

A.S. COLLEGE KHANNA

AQAR 2024-25

Part-B,Criteria-2, Point 2.6.1

2.6.1-Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students (2024-25)

Department of Biology

Programme	Course Type	Course Code	Course Title	Course Outcome
B.Sc. (Sem 1) (Under NEP)	Value Added Course	MAT-VAC-101	Vedic Mathematics	The course content is designed to enable the learners to explore the power of Vedic Mathematics to make learners strong in numerical Mathematics, to enable learners to recognize and understand simple techniques of arithmetic calculations and to train the learners to use the ideas of vedic mathematics in daily calculations and make those calculations with accuracy and speed.
B.SC. (Sem 1) (Under NEP)	Skill Enhancement Course	ZOO-SEC-1-101	Vermiculture and Vermicomposting	<p>The students will be able to identify the concept of Vermicomposting and several examples of Vermicomposting to recycle the organic waste.</p> <p>The students will learn the biology of earthworms and process of Vermicomposting.</p> <p>After doing this Course, the students can practice small scale earthworm farming for home gardens.</p>

B.Sc. (Sem 1) (Under NEP)	Inter Disciplinary Course	BIOT- IDC1- T	Foundation of Biotechnology	<p>This Course will introduce the basic concepts of Biotechnology to the students.</p> <p>They will learn about the history of Biotechnology, the foundation of modern Biotechnology, the role of Biotechnology in the fermentation industry, environment and modern medicine and the ethical implications of Biotechnology.</p>
B.Sc. (Sem1)	Discipline Specific Course	ZOODSC 1	Diversity of Non Chordates	<p>The students will be able to develop an appreciation for the biodiversity of invertebrate species.</p> <p>Students will acquire knowledge about coexistence of different forms of living organisms ranging from unicellular to multi cellular animals.</p> <p>The students will be able to identify different NonChordates in their surroundings.</p> <p>The students will be able to apply their knowledge towards identification of pathogenic Non Chordates and their management.</p>
B.Sc. (Sem1)	Discipline Specific Course	BOTDS C- 1	Plant Diversity1	<p>The basic objective of this paper is to make students aware of the diversity in life forms of the plant kingdom. A systematic study of algae, fungi, and bryophytes would familiarize students with the structural differentiation and heterotrophic and autotrophic modes of nutrition in the plant kingdom. This paper will form the basis of advanced study in Botany.</p>

B.Sc. (Sem 2) (Under NEP)	Value Added Course	-	Development of Soft Skills	<ol style="list-style-type: none"> 1. Develop holistic and integrated understanding of the human self and personality. 2. Understand the significance of positive thinking in the development of holistic personality. 3. Demonstrate effective communication skills. 4. Integrates skills for empathic listening and self-expression. 5. Evolve as a progressive and flexible individual. 6. Effectively utilizes of skills in everyday life.
B.Sc. (Sem 2) (Under NEP)	Skill Enhancement Course	ZOO- SEC-2- 201	Apiculture	<p>Students will know about different species of honey bees and their diseases and enemies</p> <ul style="list-style-type: none"> • Students will gain skill of rearing honey bees • Students will be able to apply knowledge of bee economy in setting up their own apiary and becoming entrepreneur in this field.
B.Sc. (Sem 2) (Under NEP)	Inter Disciplinary Course	BIOT- IDC2- T	General Microbiology	Microbes play a significant role in understanding medical science and industries. This course aims to study the microbes from basic concepts, including understanding cell structure and the application of microbes.
B.Sc. (Sem2)	Discipline Specific Course	ZOO- DSC- 2- 201	Diversity of Chordates	Students will be able to develop an appreciation for the biodiversity of chordates. Students will acquire knowledge about origin, taxonomic classification, structure and functions of chordates. Students will understand the basic characters, advancements and adaptations of different types of vertebrates. Students will be able to apply their knowledge towards identification of different species of chordates in their surroundings.

B.Sc. (Sem2)	Discipline Specific Course	BOT- DSC- 2- 201	Plant Diversity-2	The basic objective of this paper is to make the students aware of the diversity in various life forms of plant kingdom. A sequential study ranging from Pteridophytes - the first vascular land plants to gymnosperms, would enable students to have a broad prospective of evolutionary trends in plant kingdom.
B.Sc. (Sem3)	Elective Subject	ZOO301	Biodiversity (Chordates) and Evaluation- 1	The syllabus pertaining to B.Sc. (General) Part-II, in the subject of Zoology has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Zoology working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged section wise as well as unit wise. The contents are included in such manner so that due importance may be given to skill oriented components. The course contents are also given due stress for excursion/field trips to Zoological Parks, Sea-shores, Hill Stations, Museum, Fossil Park and Apiary/godowns for better academic outlook. The Department of Zoology, P.U., Chandigarh usually organizes workshop/seminars from time to time for updating the teachers.
B.Sc. (Sem3)	Elective Subject	ZOO302	Biochemistry and Physiology 1	The syllabus pertaining to B.Sc. (General) Part-II, in the subject of Zoology has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Zoology working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged section wise as well as unit wise. The contents are included in such manner so that due importance may be given to skill oriented components. The course contents are

				also given due stress for excursion/field trips to Zoological Parks, Sea-shores, Hill Stations, Museum, Fossil Park and Apiary/godowns for better academic outlook. The Department of Zoology, P.U., Chandigarh usually organizes workshop/seminars from time to time for updating the teachers.
B.Sc. (Sem3)	Elective Subject	-	Diversity of seed plants and their systematics-1	This paper deals with highly advance and evolved group of plants with naked seeds i.e. Gymnosperms. The coursework of this paper gives a fair idea about the general features, economic importance and study of fossil as well as living gymnosperms.
B.Sc. (Sem3)	Elective Subject	-	Structure, development and reproduction in flowering plants -1	This paper deals with the basic body plan and diversity in flowering plant forms. The course work of this paper covers vegetative and reproductive morphology of these plants and will familiarize the students with plants bearing the enclosed seeds.
B.Sc. (Sem4)	Elective Subject	ZOO401	Biodiversity (Chordates) & Evolution – II	The syllabus pertaining to B.Sc. (General) Part-II, in the subject of Zoology has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Zoology working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged section wise as well as unit wise. The contents are included in such manner so that due importance may be given to skill oriented components. The course contents are also given due stress for excursion/field trips to Zoological Parks, Sea-shores, Hill Stations, Museum, Fossil Park and Apiary/godowns for better academic outlook. The Department of Zoology, P.U., Chandigarh usually organizes workshop/seminars

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B.Sc. (Sem4)	Elective Subject	ZOO402	Biochemistry & Animal Physiology II	<p>The syllabus pertaining to B.Sc. (General) Part-II, in the subject of Zoology has been upgraded as per provision of the UGC module and demand of the academic</p> <p>environment. The course contents have been revised from time to time as per suggestions of the teachers of the Zoology working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged section wise as well as unit wise. The contents are included in such manner so that due importance may be given to skill oriented components. The course contents are also given due stress for excursion/field trips to Zoological Parks, Sea-shores, Hill Stations, Museum, Fossil Park and Apiary/godowns for better academic outlook. The Department of Zoology, P.U., Chandigarh usually organizes workshop/seminars from time to time for updating the teachers.</p>

B.Sc. (Sem4)	Elective Subject	-	Diversity of Seed Plants and their Systematics-II	This paper deals with highly advance and evolved group of plants i.e. Angiosperms. The study of gradual transition from seedless plants to seed plants would make students familiar with origin of structural and functional complexity in plant kingdom. The systematics part of this paper is in fact backbone of the study of Botany. Without having knowledge of taxonomy and species concept, no further research work can be pursued. The identification, nomenclature and classification of the concerned plants make the first step of any research work in Botany.
B.Sc. (Sem4)	Elective Subject	-	Structure, Development and reproduction in Flowering Plants-II	This paper deals with structure development and reproduction in flowering plants – the most fascinating group of plants on earth. The course material of this paper deals with internal structure of various plant parts, their growth patterns and abnormalities in structural development. The vast range of variation found in this group of plants provides a platform to students for acquiring basic knowledge of flowering plants which makes a foundation of applied branches like horticulture, floriculture, olericulture and arboriculture.
B.Sc. (Sem5)	Elective Subject	ZOO-501	Developmental Biology	The syllabus pertaining to B.Sc. (General) Semester V, in the subject of Zoology has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Zoology working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged section wise as well as unit wise. The contents are included in such manner so that due importance maybe given to skill-oriented components. The course contents are Also given due stress for excursion/fieldtrips to Zoological Parks, Sea-shores, Hill Stations, Museums, Fossil Parks and Apiary/godowns for better

				academic outlook. The Department of Zoology, P.U., Chandigarh usually organizes workshop/seminars from time to time for updating the teachers
B.Sc. (Sem5)	Elective Subject	ZOO-502	Applied Zoology-1	The syllabus pertaining to B.Sc. (General) Semester V, in the subject of Zoology has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Zoology working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged section wise as well as unit wise. The contents are included in such manner so that due importance may be given to skill-oriented components. The course contents are also given due stress for excursion/field trips to Zoological Parks, Sea-shores, Hill Stations, Museums, Fossil Parks and Apiary/godowns for better academic outlook. The Department of Zoology, P.U., Chandigarh usually organizes workshop/seminars from time to time for updating the teachers.

B.Sc. (Sem5)	Elective Subject	-	Plant Physiology-1	The basic aim of this paper is to familiarize the students with various concepts of functions and metabolism of plants. The course material of this paper would enable the students to correlate structural diversity of various plant forms with functional differentiation and its biological aspects including biological nitrogen fixation and mineral nutrition. In practicals, students will be familiarized with the various experiments pertaining to theory syllabus.
B.Sc. (Sem5)	Elective Subject	-	Plant Ecology	The basic objective of this paper is to make students aware about the role of environment in causing structural and functional variation in plants. Since the present day problems of varied nature like pollution, Global Warming etc. are directly or indirectly related to ecology, it is more than desired to provide the students with knowledge of basic concepts of ecology.
B.Sc. (Sem6)	Elective Subject	ZOO-601	Genetics	The syllabus pertaining to B.Sc. (General) Semester VI, in the subject of Zoology has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Zoology working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged section wise as well as unit wise. The contents are included in such manner so that due importance may be given to skill oriented components. The course contents are also given due stress for excursion/field trips to Zoological Parks, Sea-shores, Hill Stations, Museum, Fossil Park and Apiary/godowns for better academic outlook. The Department of Zoology, P.U., Chandigarh usually organizes workshop/seminars from time to time for updating the

				teachers.
B.Sc. (Sem6)	Elective Subject	ZOO-602	Applied Zoology-2	The syllabus pertaining to B.Sc. (General) Semester VI, in the subject of Zoology has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Zoology working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged section wise as well as unit wise. The contents are included in such manner so that due importance may be given to skill oriented components. The course contents are also given due stress for excursion/field trips to Zoological Parks, Sea-shores, Hill Stations, Museum, Fossil Park and Apiary/godowns for better academic outlook. The Department of Zoology, P.U., Chandigarh usually organizes workshop/seminars from time to time for updating the teachers.
B.Sc. (Sem5)	Elective Subject	-	Plant Physiology-2	The main objective of this paper is to familiarize the students with growth and metabolic processes of the plants. It also deals with the plant development, differentiation and their regulatory mechanism along with basic concepts in tissue culture
B.Sc. (Sem6)	Elective Subject	-	Economic Botany	The basic objective of this paper is aimed to give an insight into plant wealth such as medicinal plants; crop plants; beverages; spices; condiments; sugar; fiber; pulp & oil yielding plants of commercial & economic importance. Both the aspects of this paper give a sound basis of ecology and economic botany so that students can venture into fields like Environmental Biology, Conservation

				Biology, Forestry, Agriculture, Horticulture and Crop production etc.
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Department of Chemistry

Programme	Course Type	Course Code	Course Title	Course Outcome
B.Sc. (Sem-1) (Under NEP)	Discipline Specific Core	CHMDSC 1	Chemistry	To provide students with a comprehensive understanding of organic, inorganic, and physical chemistry. They will gain the ability to apply key concepts, solve problems, and analyze chemical reactions across these areas, enhancing their critical thinking and experimental skills in the field of chemistry.
B.Sc. (Sem-1) (Under NEP)	Multi-Disciplinary Course	MDC-1-BCH	Introduction to Biochemistry	To learn about bio molecules, their structure and function in the biological systems. The students will gain a foundational understanding of the metabolism of lipids, proteins, and nucleic acids, And their roles in cellular processes.
B.Sc. (Sem-1) (Under NEP)	Discipline Specific Core (Practical)	CHMDSC 1	Laboratory Practicals-I	The objective of the paper is to develop hands-on skills in performing experiments related to organic, inorganic, and physical chemistry and to apply theoretical knowledge, handle lab equipment safely, analyze data, and interpret results, enhancing their practical understanding of chemical Principles and techniques.

