinology	Learning on the basic statistical methods, developing fetus and introduction of neuroendocrine glands.
ZOO 495A	Fishery Practical II	Dissection and identification of fishes.
ZOO 495B	Ecology Practical II	Practical knowledge on different sampling methods used in ecological study.
ZOO 495C	Genetics & Mol BioPractical II	Experiencing DNA, RNA extraction procedure and their qualitative and quantitave analysis.
ZOO 495D	Parasitology Practical II	Learning on the staining, mounting and identification of parasites.
	Special paper based Project/Dissertation	
ZOO 496A	Fishery Special Pr.	Students will be able to learn how to do a project/dissertaion work through specific objective, methodologies and analysis of their result.
ZOO 496B	Ecology Special Pr.	They will be able to represent their work through a power point presentation and will be able to prepare a report with definite headings like introduction, objectives, materials and methods, results, discussion & bibliography.
ZOO 496C	Genetics & mol bio Special Pr.	
ZOO 496D	Parasitology Special Pr.	

M.A. IN BENGALI

Programme Outcome:-

Course code	Course Name	Course Outcome
BL 1101	প্রাচীন ও আধুনিক ইন্দো-ইউরোপীয় ভাষার কালানুক্রমিক পরিচয় ও ভাষা চর্চা	প্রাচীন ও আধুনিক ইন্দো-ইউরোপীয় ভাষার কালানুক্রমিক পরিচয় ও ভাষা চর্চা
BL 1102	আদি ও মধ্যযুগের সাহিত্যের ইতিহাস ও প্রেক্ষিত	আদি ও মধ্যযুগের বাঙ্গলা সাহিত্যের ইতিহাস সম্পর্কে জানবে
BL 1103	প্রাচীন ও মধ্যযুগের সাহিত্যপাঠ	আদি ও মধ্যযুগের বাঙ্গলা সাহিত্য সম্পর্কে জানবে
BL 1104	উনিশ ও বিশ শতকের প্রবন্ধ-সাহিত্যের ইতিহাস ও সাহিত্যপাঠ	উনিশ ও বিশ শতকের প্রবন্ধ-সাহিত্যের ইতিহাস ও সাহিত্যপাঠ করবে
BL 1201	জীবনী-আত্মজীবনী, রস-রচনা, আখ্যান কাহিনী ও ভ্রমন সাহিত্য	জীবনী-আত্মজীবনী, রস-রচনা, আখ্যান কাহিনী ও ভ্রমন সাহিত্য করবে