B.Sc. (Sem-1) (Under NEP)	Multi- Disciplinary Course (Practical)	MDC-1- BCH	Introduction to Biochemistry	To gain essential skills in biochemical analysis like determining qualitatively carbohydrates, amino acids and determine the saponification value Of oils and fats, etc.
B.Sc. (Sem-2) (Under NEP)	Discipline Specific Core	CHMDSC 2	Chemistry Theory	The primary course aim is to understand the principles of chemical bonding, including covalent and ionic interactions and to explore thermodynamics in chemical reactions, and examine the structures, properties, and reactivity of alkanes and alkenes. This knowledge will provide a foundation for further study in organic and physical chemistry.
B.Sc. (Sem-2) (Under NEP)	Multi- Disciplinary Course (Practical)	BSC-FD- MDC-2- 201	Sustainability in Everyday Life	Students will have an in-depth understanding of the terms related to sustainability and will learn about sustainable practices at home.
B.Sc. (Sem-2) (Under NEP)	Discipline Specific Core	CHMDSC 2	Chemistry Practical	The objective of the paper is to develop hands-on skills in performing experiments related to organic, inorganic, and physical chemistry and to apply theoretical knowledge, handle lab equipment safely, analyze data, and interpret results, enhancing their practical understanding of chemical principles and techniques

B.Sc. (Sem-2) (Under NEP)	Multi- Disciplinary Course (Practical)	BSC-FD- MDC-2- 201	Sustainability in Everyday Life	The focus of this course is to have an in-depth understanding of the terms related to sustainability and to learn about sustainable practices at home.
B.Sc. (Sem-3)	Elective subject	Paper-IX	Inorganic Chemistry-A	Upon completing the course, students will develop a strong understanding of the transition series and coordination compounds. They will be able to analyze the properties, bonding, and reactivity of transition metals and their complexes, applying these concepts to solve problems and deepen their Knowledge of inorganic chemistry.
B.Sc. (Sem-3)	Elective subject	Paper-X	Organic Chemistry-A	The aim of this course is to develop a strong understanding of the structure, properties, and reactions of alcohols, phenols, aldehydes, ketones, and carboxylic acids Among the students. They will be equipped to analyze functional groups, carry out syntheses, and apply reaction mechanisms to tackle advanced organic chemistry challenges.

B.Sc. (Sem-3)	Elective subject	Paper-XI	Physical Chemistry-A	The course intends to provide a solid understanding of thermodynamics, chemical equilibria, and the liquid state. They will be able to apply key principles to analyze energy changes, predict equilibrium behavior, and explore the properties of liquids, strengthening their problem-solving and analytical skills in physical chemistry.
B.Sc. (Sem-3)	Elective subject	Paper-XII	Laboratory Practicals	To develop hands-on skills in performing experiments related to organic, inorganic, and physical chemistry and to apply theoretical knowledge, handle lab equipment safely, analyze data, and interpret results, enhancing their practical understanding of chemical principles and techniques.
B.Sc. (Sem-4)	Elective subject	Paper-XIII	Inorganic Chemistry-B	To gain a deep understanding of acids and bases, the chemistry of f-block elements, and the principles of oxidation and reduction and to develop the ability to analyze and predict chemical behavior, and apply these concepts to solve complex inorganic chemistry problems.

B.Sc. (Sem-4)	Elective subject	Paper-XIV	Organic Chemistry-B	The major aim of the course is to provide an understanding of carboxylic acid derivatives, ethers, epoxides, and heterocyclic compounds and to enable students to analyze their structure, reactivity, and synthesis, applying this knowledge to solve complex organic chemistry problems and design reactions involving these functional groups.
B.Sc. (Sem-4)	Elective subject	Paper-XV	Physical Chemistry-B	The objective of this course is to acquire a strong understanding of electrochemistry and phase equilibrium and to analyze redox reactions, apply principles of electrochemical cells, and study phase transitions, using these concepts to solve real-world problems and enhance their problem-solving skills in physical chemistry.
B.Sc. (Sem-4)		Paper-XVI	Laboratory Practicals	To develop hands-on skills in performing experiments related to organic, inorganic, and physical chemistry and to apply theoretical knowledge, handle lab equipment safely, analyze data, and interpret results, enhancing their practical understanding of chemical principles and techniques.

B.Sc. (Sem-5)	Elective subject	Paper -XVII	Inorganic Chemistry-A	The focus of the course is to provide a comprehensive understanding of metal-ligand bonding in transition metal complexes, organometallic chemistry, and bioinorganic chemistry and to analyze metal- ligand interactions, explore organometallic reactions, and investigate the role of metals in biological systems, applying these Principles to complex problems.
B.Sc. (Sem-5)	Elective subject	Paper -XVIII	Organic Chemistry- A	To provide insights related to spectroscopy techniques along with the electromagnetic spectrum, learning how to interpret spectroscopic data to identify Functional groups and determine the structure of organic compounds.
B.Sc. (Sem-5)	Elective subject	Paper -XIX	Physical Chemistry-A	To develop a solid understanding of photochemistry and elementary quantum mechanics and to gain the ability to analyze light-matter interactions, apply quantum principles to chemical systems, and solve problems related to electronic transitions, energy states, and Reaction dynamics in photochemical processes.

B.Sc. (Sem-5)		Paper-XX	Laboratory Practicals	The main aim of the course is to provide hands-on skills in performing experiments related to organic, inorganic, and physical chemistry and to apply theoretical knowledge, handle lab equipment safely, analyze data, and interpret results, enhancing their practical understanding of chemical Principles and techniques.
B.Sc. (Sem-6)	Elective subject	Paper-XXI	Inorganic Chemistry-B	The course will provide a comprehensive understanding of silicones and phosphazenes, as well as the electronic spectra of Transition metal complexes.
B.Sc. (Sem-6)	Elective subject	Paper-XXII	Organic Chemistry-B	Upon completion of the Organic Chemistry course, students will acquire a comprehensive understanding of proteins, nucleic acids, polymers, and organometallic compounds. They will develop the ability to analyze their structures, reactivities, and syntheses, applying this knowledge to tackle complex organic chemistry challenges and explore advanced concepts in biomolecular chemistry.
B.Sc. (Sem-6)	Elective subject	Paper-XXIII	Physical Chemistry-B	The focus of this course is to learn the solid state and the principles behind rotational, vibrational, and electronicspectraand to analyzethe behavior of molecules in different states, applying spectroscopic techniques to investigate molecular structure and dynamics.

B.Sc. (Sem- 6)		Paper- XXIV	Laboratory Practicals	The primary aim of the course is to provide hands-on skills in performing experiments related to organic, inorganic, and physical chemistry and to apply theoretical knowledge, handle lab equipment safely, analyze data, and interpret results, enhancing their practical understanding of chemical principles and techniques.
M.Sc. (Sem-1)	Elecve Subjct	CH-411	Inorganic Chemistry1	The outcomes aim to equip students with a strong foundation in the core concepts of inorganic chemistry, focusing on the detailed interactions and structures of main group and transition metal complexes. Furthermore it will provide insights to comprehend the concepts of stereochemical isomerism in main group compounds. The course will also develop their ability to apply these concepts to understand the reactivity and stability of inorganic compounds in various chemical environments.

M.Sc. (Sem-1)	Elective Subject	CH-412	Organic Chemistry1	This course provides with a deep understanding of the foundational concepts in organic chemistry, including stereochemistry, bonding, and nucleophilic substitution reactions. The course will enhance their ability to predict and explain the reactivity of organic molecules, preparing them for more advanced studies in organicsynthesis, mechanism, and reactivity.
M.Sc. (Sem-1)	Elective Subject	CH-413	Physical Chemistry1	These outcomes will provide students with a solid foundation in quantum chemistry, classical thermodynamics, statistical mechanics, and angular momentum, preparing them for advanced studies in physical chemistry and its applications.
M.Sc. (Sem-1)	Elective Subject	CH-414	(a) Mathematics ElectiveSubject for Chemists (b) Biologyfor Chemists (c) Computerfor Chemists	To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to M.Sc. (1 Year, General, Semester System) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment.

M.Sc. (Sem-1)	Core Subject	CH-415	Laboratory Course (Inorganic Chemistry)	The outcomes will provide students with practical experience in core inorganic chemistry concepts, enhancing their understanding of gravimetric analysis and their ability to use theoretical knowledge in labs.
M.Sc. (Sem-1)	Core Subject	CH-416	Laboratory Course (Organic Chemistry)	To gain practical skills in synthesizing organic compounds. The students will develop proficiency in techniques such as chromatography enhancing their ability to analyze reaction mechanisms in real-world Laboratory settings.
M.Sc. (Sem-1)	Core Subject	CH-417	Laboratory Course (Physical Chemistry)	The outcomes will help students gain hands-on experience with key physical chemistry concepts, strengthening their understanding of material properties and their ability to apply theoretical knowledge in Practical laboratory settings.
M.Sc. (Sem-2)	Elective Subject	CH-421	Inorganic Chemistry1	The outcomes aim to provide students with a deep understanding of the electronic spectra and magnetic properties of transition metal complexes. They will also explore the nature of metal- π complexes, learning how these factors influence bonding, reactivity, and stability in coordination compounds, enhancing their knowledge of inorganic chemistry principles.

M.Sc. (Sem-2)	Elective Subject	CH-422	Organic Chemistry1	This course develops a thorough understanding of reaction mechanisms, structure-reactivity relationships, and the principles governing free radical and Pericyclic reactions. The students will be able to analyze and predict the outcomes of various organic reactions, enhancing their ability to apply these concepts in synthetic organic chemistry.
M.Sc. (Sem-2)	Elective Subject	CH-423	Physical Chemistry1	These outcomes will provide students with a solid foundation in macromolecules, chemical dynamics, and non-equilibrium thermodynamics. It will help studentsto explore electrochemistry and electrocatalysis, equipping them to analyze reaction mechanisms, energy conversion processes, andthe behavior of complex systems, with applications in both molecular Chemistry and materials science.

M.Sc. (Sem-2)	Elective Subject	CH-424	Group Theory, Spectroscopy and Diffraction Methods	To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to M.Sc. (1 Year, General, Semester System) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite skills.
M.Sc. (Sem-2)	Core Subject	CH-425	Laboratory Course (Inorganic Chemistry)	The outcomes will provide students with practical experience in core inorganic chemistry concepts, enhancing their understanding and their ability to use theoretical Knowledge in labs.
M.Sc. (Sem-2)	Core Subject	CH-426	Laboratory Course (Organic Chemistry)	To gain practical skills in synthesizing organic compounds. The students will develop proficiency in techniques such as Enhancing their ability to analyze Reaction mechanisms in real-world Laboratory settings.

M.Sc. (Sem-2)	Core Subject	CH-427	Laboratory Course (Physical Chemistry)	The outcomes will help students gain hands-on experience with key physical chemistry concepts, strengthening their understanding of material properties and their ability to apply theoretical knowledge in practical laboratory settings.
M.Sc. (Sem-3)	Elective Subject	CH-511	Applications of Spectroscopy	The outcome of this course is to gain comprehensive knowledge of various spectroscopic techniques (UV-Vis, IR, NMR, MS, etc.) and their applications in chemical analysis, material characterization, and research. Students will develop practical skills in interpreting spectra, solving complex problems, and applying spectroscopy to real-World scenarios.
M.Sc. (Sem-3)	Elective Subject	CH-512	Organotransition Metal Chemistry	To acquire in-depth knowledge of the synthesis, bonding, reactivity, and catalytic applications of organotransition metal complexes and to develop the ability to understand reaction mechanisms, interpret structural data, and apply this knowledge to advanced topics in materials science and catalysis.
M.Sc. (Sem-3)	Elective Subject	CH-513	Heterocyclic Chemistry	The outcome is to acquire a thorough understanding of the synthesis, structure, reactivity, and applications of heterocyclic compounds and to develop the ability to design and synthesize diverse heterocycles, interpret their properties.

M.Sc. (Sem-3)	Elective Subject	CH-514	Environmental Chemistry	To equip students with a comprehensive understanding of chemical processes in the environment, including air, water, and soil chemistry. They will develop the skills to analyze environmental pollutants, assess their impacts, and apply green Chemistry principles to mitigate Environmental issues and promote sustainability.
M.Sc. (Sem-3)	Core Subject	CH-515	Laboratory Course (Inorganic Chemistry)	The outcomes will provide students with practical experience in core inorganic chemistry concepts, enhancing their understanding and their ability to use theoretical knowledge in labs.
M.Sc. (Sem-3)	Core Subject	CH-516	Laboratory Course (Organic Chemistry)	To gain practical skills in synthesizing organic compounds. The students will develop proficiency in techniques such enhancing their ability to analyze reaction mechanisms in real-world laboratory settings.
M.Sc. (Sem-3)	Core Subject	CH-517	Laboratory Course (Physical Chemistry)	The outcomes will help students gain hands-on experience with key physical chemistry concepts, strengthening their understanding of material properties and their ability to apply theoretical knowledge in Practical laboratory settings.

M.Sc. (Sem-4)	Elective Subject	CH-521	Biophysical chemistry	To achieve a deep understanding of the structure, function, and interactions of enzymes and biological macromolecules and to explore enzyme kinetics, co-enzyme chemistry, and the biophysical techniques used to study these biomolecules, equipping them to analyze complex biochemical Processes at a molecular level.
M.Sc. (Sem-4)	Elective Subject	CH-522	Organic Synthesis-I	To gain expertise in designing and executing complex organic reactions, focusing on rearrangements, oxidation-reduction reactions, and the use of organometallic reagents and furthermore, to develop the skills to apply these strategies in synthetic pathways, enhancing their ability to solve advanced chemical synthesis challenges.
M.Sc. (Sem-4)	Elective Subject	CH-523	Chemistry of Natural Products	To develop a deep understanding of the chemical structures, synthesis, And biological activities of natural compounds such as alkaloids, Terpenoids and plant pigments.

M.Sc. (Sem-4)	Elective Subject	CH-524	PhotoChemistry and Solid State Chemistry	To explore an in-depth understanding of photochemical processes, including light absorption, excitation, and reaction mechanisms along with the exploration of the properties and synthesis of solid-state materials, with a focus on their electronic, optical, and magnetic properties for advanced applications.
M.Sc. (Sem-4)	Core Subject	CH-525	Laboratory Course (Inorganic Chemistry)	The outcomes will provide students with practical experience in core inorganic chemistry concepts, enhancing their understanding and their ability to use theoretical knowledge in labs.
M.Sc. (Sem-4)	Core Subject	CH-526	Laboratory Course (Organic Chemistry)	To gain practical skills in synthesizing organic compounds. The students will develop proficiency in techniques such enhancing their ability to analyze reaction mechanisms in real-world laboratory settings.
M.Sc. (Sem-4)	Core Subject	CH-527	Laboratory Course (Physical Chemistry)	The outcomes will help students gain hands-on experience with key physical chemistry concepts, strengthening their understanding of material properties and their ability to apply theoretical knowledge in Practical laboratory settings.

Programme: B.Com (Semester I)— Under NEP

Programme	Course Type	Course Code	Course Title	Course Outcome
B.Com (Sem. I) (UnderNEP)	Discipline Specific Core	BCOM- DSC-1.1	Financial Accounting-I	This course provides an introduction to the fundamental principles of financial accounting. It enables students to understand accounting concepts, conventions, and processes involved in recording business transactions. Students will learn about journal entries, ledger posting, trial balance, preparation of financial statements, depreciation accounting, and error rectification. The course develops analytical skills for understanding the financial position and performance of sole Proprietorship firms.
B.Com (Sem. I) (UnderNEP)	Discipline Specific Core	BCOM- DSC-1.2	Business Organization & Management	This course aims to provide foundational knowledge of business organizations, their nature, objectives, forms, and structure. Students will learn about management principles including planning, organizing, staffing, directing, and controlling. The course emphasizes understanding organizational dynamics, managerial decision-making, motivation, leadership, communication, and coordination. It enables students to analyze business environments and apply management concepts in real-life scenarios.
B.Com (Sem. I) (UnderNEP)	Ability Enhance ment Course (AEC)	AEC-1	Communicative English/Punjabi	This course aims to enhance students' communication skills, including reading, writing, speaking, and listening. Students will learn the structure of language, vocabulary building, comprehension, and functional writing. The course strengthens interpersonal communication needed in business environments.

B.Com (Sem. I) (Under NEP)	Skill Enhancement Course(S EC)	SEC-1	Business Computing/ IT Tools	This course introduces students to basic computer concepts, MS Office tools, spreadsheet applications, presentations, and online work platforms. It develops hands-on skills for business data handling, documentation, and digital literacy required in modern workplaces.
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Programme: B.Com (SemesterII)—UnderNEP

Programme	Course Type	Course Code	Course Title	Course Outcome
B.Com (Sem. II) (Under NEP)	Discipline Specific Core	BCOM - DSC-2.1	Financial Accounting–II	This course extends the study of accounting to partnership firms, consignment, joint ventures, and non-profit organizations. Students will learn the preparation of financial statements under special circumstances including admission, retirement, and dissolution of partnerships. The course also covers branch accounting and hire-purchase systems. It enhances analytical and problem-solving skills in complex Accounting situations.
B.Com (Sem. II) (Under NEP)	Discipline Specific Core	BCOM - DSC-2.2	Business Economics (Micro)	This course introduces microeconomic concepts relevant to business decisions. Students will learn theories of demand, supply, elasticity, production, cost, and market structures. The course focuses on consumer and producer behaviour, price- output decisions, and profit maximization. It equips students with analytical tools to understand real-world economic interactions.
B.Com (Sem. II) (Under NEP)	Ability Enhancement Course (AEC)	AEC-2	Environmental Studies	This course creates awareness about environmental issues, ecosystem functioning, natural resource management, pollution control, and sustainability. Students will understand global environmental concerns and India's

				environmental policy framework.
B.Com (Sem. II) (Under NEP)	Skill Enhancem ent Course (SEC)	SEC-2	E-Commerce and Digital Marketing	This course provides an overview of online business models, payment systems, digital transactions, and regulatory frameworks. Students will learn basics of SEO, social media marketing, online branding, and digital promotion strategies. It prepares learners to understand digital transformation in the Business world.

B.Com (SemesterIII)—UnderNEP

Programme	Course Type	Course Code	CourseTitle	Course Outcome
B.Com (Sem. III) (Under NEP)	Discipline Specific Core	BCOM - DSC- 3.1	Corporate Accounting	This course develops an understanding of accounting for companies, including issue, forfeiture, and reissue of shares; redemption of preference shares; debentures; and final accounts of companies. Students will also learn about valuation of goodwill, valuation of shares, and accounting for amalgamation and internal reconstruction. The course equips learners with skills to prepare and analyze corporate financial statements.
B.Com (Sem. III) (Under NEP)	Discipline Specific Core	BCOM - DSC- 3.2	Business Statistics	This course introduces statistical tools for business decision- making. Students will learn measures of central tendency, dispersion, correlation, regression, time-series analysis, index numbers, and probability basics. The course enhances analytical skills and helps students interpret data for managerial and economic decisions.

B.Com (Sem. III) (Under NEP)	Skill Enhancement Course (SEC)	SEC-3	Entrepreneurship Development	This course aims to develop entrepreneurial mindset, innovation skills, business planning abilities, and understanding of start-up ecosystems. Students will learn opportunity identification, feasibility analysis, financing options, government schemes, and fundamentals of Launching venture.
B.Com (Sem. III) (Under NEP)	Generic Elective (GE)	GE-3	Principles of Marketing/ Business Environment	Students choosing Marketing will learn basic marketing concepts, pricing strategies, consumer behaviour, product planning, and promotional tools. Students choosing Business Environment will learn internal & external environmental forces affecting business decisions including economic, social, legal, and technological factors.

Programme: B.Com (SemesterIV)— UnderNEP

Programme	CourseType	Course Code	CourseTitle	Course Outcome
B.Com (Sem. IV) (Under NEP)	Discipline SpecificCore	BCOM - DSC-4.1	Cost Accounting	This course develops understanding of cost concepts, cost classification, material control, labour cost, overheads, job costing, contract costing, process costing, and cost sheet preparation. It trains students to analyze cost data for managerial decisions such as pricing, product mix, and cost reduction.
B.Com (Sem. IV) (Under NEP)	Discipline SpecificCore	BCOM - DSC-4.2	Business Laws / Corporate Laws (as per NEP Choice)	This course helps students understand essential business legislations including Contract Act, Sale of Goods Act, Consumer Protection Act, and Negotiable Instruments Act. If Corporate Law is opted, students learn Company Law basics such as company formation, directors, meetings, and regulatory framework. It instills legal awareness

				required in business decision-making.
B.Com (Sem. IV) (Under NEP)	Skill Enhancement Course(SEC)	SEC-4	Financial Modelling/Office Automation	Students will learn spreadsheet-based financial modelling, data analysis, and business computation tools OR practical office automation tools (MS Word, Excel, PowerPoint). This enhances employability and practical business computing skills.
B.Com (Sem. IV) (Under NEP)	Generic Elective (GE)	GE-4	Human Resource Management/ Investment Options	Students opting HRM will learn recruitment, selection, training, appraisal, and motivation practices. Students opting Investment Options will learn basics of mutual funds, shares, bonds, risk–return analysis, and portfolio basics.

Programme: B.Com (SemesterV)— Under NEP

Programme	Course Type	Course Code	Course Title	Course Outcome
B.Com (Sem. V) (Under NEP)	Discipline Specific Core	BCOM - DSC-5.1	Income Tax Law & Practice	The course introduces core concepts of income tax, including residential status, income under different heads, exemptions, deductions, and tax computation procedures. Students learn how to compute taxable income of individuals and prepare basic tax returns. It equips learners with practical knowledge of tax planning and compliance.

B.Com (Sem. V) (Under NEP)	Discipline Specific Core	BCOM - DSC- 5.2	Management Accounting	This course enables students to interpret and analyze financial information for managerial decision-making. Topics include ratio analysis, fund flow and cash flow statements, budgets, standard costing, and marginal costing. Students develop decision-making abilities regarding pricing, cost-volume-profit analysis, and performance evaluation.
B.Com (Sem. V) (Under NEP)	Skill Enhancement Course (SEC)	SEC-5	Research Methodology/ Data Analysis Tools	This course teaches basics of research design, hypothesis formulation, sampling techniques, and report writing. Students also learn introduction to data analysis tools such as SPSS/Excel, enabling application of research methods in business projects.
B.Com (Sem. V) (Under NEP)	Discipline Specific Elective (DSE)	DSE-5A /5B	Banking & Insurance/ Digital Marketing	Students opting Banking & Insurance learn about functions of banks, RBI, financial instruments, insurance principles, and risk management. Those opting Digital Marketing learn SEO, SEM, email marketing, content marketing, social media tools, and analytics.