BL 1202	সাধারণ ভাষাবিজ্ঞান	অন্যান্য ভারতীয় ভাষা ও বাংলাভাষার উৎস ও বাংলাভাষার বিশেষ বৈশিষ্ট্য সম্পর্কে সাধারণ ধারণা নির্মাণ। বাংলাভাষার রূপতত্ত্ব ও ধ্বনিতত্ত্ব পাঠ।
BL 1203	উনিশ ও বিশ শতকের কাব্য-কবিতার ইতিহাস ও সাহিত্যপাঠ	উনিশ ও বিশ শতকের বাংলা কাব্য-কবিতার ইতিহাস ও সাহিত্যপাঠ
BL 1204	রবীন্দ্রনাথ	রবীন্দ্র সাহিত্য সম্পর্কে জ্ঞান লাভ
BL 2301	উনিশ ও বিশ শতকের কথা সাহিত্যের ইতিহাস ও সাহিত্যপাঠ	উনিশ ও বিশ শতকের কথা সাহিত্যের ইতিহাস ও সাহিত্যপাঠ
BL 2302	বাংলা নাটক ও প্রহসন ঃ উনিশ ও বিশ শতক	উনিশ ও বিশ শতকের বাংলা নাটক ও প্রহসনের ইতিহাস পাঠ। বিশিষ্ট নাট্যকারদের নাটক সম্পর্কে পরিচিতিলাভ।
BL 2303	প্রাচ্য-প্রতীচ্য সাহিত্য ও বাংলা সাহিত্যে তার প্রেরণা প্রভাব	প্রাচ্য-প্রতীচ্য সাহিত্য ও বাংলা সাহিত্যে তার প্রেরণা ও প্রভাব সংক্রান্ত ধারণা।
BL 2304	প্রাচ্য পাশ্চাত্য সাহিত্যতত্ত্ব	অলঙ্কার, ধ্বনি, গুণ, রীতি, বক্রোক্তি, ঔচিত্য, রস ইত্যাদি প্রস্থান ও 'সাহিত্যদর্পণ' পাঠ। প্রাচ্য সাহিত্যতত্ত্বের সাধারণ ধারণা। ক্লাসিসিসম, রোমান্টিসিসম, রিয়্যালিজম, ন্যাচারালিজম, সাররিয়ালিজম, সিম্বলিজম- সংক্রান্ত সাধারণ পরিচয়। বাংলা সাহিত্যে এই আন্দোলনগুলির প্রভাব।
BL 2401	বাংলা সাহিত্যে রূপান্তর, পাঠান্তর, কথান্তর ও অনুবাদ	বাংলা সাহিত্যে রূপান্তর, পাঠান্তর, কথান্তর ও অনুবাদ সম্পর্কে জানা
BL 2402	বাংলা ভাষা-সাহিত্য-সংস্কৃতি বিষয়ক প্রবন্ধ রচনা	বাংলা সাহিত্যের যেকোনও প্রাঙ্গন সম্বন্ধে নিবিড় চর্চা এবং বিষয়টি নিয়ে স্বতন্ত্র বিশ্লেষণ ও মতপ্রকাশ। চিন্তা, চেতনা, বিশ্লেষণ, সাহিত্যবোধ এবং লিখনদক্ষতা বৃদ্ধি।
BL 2403	(বিশেষ পত্র-১) ভাষাবিজ্ঞান ও ভাষা সমীক্ষা	অন্যান্য ভারতীয় ভাষা ও বাংলাভাষার উৎস ও বাংলাভাষার বিশেষ বৈশিষ্ট্য সম্পর্কে সাধারণ ধারণা নির্মাণ। বাংলাভাষার রূপতত্ত্ব ও ধ্বনিতত্ত্ব পাঠ।
BL 2403	(বিশেষ পত্র-২) মধ্যযুগের সাহিত্য	মধ্যযুগের সাহিত্যকে বিশেষভাবে জানবে
BL 2403	(বিশেষ পত্র-৩) লোকসংস্কৃতি ও লোকসাহিত্য	বাংলা লোকসংস্কৃতি ও লোকসাহিত্যের বিশিষ্ট অঙ্গ সংক্রান্ত চর্চা।
BL 2403	(বিশেষ পত্র-৪) নাটক	নাট্যসাহিত্যকে বিশেষভাবে জানবে
BL 2403	(বিশেষ পত্র-৫) রবীন্দ্রসাহিত্য	রবীন্দ্রসাহিত্যকে বিশেষভাবে জানবে