Programme: B.Com (Semester VI)— Under NEP

Programme	Course Type	Course Code	Course Title	Course Outcome
B.Com (Sem. VI) (Under NEP)	Discipline Specific Core	BCOM - DSC- 6.1	Goods & Services Tax (GST)	This course introduces GST structure, registration, supply of goods and services, input tax credit, and filing of returns. Students learn practical aspects of GST compliance, invoicing, and basic e-filing procedures.

B.Com (Sem. VI) (Under NEP)	Discipline Specific Core	BCOM - DSC- 6.2	Auditing & Corporate Governance	Students learn auditing concepts, types of audits, vouching, verification, auditor's duties, liabilities, and audit reporting. The course also emphasizes corporate governance principles, ethics, and regulatory frameworks. It builds understanding of transparency and accountability in business organizations.
B.Com (Sem. VI) (Under NEP)	Skill Enhancement Course(SEC)	SEC-6	Business Analytics / Office Management	Students opting Business Analytics learn data visualization, dashboards, descriptive analytics, and interpretation for business decisions. Office Management includes office procedures, communication, filing, scheduling, and business correspondence.
B.Com (Sem. VI) (Under NEP)	Discipline Specific Elective (DSE)	DSE-6A /6B	Investment Management / International Business	Investment Management covers risk–return, portfolio concepts, securities analysis, and investment avenues. International Business introduces global trade theories, export–import procedures, foreign exchange, and global business environment.

Programme: M.Com (Semester I)—Under NEP

Programme	Course Type	Course Code	Course Title	Course Outcome
M.Com (Sem. I) (Under NEP)	Discipline Specific Core	MCOM-DSC-1.1	Managerial Economics	This course develops understanding of micro- and macro-economic tools used for managerial decision-making. Students learn demand analysis, production and cost functions, pricing strategies, market structures, national income concepts, inflation, business cycles, and economic forecasting. It equips learners with analytical skills to interpret economic trends for business planning.
M.Com (Sem. I) (Under NEP)	Discipline Specific Core	MCOM-DSC-1.2	Organizational Behaviour	This course introduces behavioural concepts relevant to individuals, groups, and organizations. Students learn motivation, leadership, perception, communication, conflict management, and organizational culture. It helps learners understand human behaviour for effective managerial performance.
M.Com (Sem. I) (Under NEP)	Discipline Specific Core	MCOM-DSC-1.3	Advanced Accounting	This course provides an in-depth understanding of accounting standards, inflation accounting, investment accounting, accounting for amalgamation, reconstruction, liquidation, and holding companies. Students develop expertise in preparing advanced financial statements.
M.Com (Sem. I) (Under NEP)	Discipline Specific Core	MCOM-DSC-1.4	Business Statistics & Quantitative Techniques	Students learn descriptive and inferential statistical tools, probability distributions, correlation, regression, ANOVA, index numbers, time series, and quantitative decision models like linear programming. The course enhances analytical capabilities for business research and decision-making.

M.Com (Sem. I) (UnderNEP)	Ability Enhancement / Research Skill Course	RSC-1	Research Methodology	This course introduces the fundamentals of research design, hypothesis formulation, sampling techniques, data collection methods, measurement scales, and report writing. It prepares students for empirical research and dissertation work.
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Programme: M.Com (SemesterII)—UnderNEP

Programme	CourseType	Cour se Code	CourseTitle	Course Outcome
M.Com (Sem. II) (Under NEP)	Discipline Specific Core	MCOM - DSC- 2.1	FinancialManagem ent	This course develops knowledge of financial decision-making including capital budgeting, cost of capital, financial planning, working capital management, dividend decisions, and capital structure analysis. Students learn to apply financial tools for maximizing firm value.
M.Com (Sem. II) (Under NEP)	Discipline Specific Core	MCOM - DSC- 2.2	Human Resource Management	The course covers HR functions such as recruitment, selection, training, performance appraisal, compensation management, industrial relations, and employee welfare. Students gain understanding of strategic HR roles in modern organizations.
M.Com (Sem. II) (Under NEP)	Discipline Specific Core	MCOM - DSC- 2.3	Marketing Management	This course provides insights into product planning, branding, consumer behaviour, pricing strategies, distribution channels, promotional mix, digital marketing, and marketing analytics. Students learn how marketing decisions influence business competitiveness.

M.Com (Sem. II) (Under NEP)	Discipline Specific Core	MCOM - DSC- 2.4	Business Environment & Policy	Students learn about domestic and global business environment, economic reforms, industrial policy, fiscal policy, monetary policy, foreign trade policy, and Regulatory institutions. The course helps in understanding policy impacts on business strategy and performance.
M.Com (Sem. II) (Under NEP)	Generic Elective (GE) /SkillCourse	GE/SEC- 2	Entrepreneurship & Start-up Management / Business Analytics	Students opting Entrepreneurship learn opportunity identification, project financing, government schemes, and venture creation. Students opting Business Analytics learn data handling, visualization ,and basic analytical tools for managerial insights.

Programme: M.Com (SemesterIII)—UnderNEP

Programme	CourseType	Cours e Code	Course Title	Course Outcome
M.Com (Sem. III) (Under NEP)	Discipline Specific Core	MCOM- DSC- 3.1	Advanced Cost & Management Accounting	This course deepens understanding of cost control, cost reduction, standard costing, budgetary control, marginal costing, transfer pricing, and responsibility accounting. It equips students with skills to analyze costs for strategic Managerial decisions and performance evaluation.
M.Com (Sem. III) (Under NEP)	Discipline Specific Core	MCOM- DSC- 3.2	Financia lMarkets & Institutions	This course explores the structure and functioning of financial markets including money market, capital market, and forex market. Students learn about SEBI, RBI, commercial banks, mutual funds, insurance companies, and NBFCs. It strengthens understanding of financial system operations and regulatory frameworks.

M.Com (Sem. III) (Under NEP)	Discipline Specific Core	MCOM- DSC- 3.3	International Business Environment	Students learn theories of international trade, global business strategies, foreign exchange markets, balance of payments, WTO, and regional trade blocs. The course develops ability to analyze global environmental factors influencing international Business operations.
M.Com (Sem. III) (Under NEP)	Discipline Specific Elective (DSE)	MCOM- DSE-3A/ 3B	Elective I Accounting Finance Marketing/HRM	Students opting Accounting & Finance may study Investment Analysis, Corporate Reporting, or Financial Modelling. Marketing electives may include Consumer Behaviour or Digital Marketing. HRM electives include Talent Management or Labour Legislation. These courses enhance specialization knowledge in chosen domain.
M.Com (Sem. III) (Under NEP)	Research Skill Course	RSC-3	ProjectProposal/ Synopsis Preparation	Students learn how to prepare a professional research proposal including problem identification, objectives, hypothesis, methodology, and expected outcomes. This prepares them for dissertation work in Semester IV.

Programme: M.Com (Semester IV)—Under NEP

Programme	Course Type	Course Code	Course Title	Course Outcome
M.Com (Sem. IV) (Under NEP)	Discipline Specific Core	MCOM - DSC-4.1	Strategic Management	The course provides understanding of strategic planning, competitive advantage, corporate-level strategies, business-level strategies, SWOT analysis, portfolio analysis, mergers, acquisitions, and strategic control. Students develop skills to analyze business environments and formulate long-term strategies.
M.Com (Sem. IV) (Under NEP)	Discipline Specific Core	MCOM - DSC-4.2	Corporate Governance & Business Ethics	This course explains governance mechanisms, board structure, shareholder rights, CSR, ethical practices, and regulatory frameworks such as SEBI and Companies Act. It enables students to understand ethical decision-making and responsible corporate conduct.
M.Com (Sem. IV) (Under NEP)	Discipline Specific Elective (DSE)	MCOM-DSE-4A/4B	Elective II – Accounting & Finance / Marketing/HRM	Students opting Accounting & Finance may study Financial Derivatives, Risk Management, or Advanced Corporate Finance. Marketing electives include Brand Management or Retail Management. HRM electives include Organizational Change or Strategic HRM. It enhances domain-specific expertise.
M.Com (Sem. IV) (Under NEP)	Research Project/ Dissertation	RP-4	Dissertation / Research Project	Students conduct an original research study, involving data collection, analysis, interpretation, and report writing. It enhances research competency, analytical skills, and ability to integrate theory with practice.
M.Com (Sem. IV) (Under NEP)	Viva Voce	VV-4	Viva-Voce Examination	Students present and defend their dissertation before an expert panel. This course evaluates research understanding, Communication skills, and clarity of conceptual knowledge.

Department of Computer Science and Applications

Programme	Course Type	Course Code	Course Title	Course Outcome
BCA [SEMI]	Discipline Specific Core	BCA-DSC-1 (Maj)-101 & BCA-DSC-1 (Maj)-101P	Introduction to Web Technologies	<p>This course enables students to create webpages using HTML, CSS, Javascript and dreamweaver.</p> <p>After completing the Course students will be able to</p> <ul style="list-style-type: none"> i. Get familiar with the terms related to World Wide Web. ii. Use the front end website developing technologies like HTML and CSS <p>Know about the basics of Java Script. Use Dreamweaver for creating Web Pages</p>
BCA [SEMI]	Discipline Specific Core	BCA-DSC-1 (Maj)-102	Fundamentals of Mathematical Statistics	<p>To teach the students the basic techniques Statistical Methods.</p> <p>After completing the Course students will be able to:</p> <ul style="list-style-type: none"> i. Understand the Basic of Data Collection and Statistical Techniques ii. Use and Calculate various measure of central tendency, mean, median, mode, range, deviation. iii. Understand the Basic of Data Collection and Statistical Techniques. iv. Gain an insight into regression analysis, its type and methods of calculation.
BCA [SEMI]	Discipline Specific Core	BCA-DSC-1 (Min)-103 & BCA-DSC-1 (Min)-103 P	Problem Solving Through C	<p>To teach the students the basic techniques Statistical Methods. After completing the Course students will be able to:</p> <ul style="list-style-type: none"> i. Understand the Basic of Data Collection and Statistical Techniques ii. Use and Calculate various measure of central tendency, mean, median, mode, range, deviation. iii. Understand the Basic of correlation, measuring techniques and its type. iv. Gain an insight into regression analysis, its type and methods of calculation.

BCA [SEMI]	MDC	CSA-MDC-101/201/301	E-Commerce	<p>The objective of this course is to understand the process of electronic commerce and familiarizes students with the technology involved in it. After completing the course students will be able to:</p> <ul style="list-style-type: none"> i. Know about the Basic of E-commerce, its type, EDI, its "&"structure and components ii. Understand the basic of Web Based E-Commerce, Web Site Development and online promotion tools and techniques. i. iii. Gain an insight into electronic payment systems, mobile commerce and various application of e-commerce along wi"&"th some case studies.
BCA [SEMI]	SEC	CSA-SEC-101/201/301	Computer Fundamentals and Personal Computing Software	<p>The objective of this course is to familiarize students with the packages commonly used in computing software. After completing the course students will be able to: Understand the fundamentals of personal computers, application usage, etc. ii. Get the knowledge of peripherals of personal computer and booting process. Use word processing packages for writing emails, letters, and chapters, Handle statistical data using spreadsheets packages. Design presentations for business analysis, industrial growth, etc</p>
BCA [SEMI]	VAC	CSA-VAC- 102	Introduction to Computer Hardware	<p>To enable the students to learn about hardware fundamentals. After completing the course students will be able to: i. Recognition of the fundamental hardware components that make up a computer's hardware. ii. Introduction to the names and functions of har"&"dware ports and the parts of the motherboard. Knowledge of Windows installation and Role of Anti-Virus</p>

BCA [SEMII]	Discipline Specific Core	BCA-DSC-2 (Maj)-201	Computer Organization	<p>This course will enable the student to understand the working of logic gates, boolean laws and the basics of digital logic circuits in computer hardware organization. The course will familiarize the student with design and implementation of electronic circuits used in internal computer hardware architecture for various arithmetic, logic and shift micro-operations of the microprocessor.</p> <p>After completing the course students will be able to:</p> <ul style="list-style-type: none"> i Understand concept of number systems, binary arithmetic and computer codes with its application in digital design. Learn characteristic and working of different logic gates. Design and simplify logic circuits using Boolean algebra and K Maps. iv Demonstrate the working of various combinational and sequential circuits used as basic building blocks in internal hardware architecture.
BCA [SEMII]	Discipline Specific Core	BCA-DSC-2 (Maj)-202& BCA-DSC-2 (Maj)-202P	Introduction to Artificial Intelligence and Data Science	<p>The course will help students to learn the basics of Artificial Intelligence and Data Science. It further aims to make them analyze data using spreadsheets. After completing the course students will be able to: understand basics of Artificial Intelligence" & " and Data Science. analyze data using spreadsheet software. visualize, search and summarize the data using spreadsheet</p>

BCA [SEMII]	Discipline Specific Core	BCA-DSC-2 (Min)-203	Object Oriented Programming using C++	<p>By the end of the course, students will be able to write C++ programs using the more esoteric language features, utilize Object Oriented techniques to design C++ programs, use the standard C++ library, and explore advanced C++ techniques.</p> <p>After completing the course students will be able to:</p> <ol style="list-style-type: none"> i. Understand the features and importance of object oriented programming concepts. ii. Use the concepts like inheritance, polymorphism, and dynamic binding to develop codes. iii. Gets better understanding of developing reusable components using C++ programming. iv. Develop large software that needs bottom up and better modular approach..
BCA [SEMII]	MDC	CSA-MDC- 202	Management Information System	<p>The objective is to make student understand and assess the importance of information and its role in business and to develop data analyzing skills in students to evaluate information and the tools used for information processing and to imbibe theoretical knowledge of MIS in the students and prepare the students technologically competitive and make them ready to self-upgrade with the higher technical skill.</p> <p>After completing the course students will be able to:</p> <ol style="list-style-type: none"> i. Understand the information needs of an organization and a business function. ii. Evaluate effectiveness of decision making process and identify its tools iii. Understand DSS techniques for making effective decisions. iv. Design parameters for MIS application, for data analysis uses.

BCA [SEMII]	SEC	CSA-SEC- 202	Desktop Publishing using GIMP	The course will teach students the basics and advance concepts of GIMP. The course will make the students skillful in using GIMP in professional areas like flex designing, image processing, digital photography, desktop publishing, cover design and poster/banner making etc. After completing this course students will be able to: Understand the basics of image, image formats, and color models. Get a thorough knowledge of GIMP. To use GIMP for desktop publishing. To use GIMP for digital photography. To use the GIMP for image processing and poster/cover/banner desig
BCA [SEMII]	VAC	CSA-VAC- 201	Introduction to Blockchain Technology	To enable the students to learn about Blockchain Technology. After completing this course students will be able to: Understanding of what Blockchain is and why it is use. Explanation of the different components involved within Blockchain, its application areas and Introduction of Cryptography
BCA [SEMIII]	Discipline Specific Core	BCA-16-303	Information System Design	To teach the students about the various aspects of Information Systems to be developed their analysis and design. The motive isto awarethe learners about pre requisite of software development and associated paradigms. After completing this course students will be able to be analyse and design Information systems.
BCA [SEMIII]	Discipline Specific Core	BCA-16-304&BCA-16-306	Computer Oriented	To teach the students the essential techniques of Numerical Methods. After completing this course students will be able to solve various Scientific and Engineering fields
BCA [SEMIII]	Discipline Specific Core	BCA-16-305 & BCA-16-307	Data Structures	To teach the students various data structures and the basic operations performed using them. At the end of course the student will have complete knowledge of data structures, thus will be able to use them for solving real World problems.

BCA [SEMIV]	Discipline Specific Core	BCA-16-403	Software Project Management	To teach the students important concepts, terms related to various phases during the development of a software project. At the end of the course the student will be able to apply software project management techniques to Manage a software project.
BCA [SEMIV]	Discipline Specific Core	BCA-16-404&BCA-16-406	Operating System Concepts	The objective of the module is to create skills of students in operating systems concepts and Linux commands.
BCA [SEMIV]	Discipline Specific Core	BCA-16-405&BCA-16-407	Database Management System	This course aims at giving the students the insight of the underlying concepts of database management system and implement them using Database software.
BCA [SEMIV]	Discipline Specific Core	BCA-16-501	Computer Networks	The objective of the course is to offer knowledge about computer network related hardware and software using a layered architecture and to provide good understanding of the concepts of network security,wireless and various Emerging network technologies.
BCA [SEMIV]	Discipline Specific Core	BCA-16-502	Discrete Mathematical Structure	Students will learn and be able to acquire t h e k n o w l e d g e o f Logic, Relations and Functions. Algebraic Functions and Graph Theory will also be discussed in this paper.
BCA [SEMIV]	Discipline Specific Core	BCA-16-503 & BCA-16-505	Java Programming	This course aims at giving student knowledge about all the programming concepts of JAVA programming language.
BCA [SEMIV]	Discipline Specific Core	BCA-16-504 & BCA-16-506	Web Application Development Using PHP	This course enables students to do web programming using PHP and MySQL.It would enable them to develop websites and other web based applications.
BCA [SEMVI]	Discipline Specific Core	BCA-16-601	E-Commerce	The objective of this course is to understand the process of electronic commerce and familiarizes students with the technology involved in it

BCA [SEMVI]	Discipline Specific Core	BCA-16-602	Application Development Using VB.Net	The course is designed to enable the students to develop applications using event driven programming with VB.net (as front end) and accessing database at back.
BCA [SEMVI]	Discipline Specific Core	BCA-16- 603&BCA-16- 604	Computer Graphics and Multimedia Applications	The objective of the course is to introduce basic computer graphics concepts and algorithms. The student will also learn about essential concepts used in developing multimedia applications.
BCA [SEMVI]	Discipline Specific Core	BCA-16-605	Major Project and Seminar	The objective is to give hands on training of real life problems and to develop softwares to solve these problems.
BA/BSc [SEMI]	Elective	CSA11& CSA12 [Practical Based On CSA11]	Computer Fundamentals and PC Software	The objective of this course is to familiarize students with the fundamentals of computers and packages commonly used in application software. After completing this course students will be able to: Understand the fundamentals of personal Computers, application usages. .Get knowledge of peripherals of personal computer and booting process. .Use word processing packages for writing emails, letters and chapters. .Handle statistical data using spreadsheets and et packages. Design presentations for business analyses, industrial growth etc.
BA/BSc [SEMII]	Elective	CSA13& CSA 14 [Practical Based on CSA13]	Programming in C	The objective of this course is to familiarize students with programming language "C" and its use in Problem solving. After completing this course students will be able to: Understand the programming concepts. Learn the C programming in practical usage. Solve programming problems using C programming language. iv. Gain the in depth knowledge of strings, arrays, functions and file handling etc. Develop applications based on

				programming concepts.
BA/BSc [SEMIII]	Elective	CA05	Programming in C++	The course enables the students to get familiar with the features of Object Oriented programming language using C++.
BA/BSc [SEMIII]	Elective	CA06	Web Designing	This course enables students to create web pages using HTML, CSS, Java script and dream weaver.
BA/BSc [SEMIV]	Elective	CA07Data Structure	Data Structure	The course enables the students to get familiar with the basic concepts of data structures and develop programs using different concepts.
BA/BSc [SEMIV]	Elective	CA08	Java Programming	The course enables students to understand the basics of JAVA Programming.
BA/BSc [SEM V]	Elective	CA09	Programming with VB.NET	The course is designed to enable the students to develop applications using event driven programming with VB.net.
BA/BSc [SEM V]	Elective	CA10	Database Management using Oracle	The course is designed to enable the students to understand basic database concepts and managing database using SQL queries.
BA/BSc [SEMVI]	Elective	CA11	Computer Networks	The course enables students to understand the basics of Computer
BA/BSc [SEMVI]	Elective	CA12	Working with Linux	The course enables the students to get familiar with LINUX Operating system.

M.Sc (Chem) [SEMI]	Elective	Paper:(IV) 414(C)	Computer for Chemists	To teach fundamental concepts of Computing and their applications.
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Department of Economics

Programme	Course Type	Course Code	Course Title	Course Outcome
B.A. (Sem.I) (UnderNEP)	Discipline Specific Core	ECO - DSC -1, 101	Introductory Microeconomics	This course in microeconomics aims to equip students with a foundational understanding of economic analysis from the perspective of the individual. By exploring the core principles of scarcity, choice, and opportunity cost, students will learn to apply basic microeconomic concepts and analytical tools to real- world decision-making. The course emphasizes understanding how and why consumers and producers behave the way they do, focusing on utility maximization, resource allocation, and production decisions under constraints. Through this, students will develop the ability to analyse individual and firm-level economic behaviour and gain insight into how markets function to coordinate economic activity through the interaction of supply and demand.
B.A. (Sem.II) (UnderNEP)	Discipline Specific Core	ECO - DSC -2, 201	Contemporary Issues in Indian Economy	This course provides a review of major trends in economic indicators and policy debates in India during the post-independence period, using an appropriate analytical framework. It places particular emphasis on identifying paradigm shifts and key turning points in the country's developmental trajectory. The course also aims to familiarize students with the various strategies of economic development adopted by India since gaining independence, helping them understand the evolution and impact

				of economic policies over time.
B.A. (Sem.III)	Elective Subject	-	Public Finance and International Economics	The primary course objective is to introduce the students to the basics of public finance and international trade. The first two units aim to introduce students to the primary functions of government to generate resources from the people and to spend money improving their lives. The last two units are concerned with basic Theories of international trade and commercial policies, balance of payments, determination of exchange rates and role of international financial institutions.
B.A. (Sem.IV)	Elective Subject	-	Quantitative Methods	The objective of the course is to train the students in the use of basic mathematical and statistical tools in analyzing various economic phenomena. It deals with the design of how data is presented, the analysis of the data, and the drawing of conclusions from the data. The course aims to improve decision-making accuracy of the students and enabling them to test new ideas.
B.A. (Sem.V)	Elective Subject	-	Economics of Development	The primary course objective is to introduce the students to the basic features, determinants, and theories and strategies of development of underdeveloped economies. It also introduces students to the theory of how control and direction of economic activity by a central public authority can be used as an alternative

				to market by the underdeveloped economies.
B.A. (Sem.VI)	Elective Subject	-	Indian Economy	The objective of the paper is to familiarize the students with the features and characteristics of the Indian Economy. It also includes performance and problems of Industrial development, Indian tax structure, external trade and balance of payments, and objectives, strategy and performance of Indian planning. The course aims to develop analytical understanding of the students by exposing them to the basic issues of the Indian economy.
B.Com. (Sem.I) (UnderNEP)	Discipline Specific Core	NBCM 103	Micro Economics	To study the basic concepts of microeconomics relevant for Business decision making and helping the students to understand the application of economic principles in business management
B.Com. (Sem.II) (UnderNEP)	Discipline Specific Core	NBCM 203	Macro Economics	The paper aims at providing the knowledge of basic concepts of the distribution and modern tools of macro-economic analysis.
B.Com. (Sem.III)	-	BCM30 4	Business Mathematics and Statistics	The objective of this paper is to help the students in understanding mathematical and statistical tools in business decisions.
B.Com. (Sem.IV)	-	BCM40 6	Quantitative Techniques and Methods	The objective of the paper is to acquaint the student with the various quantitative techniques and methods used in managerial decisions.