BL 2403	(বিশেষ পত্র-৬) তুলনামূলক প্রতিবেশী সাহিত্য	প্রতিবেশী সাহিত্যকে বিশেষভাবে জানবে

BNG 101	ভাষাতত্ত্ব	অন্যান্য ভারতীয় ভাষা ও বাংলাভাষার উৎস ও বাংলাভাষার বিশেষ বৈশিষ্ট্য সম্পর্কে সাধারণ ধারণা নির্মাণ। বাংলা ভাষার বিবর্তনে উদ্‌ভূত বিভিন্ন পর্যায় ও তার বৈশিষ্ট্য সংক্রান্ত ধারণা। বাংলা রূপতত্ত্ব ও ধ্বনিতত্ত্ব চর্চা।
BNG 102	মধ্যযুগের সাহিত্যের ইতিহাস ও ধর্মদর্শন	মধ্যযুগীয় বাংলা সাহিত্যের কালোচিত বৈশিষ্ট্য ও বিভিন্ন ধারা সম্পর্কে পরিচিতি। বিশেষ ধর্মদর্শনের প্রভাব এবং বিশিষ্ট কবি ও তাদের কাব্য সম্পর্কে সাধারণ ধারণা নির্মাণ।
BNG 103	মধ্যযুগের সাহিত্য পাঠ	মধ্যযুগের সম্পর্কে সাধারণ ধারণা নির্মাণ।
BNG 104	উনিশ-বিশ শতকের গদ্যসাহিত্যের ইতিহাস ও গদ্য সাহিত্য পাঠ	উনিশ-বিশ শতকে বাংলায় রচিত প্রবন্ধ ও গদ্যসাহিত্যের ইতিহাস এবং বিশিষ্টতা সম্পর্কিত ধারণানির্মাণ।
BNG 201	সাধারণ ভাষাবিজ্ঞান	অন্যান্য ভারতীয় ভাষা ও বাংলাভাষার উৎস ও বাংলাভাষার বিশেষ বৈশিষ্ট্য সম্পর্কে সাধারণ ধারণা নির্মাণ। বাংলা ভাষার বিবর্তনে উদ্‌ভূত বিভিন্ন পর্যায় ও তার বৈশিষ্ট্য সংক্রান্ত ধারণা। বাংলা রূপতত্ত্ব ও ধ্বনিতত্ত্ব চর্চা।
BNG 202	বাংলা কবিতা	বাংলা কবিতা সম্পর্কে সম্যকভাবে জানা
BNG 203	রবীন্দ্রনাথ	রবীন্দ্রসাহিত্যকে বিশেষভাবে জানবে
BNG 204	Elective Bengali (ভাষাতত্ত্ব, চর্যাপদ, মধ্যযুগ, নাটক/প্রহসন, লোকসাহিত্য)	বাংলা সাহিত্যের বিভিন্নস্তরকে জানবে
BNG 301	উনিশ ও বিশ শতকের কথাসাহিত্যের ইতিহাস ও সাহিত্যপাঠ	উনিশ-বিশ শতকে বাংলায় রচিত কথাসাহিত্যের ইতিহাস এবং বিশিষ্টতা সম্পর্কিত ধারণানির্মাণ।
BNG 302	বাংলা নাটক ও প্রহসন ঃ উনিশ ও বিশ শতক	উনিশ-বিশ শতকে বাংলায় রচিত নাট্যসাহিত্যের ইতিহাস এবং বিশিষ্টতা সম্পর্কিত ধারণানির্মাণ। বিশিষ্ট নাট্যকারদের সঙ্গে পরিচিতি।
BNG 303	সাহিত্যতত্ত্ব	বাংলা সাহিত্যতত্ত্বকে জানবে
BNG 304	Electrive Bengali (প্রাচ্য সাহিত্যতত্ত্ব, কথাসাহিত্য, প্রবন্ধ, রবীন্দ্রনাথ, আধুনিক কবিতা)	প্রাচ্য সাহিত্যতত্ত্ব, কথাসাহিত্য, প্রবন্ধ, রবীন্দ্রনাথ, আধুনিক কবিতা সম্পর্কে জানবে।