B.Com. (Sem.V)	-	BCM50 3	Indian Economy	This course will provide insight into the various sectoral aspects of Indian economy
B.Com. (Sem.VI)	-	BCM60 6	Sectoral Aspects of Indian Economy	This course will provide insight into the various sectoral aspects of Indian economy
M.A. Economics (Sem. I)	Compulsory Paper	MAECO - 101	Micro Economics-I	The objective of the paper is to rigorously and comprehensively equip the students with theoretical concepts, methodology and process of reasoning involved in analyzing economic behavior of individuals, firms and markets using, in general, a static and partial equilibrium framework.
M.A. Economics (Sem. I)	Compulsory Paper	MAECO- 102	Macro Economics-I	Macroeconomics or aggregative economics analysis establishes the functional relationship between the large aggregates. The aggregate analysis has assumed such a great significance in recent times that a prior understanding of macroeconomic theoretical structure is considered essential for the proper comprehension of the different issues and policies. Macroeconomics now is not only a scientific method of analysis; but also a body of empirical economic knowledge.
M.A. Economics (Sem. I)	Compulsory Paper	MAECO- 103	Quantitative Methods-I	The objective of this paper is to train the students in the use of mathematical and statistical tools in analyzing economic problems. The course content contains simple tools and techniques, thought necessary for data collection, presentation, analysis and drawing inferences about various statistical hypotheses.

M.A. Economics (Sem. I)	Compulsory Paper	MAECO-104	International Economics	The course intends to provide a deep understanding about the broad principles and theories, which tend to govern the free flow of trade in goods, services and capital – both short-term and long-term – at the global level. The contents of the paper spread over different modules, lay stress on the theory and nature of the Subject which, in turn, will greatly help them to examine the impact of the trade policies followed both at the national and international levels as also their welfare implications at macro level and the distribution of gains from trade.
M.A. Economics (Sem. II)	Compulsory Paper	MAECO-201	Micro Economics-II	The objective of this paper is to rigorously and comprehensively equip the students with theoretical concepts, methodology and process of reasoning involved in analyzing economic behavior of individuals, firms and markets using, in general, a static and partial equilibrium framework.
M.A. Economics (Sem. II)	Compulsory Paper	MAECO-202	Macro Economics-II	Macroeconomics or aggregative economics analysis establishes the functional relationship between the large aggregates. The aggregate analysis has assumed such a great significance in recent times that a prior understanding of macroeconomic theoretical structure is considered essential for the proper comprehension of the different issues and policies. Macroeconomics now is not only a scientific method of analysis; but also a body of empirical economic knowledge.

M.A. Economics (Sem. II)	Compulsory Paper	MAECO- 203	Quantitative Methods-II	The objective of the paper is to rigorously and comprehensively equip the students with theoretical concepts, methodology and process of reasoning involved in analyzing economic behavior of individuals, firms and markets using, in general, a static and partial equilibrium framework.
M.A. Economics (Sem. II)	Compulsory Paper	MAECO- 204	Public Finance	Role and functions of the Government in an economy have been changing with the passage of time. The term 'Public Finance' has traditionally been applied to the package of those policies and operations which involve the use of tax and expenditure measures while budgetary policy is an important part to understand the basic problems of use of resources, distribution of income etc. There are vast array of fiscal institutions– tax systems, expenditure programmes, budgetary procedures, stabilization instruments, debt issues, levels of government etc. which raise a spectrum of issues arising from the operation of these institutions. Further, the existing of externalities, concern for adjustment in the distribution of income and wealth, etc. require political processes for their solution in a manner which combines individual freedom and justice. This paper combines a thorough understanding of fiscal institutions with a careful analysis of the issues which under line budgetary policies in general and Indian experience in particular.

M.A. Economics (Sem. III)	Compulsory Paper	MAECO-301	Economics of Growth and Development-I	Modules incorporated in this paper are devoted to the theories of growth and development, importance of agriculture, and the rational and pattern of industrialization in developing countries. The other important issues in the context of development such as infrastructure – linkages, role of international trade, importance of economic policies and relevance of planning have been included in the modules of this paper.
M.A. Economics (Sem. III)	Compulsory Paper	MAECO-302	Indian Economic Issues -I	The objective of this paper is to acquaint the students with the performance of different sectors of the Indian economy and the policy framework governing them. This will provide them an insight into the past, present and future functioning of the Indian economy and strengthen their analytical capability.
M.A. Economics (Sem. III)	Optional Paper	MAECO - 303 & 304 (Option -i)	Economics of Agriculture-I	The focus of this course is to introduce students to the importance of agricultural sector and to the issues associated with agricultural transformation, agricultural production, and demand of and supply for agricultural commodities. The objective is to equip students to analyze and critically assess issues, policies and programmes in these areas with particular emphasis on Indian agriculture.
M.A. Economics (Sem. III)	Optional Paper	MAECO - 303 & 304 (Option -vii)	Economics of Population	The main objective of this paper is to make the students aware of the importance of population in economic development and the various theories that explain the growth of population in a country. The study of Quantitative and Qualitative composition of population is also required to understand the dynamics of population growth. Migration and urbanization are the characteristics of structural changes taking place in the economy.

M.A. Economics (Sem. IV)	Compulsory Paper	MAECO- 401	Economics of Growth and Development-II	The main objective of this course is to look at the process of growth and development in terms of its characteristics such as structural transformation, pattern of distribution of income, its inter sectoral interface. In addition, it also aims to take up issues pertaining of the emerging global scenario and the debate concerning the planning vs marketism which is so vital for development theorists and practitioners.
M.A. Economics (Sem. IV)	Compulsory Paper	MAECO- 402	Indian Economic Issues-II	The objective of this paper is to acquaint the students with the performance of different sectors of the Indian economy and the policy framework governing them. This will provide the man insight into the past, present and future functioning of the Indian economy and strengthen their analytical capability.
M.A. Economics (Sem. IV)	Optional Paper	MAECO - 403 & 404 (Option- i)	Economics of Agriculture-II	The focus of this course is to introduce students to issues associated with agricultural finance, agricultural markets, food security and international trade in agricultural commodities, and also to expose students to the recent developments in Indian agriculture. The objective is to equip students to analysis and critically assess issues, policies and programmes in these areas.

M.A. Economics (Sem. IV)	Optional Paper	MAECO - 403 & 404 (Option- vii)	Economics of Money and Banking	Money and banking constitute important components towards understanding of economics. A clear understanding of the operations of money and banking and their interaction with the rest of the economy is essential to realize how monetary forces operate through a multitude of channels – market, non-market, institutions and among others, the state. The operation of financial markets and their regulations are to be studied to appreciate their key-role in an economy, especially after the far reaching banking and financial sector reforms in India and elsewhere. The present course is designed to acquaint the students fully with the changing role of financial institutions in the process of growth and development. Accordingly, the 61 paper on ‘Economics of Money and Banking’ is an optimal integration of monetary theory, banking and non-banking financial institutions, which combine with itself a systematic discussion of the theory, institutions and policy with special reference to India.
M.Com. (Sem.I)	Compulsory Paper	M.C.10 1	Managerial Economics	The objective of the course is to acquaint students with the concepts of micro– economic theory and their use in business decision making. The effort is to make them capable of using various concepts to deal with business problems in a global economic environment.
M.Com. (Sem.II)	Compulsory Paper	M.C.20 1	Business Environment	The objective of the course is to acquaint students with the concepts of macro – economics and the macro environment in which a business organization operates. The course would also make the student capable of analyzing and understanding the

				macro economic policies of the government implemented from time to time and assess their impact on business.
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Department of HINDI

Programme	Course Type	Course Code	Course Title	Course Outcome
B.A SEM 1 (UNDER NEP)	हिन्दी DISCIPLINE SPECIFIC COURSE-1	HIN-203	प्राचीनकाव्य (भक्तिकाल), साहित्येतिहास(आदिकाल) एवं व्याकरण	पाठ्यक्रम के अधिगम परिणाम (Course Learning Outcomes) भक्तिकालीन कवियों के प्रति ज्ञान में वृद्धि होगी। सृजनात्मक साहित्य की समझ एवं विश्लेषणात्मक दृष्टि का विकास होगा। साहित्य-ऐतिहासिक दृष्टि एवं समझ में अभिवृद्धि होगी। हिंदी के व्यावहारिक ज्ञान में अभिवृद्धि होगी।
B.A SEM 2 (UNDER NEP)	हिन्दी DISCIPLINE SPECIFIC COURSE-2	HIN-204	भक्ति-काव्य, साहित्येतिहास (भक्तिकाल)एवं व्यवहारिक हिन्दी	पाठ्यक्रम के अधिगम परिणाम (Course Learning Outcomes) भक्तिकालीन कवियों के प्रति ज्ञान में वृद्धि होगी। सृजनात्मक साहित्य की समझ एवं विश्लेषणात्मक दृष्टि का विकास होगा। साहित्य-ऐतिहासिक दृष्टि एवं समझ में अभिवृद्धि होगी। हिंदी के व्यावहारिक ज्ञान में अभिवृद्धि होगी।
B.A SEM 3 (NON NEP)	हिन्दी ऐच्छिक	--	हिन्दी ऐच्छिक	पाठ्यक्रम के अधिगम परिणाम (Course Learning Outcomes) आधुनिककालीन कवियों के प्रति ज्ञान में वृद्धि होगी। हिन्दी साहित्येतिहास के रीतिकाल के सम्बन्ध में ज्ञान प्राप्त होगा। साहित्य-ऐतिहासिक दृष्टि एवं समझ में अभिवृद्धि होगी। हिंदी के व्यावहारिक ज्ञान में अभिवृद्धि होगी।

B.A SEM 4 (NON NEP)	हिन्दी ऐच्छिक	--	हिन्दी ऐच्छिक	<p>पाठ्यक्रम के अधिगम परिणाम (Course Learning Outcomes)</p> <p>आधुनिककालीन कवियों के प्रति ज्ञान में वृद्धि होगी। हिन्दी साहित्येतिहास के आधुनिककाल के सम्बन्ध में ज्ञान प्राप्त होगा। साहित्य-ऐतिहासिक दृष्टि एवं समझ में अभिवृद्धि होगी। हिंदी के व्यावहारिक ज्ञान में अभिवृद्धि होगी।</p>
B.A SEM 5 (NON NEP)	हिन्दी ऐच्छिक	--	हिन्दी ऐच्छिक	<p>पाठ्यक्रम के अधिगम परिणाम (Course Learning Outcomes)</p> <p>भारतीय काव्यशास्त्र के प्रति ज्ञान में वृद्धि होगी। अंलकारों के सम्बन्ध में ज्ञान प्राप्त होगा। साहित्य-ऐतिहासिक दृष्टि एवं समझ में अभिवृद्धि होगी। हिंदी के व्यावहारिक ज्ञान में अभिवृद्धि होगी।</p>
B.A SEM 6 (NON NEP)	हिन्दी ऐच्छिक	--	हिन्दी ऐच्छिक	<p>पाठ्यक्रम के अधिगम परिणाम (Course Learning Outcomes)</p> <p>हिन्दी गद्य साहित्य के प्रति ज्ञान में वृद्धि होगी। छन्दों के सम्बन्ध में ज्ञान प्राप्त होगा। साहित्य-ऐतिहासिक दृष्टि एवं</p>

				समझ में अभिवृद्धि होगी। हिंदी के व्यावहारिक ज्ञान में अभिवृद्धि होगी।
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Department of Physical Education

Programme	Course Type	Course Code	Course Title	Course Outcome
B.A.(SEM I) UnderNEP	Discipline Specific Core	PHE-DSC- 1	Foundationof Physical Education and Sports	<ol style="list-style-type: none"> 1. Students will learn about the importance of Physical Education and Sports. 2. Students will be able to know about the history of Physical Education in ancient times and modern era. 3. Students will understand the contribution of Physical Education Leaders and sports Institute towards the growth of Physical Education and Sports.
B.A.(SEM II) UnderNEP	Discipline Specific Core	PHE-DSC- 2	Athletic Care and Rehabilitation	<ol style="list-style-type: none"> 1. Students will learn about the concept of Athletic Care and Rehabilitation. 2. Students will be able to learn about different sports injuries. 3. Students will understand about the different methods of rehabilitation.
B.A.(SEM III)	Elective Subject	-	Physical Education	<ol style="list-style-type: none"> 1. Students will learn about the importance of sports psychology in Physical Education and Sports. 2. Students will be able to know about the history of sports psychology. 3. Students will understand the different concepts of psychology in the field of sports.
B.A.(SEM IV)	Elective Subject	-	Physical Education	<ol style="list-style-type: none"> 1. Students will learn about the concept of biological concept of human body. 2. Students will be able to know the functions of different systems of the body. 3. Students will understand about the diseases and rehabilitation. rehabilitation.

B.A.(SEM V)	Elective Subject	-	Physical Education	<ol style="list-style-type: none"> 1. Students will learn about different theories of sports. 2. Students will be able to know about different types of competitions and camps. 3. Students will understand the different posture deformities and massage in the field of sports.
B.A.(SEM VI)	Elective Subject	-	Physical Education	<ol style="list-style-type: none"> 1. Students will learn about the general concept of physiology. 2. Students will be able to know the functions of different systems of the body. 3. Students will understand the concept of sports training,
B.A.(SEM I) UnderNEP	SEC	PED-SEC-1	Fitness and Conditioning	<ol style="list-style-type: none"> 1. Students will learn about the concept of Fitness and Conditioning. 2. Students will be able to know about the benefits of Fitness and Conditioning. 3. Students will understand about the different protocols of Fitness and Conditioning.
B.A. (SEM II) UnderNEP	SEC	PED-SEC-2	First Aid	<ol style="list-style-type: none"> 1. Students will understand the basic concept of first aid. 2. Students will learn about the need of first aid in sports. 3. Students will learn the basic life support skills. .
B.A.(SEM I) UnderNEP	VAC	PED-VAC-1	Health and Wellness	<ol style="list-style-type: none"> 1. Students will learn about the concept of Health and wellness. 2. Students will understand the concept of Physical fitness. 3. Students will get awareness about the Hypo-kinetic diseases..
B.A.(SEM II) UnderNEP	VAC	PED-VAC-2	Yoga	<ol style="list-style-type: none"> 1. Students will be able to understand the Foundation of Yoga. 2. Students will learn the importance of Yoga and Meditation. 3. Students will learn Asanas, Kriya, Pranayama.

A. S.COLLEGE KHANNA

P.G.Department of Political Science (2024-2025)

Programme	Course Type	Course Code	CourseTitle	Course Outcome
B.A.(Sem.I) (Under NEP)	Discipline Specific Course	POL DSC-1,101	Introduction to Political Science	This course will introduce students to the discipline of political science and the foundational concepts involved in the study of politics in its different dimensions. It will lay out the framework for subsequent courses in the program. The student will be able to demonstrate a basic understanding of the key concepts, identify their use in political analysis and explain their relevance to the study of politics.
B.A(Sem.II) (Under NEP)	Discipline Specific Course	POL -DSC-2,201	Introduction to Indian Political System	The course aims at providing a basic understanding of the founding principles of India's constitutional democracy and how did they took shape historically during the course of the nationalist movement and in the shape of the constituent assembly debates. Students would also be acquainted with the constitutional principles on which the institutions are founded and how have they functioned since independence. Rights of the citizens as enshrined in the constitution
B.A(Sem.III)	Elective Subject	_	Indian Government and Politics	This paper provides students with a basic knowledge of the fundamental elements and institutions of government, politics and processes in India at both the centre and state levels.
B.A (Sem.IV)	Elective Subject	_	Indian Politics	The aim of this paper is to enrich the student's understanding of the working of the Indian political system with reference to

				political parties, the party system, elections and voting behaviour. Units III and IV of the paper examine in detail certain key issues and debates in contemporary India.
B.A (Sem.V)	Elective Subject	_	Comparative Political Systems (UK. & USA)	The purpose of this paper is to serve as an introduction to the field of comparative politics. It provides a broad overview of the field of comparative politics and examines some key approaches. The major part of the paper is devoted to understanding and analyzing the origins and working of two political systems, the UK and the USA. The student will not only become familiar with the working of these two political systems but also understand how the concepts of comparative politics can be used to understand real world politics.
B.A(Sem.VI)	Elective Subject	_	International Politics:Theory and Practice	This paper provides students with an overview of the broad theories and concepts used to understand international politics. It also examines key issues in contemporary global history from an international politics perspective.
M.A.Political Science (Sem.I)	Compulsory Paper	WPT-1	Western Political Thought-I	This paper aims to introduce to the students to the major themes of western political thought. This will be done by undertaking an in-depth study of the key thinkers of this tradition
M.A.Political Science (Sem.I)	Compulsory Paper	CPA	Key Concepts in Political Analysis	The course aims at introducing students to the key concepts which are the building blocks of political analysis. Each concept will be studied in terms of the main debates over its nature and scope in the discipline and its relationship with other concepts. After doing this course, the student will be able to discern the conceptual debates which underlie political phenomena.

M.A.Political Science (Sem.I)	Compulsory Paper	IAW	Indian Politics : Institutions at work (Compulsory)	Recent India has witnessed a major thrust in the study of India's political and economic processes. An important component of many such studies has been to refer to the relevant constitutional and institutional aspects. Such studies, sensitive to the constitutional experiences of a 'new democracy', have enriched themselves by undertaking an in-depth analysis of the way the constitutional provisions have been put into practice and also by making an attempt to explore the core ideas that guided the constitution-makers during the deliberations in the Constituent Assembly. The paper aims at making the students aware of the text of the Constitution of India, important debates and the way the institutions have worked over the last more than six and half decades.
M.A.Political Science (Sem.I)	Compulsory Paper	INR	International Relations: An Historical Overview	The purpose of this paper is to provide an historical overview of major developments in International Relations since the beginning of the twentieth century.
M.A.Political Science (Sem.II)	Compulsory Paper	WPT-II	Western Political Thought (II)	This paper aims to introduce to the students the major themes of western political thought. For this purpose, the paper undertakes a study of the key thinkers of this tradition.
M.A.Political Science (Sem.II)	Compulsory Paper	CPO-I	Comparative Politics : Understanding Advanced Industrial	The objective of the course is to familiarize students with recent debates and theories concerning advanced industrial societies, and this will be undertaken in a comparative framework

			Societies	
M.A.Political Science (Sem.II)	Compulsory Paper	IPO	Indian Politics: Political Processes (Compulsory)	This course aims to introduce students to politics in India as it has evolved after decolonization. The themes discussed during the course will be those that are crucial to the understanding of the way political processes in the largest democracy of the world unfold in varying form. The paper takes up the issues for discussion related to the way democratic politics in India has evolved and been shaped in an underdeveloped, multi-ethnic setting along the lines of caste, class, and linguistic and religious identities. It also focuses on the way India's democratic state has fared in promoting economic development, both growth and equity
M.A.Political Science (Sem.II)	Optional Paper	AIR	Approachesto the Study of International Relations	The purpose of this paper is to be familiarize students with alternative and diverse frameworks which seek to explain International Relations.

M.A.Political Science (Sem.III)	Compulsory Paper	IPT-I	Indian Political Thought-I	The paper aims to introduce students to different discourses in the domain of Indian Political Thought. It includes historical roots, medieval socio-cultural traditions, renaissance and nationalist narratives.
M.A.Political Science (Sem.III)	Compulsory Paper	CPO-II	Comparative politics(ii): Understanding developing societies	The purpose of this paper is to be familiarizes students with alternative and diverse frameworks which seek to explain International Relations.
M.A.Political Science (Sem.III)	Optional Paper	PIL-1	Public International Law-I	This paper introduces the students to the fundamentals and various other aspects of Public International Law.
M.A.Political Science (Sem.III)	Optional Paper	PAD	Public Administration	This paper will introduce students to different aspects of public administration with special reference to India.
M.A.Political Science (Sem.IV)	Compulsory Paper	IPT-II	Indian Political Thought-II	The paper introduces the major themes of Indian Political Thought particularly during the Indian National Movement through a study of the contribution of key thinkers during this period.
M.A.Political Science (Sem.IV)	Compulsory Paper	FPI	Foreign Policy of India	The course tries to underline the changes, which the shifting nature of world order has induced into the more enduring elements and themes of Indian foreign policy. At the same time, India's growing assertion on the world stage as an important international actor is assessed in the light of its role in various

				global regimes. the light of its role in various global regimes.
M.A.Political Science (Sem.IV)	Optional Paper	DGI	Decentralized Governance and Local Level Institutions in India	The objective of the course is to familiarize students with the concept of decentralized and democratic governance in India, both theoretically and at the level of institutional functioning a the local level. The emphasis of the course is on the process of democratic governance in both at the grassroots.
M.A.Political Science (Sem.IV)	Optional Paper	PIL-II	Public International Law-II	This paper introduces the students to certain specific subjects and the recent trends of Public International Law.

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Programme U l t	CourseType	Course Code	Course Title	Course Outcome
B.A (Sem.I) D i s c i	Multi Disciplinary Course	HRD- MDSC	Human Rights and Duties in India	The paper traces the origin and development of human rights in India, discusses constitutional legal framework in India, describes the enforcement and redressal agencies and analyses the human rights issues in the Indian context.
B.A(Sem.II) P l i n a	Multi Disciplinary Course	HRD- MDSC	Human Rights Movements in India	The course will provide a comprehensive analysis of different kinds Movements in of human rights movements in India.