BNG 401	বাংলা সাহিত্যে রূপান্তর, পাঠান্তর, অনুবাদ ও সাহিত্য প্রেরণা	বাংলা সাহিত্যে রূপান্তর, পাঠান্তর, অনুবাদ ও সাহিত্য প্রেরণা সম্পর্কে জানবে।
BNG 402	বাঙ্গলা ভাষা ও সাহিত্যবিষয়ক প্রবন্ধ রচনা এবং লোকসাহিত্য	বাংলা সাহিত্যের যেকোনও প্রাঙ্গন সম্বন্ধে নিবিড় চর্চা এবং বিষয়টি নিয়ে স্বতন্ত্র বিশ্লেষণ ও মতপ্রকাশ। চিন্তা, চেতনা, বিশ্লেষণ, সাহিত্যবোধ এবং লিখনদক্ষতা বৃদ্ধি।
BNG 403	(বিশেষ পত্র) ভাষাবিজ্ঞান ও ভাষা সমীক্ষা	অন্যান্য ভারতীয় ভাষা ও বাংলাভাষার উৎস ও বাংলাভাষার বিশেষ বৈশিষ্ট্য সম্পর্কে সাধারণ ধারণা নির্মাণ। বাংলাভাষার রূপতত্ত্ব ও ধ্বনিতত্ত্ব পাঠ।
BNG 404	(বিশেষ পত্র) লিপি বিজ্ঞান ও বাংলা লিপি, রাঢ় অঞ্চলের বাংলা ভাষার ক্ষেত্রীয় অনুসন্ধান	লিপি বিজ্ঞান ও বাংলা লিপি, রাঢ় অঞ্চলের বাংলা ভাষার ক্ষেত্রীয় অনুসন্ধান
BNG 403	(বিশেষ পত্র) মধ্যযুগের সাহিত্য	মধ্যযুগের সাহিত্য সম্পর্কে জানবে।
BNG 404	(বিশেষ পত্র) পুঁথি সংগ্রহ, পাঠ, সংরক্ষণ, প্রতিবেদন রচনা	পুঁথি সংগ্রহ, পাঠ, সংরক্ষণ, প্রতিবেদন রচনা সম্পর্কে জানবে।
BNG 403	(বিশেষ পত্র) লোকসংস্কৃতি ও লোকসাহিত্য	লোকসংস্কৃতি ও লোকসাহিত্য সম্পর্কে জানবে।

BNG 404	(বিশেষ পত্র) ঠাকুমার ঝুলি, রাঢ় অঞ্চলের লোকসাহিত্য ও সংস্কৃতির ক্ষেত্রীয় অনুসন্ধান এবং লোক উপাদান সংগ্রহ নির্ভর প্রতিবেদন রচনা	ঠাকুমার ঝুলি, রাঢ় অঞ্চলের লোকসাহিত্য ও সংস্কৃতির ক্ষেত্রীয় অনুসন্ধান এবং লোক উপাদান সংগ্রহ নির্ভর প্রতিবেদন রচনা
BNG 403	(বিশেষ পত্র) নাটক	নাটক সম্পর্কে জানবে।
BNG 404	(বিশেষ পত্র) নাটকের সংজ্ঞা, স্বরূপ, শ্রেণীবিভাগ; গবেষণাধর্মী নিবন্ধ রচনা ও মৌখিক পরীক্ষা	নাটকের সংজ্ঞা, স্বরূপ, শ্রেণীবিভাগ চর্চা এবং গবেষণাধর্মী নিবন্ধ রচনা
BNG 403	(বিশেষ পত্র) রবীন্দ্রসাহিত্য	রবীন্দ্রসাহিত্য সম্পর্কে জানবে।
BNG 404	(বিশেষ পত্র) শান্তিনিকেতন, গবেষণাধর্মী প্রবন্ধ রচনা ও মৌখিক পরীক্ষা	
BNG 403	(বিশেষ পত্র) কথাসাহিত্য	কথাসাহিত্য সম্পর্কে জানবে
BNG 404	(বিশেষ পত্র) ছোটগল্প, বাংলা উপন্যাস ও ছোটগল্পের সংজ্ঞা, উদ্ভব ও বিকাশ, রূপ-রীতি বৈচিত্র, শৈলীবিচার এবং গতিপ্রকৃতো, গবেষণাধর্মী নিবন্ধ রচনা	বাংলা উপন্যাস ও ছোটগল্পের সংজ্ঞা, উদ্ভব ও বিকাশ, রূপ-রীতি বৈচিত্র, শৈলীবিচার এবং গতিপ্রকৃতি সংক্রান্ত ধারণা এবং এই বিষয়ে গবেষণাধর্মী নিবন্ধ রচনা
BNG 403	(বিশেষ পত্র) সাহিত্যতত্ত্ব	সাহিত্যতত্ত্ব সম্পর্কে জানা
BNG 404	(বিশেষ পত্র) মতবাদ / তত্ত্ব, গবেষণাধর্মী নিবন্ধ রচনা ও মৌখিক পরীক্ষা	(বিশেষ পত্র) মতবাদ / তত্ত্ব, গবেষণাধর্মী নিবন্ধ রচনা ও মৌখিক পরীক্ষা
BNG 101	ভাষার ইতিহাস ও পরিচয়	ভাষার ইতিহাস ও পরিচয়
BNG 102	মধ্যযুগের সাহিত্যধারা	মধ্যযুগের সাহিত্যধারা
BNG 103	প্রাগাধুনিক বাংলা সাহিত্যপাঠ-১	প্রাগাধুনিক বাংলা সাহিত্যপাঠ-১
BNG 104	প্রাগাধুনিক বাংলা সাহিত্যপাঠ-২	প্রাগাধুনিক বাংলা সাহিত্যপাঠ-২
BNG 105	উনিশ-বিশ শতকের গদ্যসাহিত্যের ইতিহাস ও গদ্য সাহিত্য পাঠ	উনিশ-বিশ শতকের গদ্যসাহিত্যের ইতিহাস ও গদ্য সাহিত্য পাঠ
BNG 201	সাধারণ ভাষাবিজ্ঞান	সাধারণ ভাষাবিজ্ঞান
BNG 202	উনিশ ও বিশ শতকের কাব্য-কবিতা পাঠ	উনিশ ও বিশ শতকের কাব্য-কবিতা পাঠ
BNG 203	রবীন্দ্রসাহিত্য পাঠ	রবীন্দ্রসাহিত্য পাঠ
C- BEN 204	বাংলা ভাষাতত্ত্ব ও সাহিত্যের পাঠ (C.B.C.S.)	বাংলা ভাষাতত্ত্ব ও সাহিত্যের পাঠ (C.B.C.S.)
BNG 205	সেমিনার ও গবেষণাধর্মী প্রকল্প রচনা	বাংলা শিত্যের বিভিন্ন বিষয়ে পকল্প রচনা করবে
BNG 301	উনিশ ও বিশ শতকের উপন্যাসের ইতিহাস ও পাঠ	উনিশ ও বিশ শতকের উপন্যাসের ইতিহাস ও পাঠ করবে
BNG 302	উনিশ ও বিশ শতকের ছোটগল্পের ইতিহাস ও পাঠ	উনিশ ও বিশ শতকের ছোটগল্পের ইতিহাস ও পাঠ করবে
BNG 303 A	ভাষাবিজ্ঞান ও ভাষাতত্ত্ব (বিশেষ পত্র)	ভাষাবিজ্ঞান ও ভাষাতত্ত্ব সম্পর্কে বিশেষভাবে জানবে
BNG 303 B	মধ্যযুগের সাহিত্যপাঠ (বিশেষ পত্র)	মধ্যযুগের সাহিত্যপাঠ সম্পর্কে বিশেষভাবে জানবে
BNG 303 C	রবীন্দ্রসাহিত্য পাঠ (বিশেষ পত্র)	রবীন্দ্রসাহিত্য পাঠ সম্পর্কে বিশেষভাবে জানবে

BNG 303 D	নাট্যসাহিত্য পাঠ (বিশেষ পত্র)	নাট্যসাহিত্য পাঠ সম্পর্কে বিশেষভাবে জানবে
BNG 303 E	লোকসাহিত্য-সংস্কৃতি তত্ত্ব ও পাঠ (বিশেষ পত্র)	লোকসাহিত্য-সংস্কৃতি বিভিন্ন তত্ত্ব পাঠ করবে।
BNG 303 F	কথাসাহিত্য পাঠ (বিশেষ পত্র)	বাংলা কথাসাহিত্য সম্পর্কে জানবে
BNG 303 G	সাহিত্যতত্ত্ব ও তত্ত্ববিদ (বিশেষ পত্র)	বাংলার সাহিত্যতত্ত্ব সম্পর্কে জানবে
BNG 303 H	বাংলা ও প্রতিবেশী সাহিত্য পাঠ (বিশেষ পত্র)	বাংলার প্রতিবেশী সাহিত্য সম্পর্কে জানবে
C-BNG 304	প্রাচ্য সাহিত্যতত্ত্ব ও বাংলা সাহিত্যের বিবিধ পাঠ (C.B.C.S.)	বাংলা সাহিত্যের বিভিন্ন ধারার সাহিত্যধর্ম সম্পর্কে জানবে
BNG 395 A	ভাষা সমীক্ষা	ভাষা সমীক্ষা প্রকল্প তৈরি করবে
BNG 395 B	মধ্যযুগের পুথিচর্চা ও ক্ষেত্রসমীক্ষা	মধ্যযুগের পুথিচর্চা ও ক্ষেত্রসমীক্ষা প্রকল্প তৈরি করবে
BNG 395 C	রবীন্দ্রজীবন ও সাহিত্যবিষয়ক প্রকল্প	রবীন্দ্রজীবন ও সাহিত্যবিষয়ক প্রকল্প তৈরি করবে
BNG 395 D	প্রয়োগিক নাট্যপ্রকল্প	প্রয়োগিক নাট্যপ্রকল্প তৈরি করবে
BNG 395 E	লোক-উপাদান সংগ্রহ ও সমীক্ষা	লোক-উপাদান সংগ্রহ ও সমীক্ষা প্রকল্প তৈরি করবে
BNG 395 F	কথাসাহিত্য বিষয়ক প্রকল্প	কথাসাহিত্য বিষয়ক প্রকল্প তৈরি করবে
BNG 395 G	সাহিত্যতত্ত্ব বিষয়ক প্রকল্প	সাহিত্যতত্ত্ব বিষয়ক প্রকল্প তৈরি করবে
BNG 395 H	বাংলা ও প্রতিবেশী সাহিত্যবিষয়ক প্রকল্প	বাংলা ও প্রতিবেশী সাহিত্যবিষয়ক প্রকল্পপত্র তৈরি করবে
BNG 401	বাংলা সাহিত্যে রূপান্তর, পাঠান্তর, অনুবাদ ও সাহিত্য প্রেরণা	বাংলা সাহিত্যে রূপান্তর, পাঠান্তর, অনুবাদ ও সাহিত্য প্রেরণা সম্পর্কে জানবে।
BNG 402	প্রাচ্য সাহিত্যতত্ত্ব	অলঙ্কার, ধ্বনি, গুণ, রীতি, বক্রোক্তি, ঔচিত্য, রস ইত্যাদি প্রস্থান ও 'সাহিত্যদর্পণ' পাঠ। প্রাচ্য সাহিত্যতত্ত্বের সাধারণ ধারণা।
BNG 403	পাশ্চাত্য সাহিত্যতত্ত্ব	হোরেস-এর 'আর্স পোয়েটিকা' পাঠ। ক্লাসিসিসম, রোমান্টিসিসম, রিয়্যালিজম, ন্যাচারালিজম, সাররিয়্যালিজম, সিম্বলিজম, স্ট্রাকচারালিজম, পোস্ট-স্ট্রাকচারালিজম, ফেমিনিজম, সাইকো-অ্যানালিসিস, ন্যারেটোলজি - সংক্রান্ত সাধারণ পরিচয়।
BNG 404	বর্হিবঙ্গীয় বাংলা সাহিত্যচর্চা ও ভাষা আন্দোলন	বাংলা ভাষা আন্দোলন সম্পর্কিত চর্চা। ভারতের বিভিন্ন ভাষার সাহিত্য, বিশেষত ঝাড়খন্ড, বিহার, অসম ও উত্তর পূর্বের বিভিন্ন ভাষায় রচিত সাহিত্যপাঠ।
BNG 405	বাংলা নাটক ও প্রহসন ঃ উনিশ ও বিশ শতক	উনিশ শতকের বাংলা নাটক ও প্রহসনের ইতিহাস চর্চা।