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Department of Panjabi

Programme	Course Type	Course Code	Course Title	Course Outcome
B.com 1 st sem (NEP 2020)	Punjabi	PUN (COMPL-01)- 101]	ਲਾਜਮੀ ਵਿਸ਼ਾ	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਟਕ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋ ਜਾਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੀ ਵਰਤੋਂ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਹਾਰਕ ਪੰਜਾਬੀ ਸੰਬੰਧੀ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਪਰਚੇ ਦੇ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀਆਂ ਵਿੱਚ ਅਨੁਵਾਦ ਦੀ ਸਮੱਸਿਆ ਨੂੰ ਹੱਲ ਕਰਨ ਦੀ ਸੂਝ ਪੈਦਾ ਹੋਵੇਗੀ।
B.com 2 nd sem (NEP 2020)	Punjabi	PUN (COMPL-02)- 201	ਲਾਜਮੀ ਵਿਸ਼ਾ	Learning outcomes ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋ ਜਾਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੇ ਵਿਭਿੰਨ ਪੱਖਾਂ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਹਾਰਕ ਪੰਜਾਬੀ ਸੰਬੰਧੀ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਪਰਚੇ ਦੇ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀਆਂ ਵਿੱਚ ਅਨੁਵਾਦ ਦੀ ਸਮੱਸਿਆ ਨੂੰ ਹੱਲ ਕਰਨ ਦੀ ਸੂਝ ਪੈਦਾ ਹੋਵੇਗੀ।
B.C.A 1 st sem (NEP 2020)	Punjabi	PUN (COMPL-01)- 101	ਲਾਜਮੀ ਵਿਸ਼ਾ	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਸੰਬੰਧੀ ਭਰੋਸੇਯੋਗ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਜਨ-ਜੀਵਨ ਦੀਆਂ ਬਰੀਕੀਆਂ ਸਮਝ ਸਕਣਗੇ। ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਕੰਪਿਊਟਰ ਨਾਲ ਸੰਬੰਧਿਤ ਸ਼ਬਦਾਵਲੀ ਬਾਰੇ ਜਾਣੂ ਹੋਣਗੇ। ਵਿਹਾਰਕ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਆਮ ਜੀਵਨ ਵਿੱਚ ਪੰਜਾਬੀ ਦੀ ਵਰਤੋਂ ਦੇ ਸਮਰੱਥ ਹੋ ਸਕਣਗੇ।
B.C.A 2 nd sem (NEP 2020)	Punjabi	PUN (COMPL-02)- 201	ਲਾਜਮੀ ਵਿਸ਼ਾ	Learning Outcome: ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਲੋਕ ਗੀਤਾਂ ਰਾਹੀਂ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਸੰਬੰਧੀ ਭਰੋਸੇਯੋਗ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਲੋਕ ਗੀਤਾਂ ਰਾਹੀਂ ਪੰਜਾਬੀ ਜਨ ਜੀਵਨ ਦੀਆਂ ਬਰੀਕੀਆਂ ਸਮਝ ਸਕਣਗੇ। ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਕੰਪਿਊਟਰ ਨਾਲ ਸੰਬੰਧਿਤ ਸ਼ਬਦਾਵਲੀ ਬਾਰੇ ਜਾਣੂ ਹੋਣਗੇ। ਵਿਹਾਰਕ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਆਮ ਜੀਵਨ ਵਿੱਚ ਪੰਜਾਬੀ ਦੀ ਵਰਤੋਂ ਦੇ ਸਮਰੱਥ ਹੋ ਸਕਣਗੇ।
B.A/B.S.C 1 st sem (NEP 2020)	Punjabi	PUN (COMPL-01)- 101	ਲਾਜਮੀ ਵਿਸ਼ਾ	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋ ਜਾਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਾਵਿ-ਰੂਪਾਂ ਦੀ ਵਰਤੋਂ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੇ ਵੱਖ-ਵੱਖ ਪਾਸਾਰਾਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਹੋਣ ਦੇ ਨਾਲ-ਨਾਲ ਸਮਕਾਲੀ ਸਮਾਜ ਬਾਰੇ ਡੂੰਘੀ ਜਾਣਕਾਰੀ ਮਿਲੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ

				ਵਿਹਾਰਕ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ।
B.A/B.S.C 2 nd sem (NEP 2020)	Punjabi	PUN (COMPL-02)- 201	ਲਾਜ਼ਮੀ ਵਿਸ਼ਾ	Learning Outcome ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਕਹਾਣੀ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਪੰਜਾਬੀ ਕਹਾਣੀ ਦੀ ਵਰਤੋਂ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਕਹਾਣੀ ਦੇ ਵੱਖ-ਵੱਖ ਪਾਸਾਰਾਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਹੋਣ ਦੇ ਨਾਲ-ਨਾਲ ਸਮਕਾਲੀ ਸਮਾਜ ਬਾਰੇ ਡੂੰਘੀ ਜਾਣਕਾਰੀ ਮਿਲੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਹਾਰਕ ਪੰਜਾਬੀ ਸੰਬੰਧੀ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ।
B.A 3 rd sem	Punjabi	Non NEP	ਲਾਜ਼ਮੀ ਵਿਸ਼ਾ	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਿਬੰਧ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਪੰਜਾਬੀ ਨਿਬੰਧ ਦੀ ਵਰਤੋਂ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਪੰਜਾਬੀ ਨਿਬੰਧ ਵਿਧਾ ਰਾਹੀਂ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਅਤੇ ਲੋਕਧਾਰਾ ਦੇ ਵਿਭਿੰਨ ਪਾਸਾਰਾਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਹੋਣ ਦੇ ਨਾਲ-ਨਾਲ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਜਨਮ, ਵਿਕਾਸ ਅਤੇ ਵਰਤਮਾਨ ਬਾਰੇ ਡੂੰਘੀ ਜਾਣਕਾਰੀ ਅਰਜਿਤ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਹਾਰਕ ਪੰਜਾਬੀ ਸੰਬੰਧੀ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ।
B.A 4 th sem	Punjabi	Non NEP	ਲਾਜ਼ਮੀ ਵਿਸ਼ਾ	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਇਕਾਂਗੀ ਅਤੇ ਨਾਟਕ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਪੰਜਾਬੀ ਨਾਟਕ ਅਤੇ ਇਕਾਂਗੀ ਦੀ ਵਰਤੋਂ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਇਕਾਂਗੀ ਦੇ ਵਿਭਿੰਨ ਪਾਸਾਰਾਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਹੋਣ ਦੇ ਨਾਲ-ਨਾਲ ਸਮਕਾਲੀ ਸਮਾਜ ਬਾਰੇ ਡੂੰਘੀ ਜਾਣਕਾਰੀ ਅਰਜਿਤ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਹਾਰਕ ਪੰਜਾਬੀ ਸੰਬੰਧੀ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ।
B.A 5 th sem	Punjabi	Non NEP	ਲਾਜ਼ਮੀ ਵਿਸ਼ਾ	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਵਿਤਾ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋ ਜਾਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ-ਰੂਪਾਂ, ਵਿਸ਼ੇਸ਼ ਤੌਰ 'ਤੇ ਪੰਜਾਬੀ ਗੁਰਮਤਿ, ਸੂਫੀ ਅਤੇ ਕਿੱਥਾ-ਕਾਵਿ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਮੱਧਕਾਲੀ ਕਵਿਤਾ ਦੇ ਵਿਭਿੰਨ ਪਾਸਾਰਾਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਹੋਣ ਦੇ ਨਾਲ-ਨਾਲ ਸਮਕਾਲੀ ਸਮਾਜ ਬਾਰੇ ਡੂੰਘੀ ਜਾਣਕਾਰੀ ਅਰਜਿਤ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਹਾਰਕ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ।
B.A 6 th sem	Punjabi	Non NEP	ਲਾਜ਼ਮੀ ਵਿਸ਼ਾ	Learning Outcomes ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਵਲ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਨਾਵਲ ਦੀ ਵਰਤੋਂ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਨਾਵਲ ਦੇ ਵਿਭਿੰਨ ਪਾਸਾਰਾਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਹੋਣ ਦੇ ਨਾਲ-ਨਾਲ ਸਮਕਾਲੀ ਸਮਾਜ

				ਬਾਰੇ ਡੂੰਘੀ ਜਾਣਕਾਰੀ ਅਰਜਿਤ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਹਾਰਕ ਪੰਜਾਬੀ ਸੰਬੰਧੀ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ।
B.A1st SEM (NEP2020)	Elective Subject	PUN-DSC-01 (MAJ/MIN)-101	ਚੋਣਵੀਂ ਪੰਜਾਬੀ	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋ ਜਾਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਦੇ ਵਰਗੀਕਰਨ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਪੰਜਾਬੀ ਲੋਕ-ਕਾਵਿ-ਰੂਪਾਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਹੋਣ ਦੇ ਨਾਲ-ਨਾਲ ਸਮਕਾਲੀ ਸਮਾਜ ਬਾਰੇ ਡੂੰਘੀ ਜਾਣਕਾਰੀ ਅਰਜਿਤ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਹਾਰਕ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ।
B.A2 ND SEM (NEP2020)	Elective Subject	PUN-DSC-02 (MAJ/MIN)-201	ਚੋਣਵੀਂ ਪੰਜਾਬੀ	Learning Outcomes: ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਸੱਭਿਆਚਾਰ ਦੇ ਸੰਕਲਪਾਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਸੱਭਿਆਚਾਰ ਅਤੇ ਪੰਜਾਬੀ ਸੱਭਿਆਚਾਰ ਦੇ ਮਹੱਤਵ ਬਾਰੇ ਸਮਝ ਪ੍ਰਾਪਤ ਕਰ ਸਕਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਸੱਭਿਆਚਾਰ ਦੇ ਸਿਧਾਂਤਾਂ ਸੰਬੰਧੀ ਗਿਆਨ ਹਾਸਲ ਕਰਨ ਦੇ ਨਾਲ-ਨਾਲ ਇਸ ਦੀ ਵਿਹਾਰਕ ਸਮਝ ਪ੍ਰਤੀ ਜਾਗਰੂਕ ਹੋਣਗੇ। ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਸੱਭਿਆਚਾਰ ਦੇ ਵਿਲੱਖਣ ਅਤੇ ਨਿਵੇਕਲੇ ਸਰੂਪ ਬਾਰੇ ਵਿਸਤ੍ਰਿਤ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਹੋਵੇਗੀ।
B.A 3rd	Elective Subject	Non NEP	ਚੋਣਵੀਂ ਪੰਜਾਬੀ	Learning Outcomes: ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ ਬਾਰੇ ਜਾਣੂ ਹੋ ਜਾਣਗੇ। ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਸਫ਼ਰਨਾਮੇ ਸੰਬੰਧੀ ਗਿਆਨ ਹਾਸਲ ਕਰਨ ਦੇ ਨਾਲ-ਨਾਲ ਇਸ ਦੀ ਅਧਿਐਨ ਸੰਬੰਧੀ ਸਮਝ ਪ੍ਰਾਪਤ ਕਰਕੇ ਜਾਗਰੂਕ ਹੋਣਗੇ। ਇਸ ਕੋਰਸ ਦੇ ਅਧਿਐਨ ਰਾਹੀਂ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ, ਜਿਸ ਵਿੱਚ ਗੁਰਮਤਿ ਕਾਵਿ ਅਤੇ ਭਗਤੀ ਕਾਵਿ ਸ਼ਾਮਲ ਹਨ, ਦੀ ਸਮਝ ਪ੍ਰਾਪਤ ਕਰ ਸਕਣਗੇ। ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਭਾਸ਼ਾ-ਵਿਗਿਆਨ ਦੀ ਵਿਹਾਰਕ ਵਰਤੋਂ ਬਾਰੇ ਵਿਸਤ੍ਰਿਤ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਹੋਵੇਗੀ।
B.A 4 TH SEM	Elective Subject	Non NEP	ਚੋਣਵੀਂ ਪੰਜਾਬੀ	Learning Outcomes: ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਚੋਣਵੀਂ ਕਵਿਤਾ ਦੀ ਵਿਹਾਰਕ ਸਮੀਖਿਆ ਕਰਨ ਅਤੇ ਕਹਾਣੀ-ਸੰਗ੍ਰਹਿ (ਕਥਾ-ਪਵਾਹ) ਪੜ੍ਹ ਕੇ ਥੀਮ, ਪਾਤਰ-ਚਿਤ੍ਰਣ ਅਤੇ ਕਥਾ-ਜੁਗਤ ਨੂੰ ਸਮਝਣ ਦੇ ਯੋਗ ਹੋ ਜਾਣਗੇ। ਇਸ ਰਾਹੀਂ ਉਹਨਾਂ ਦੇ ਅੰਦਰ ਪੰਜਾਬੀ ਸਾਹਿਤ ਸੰਬੰਧੀ ਸੂਝ ਪੈਦਾ ਹੋਵੇਗੀ। ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਤੇ ਸਮਾਜ, ਸ਼ਖਸੀਅਤ, ਸ਼ੈਲੀ, ਮਨੋਵਿਗਿਆਨ ਅਤੇ ਸਾਹਿਤ ਦੇ ਵਿਗਿਆਨ ਸੰਬੰਧੀ ਗਿਆਨ ਹਾਸਿਲ ਕਰਨ ਦੇ ਨਾਲ-ਨਾਲ ਇਸ ਦੀ ਅਧਿਐਨ ਸੰਬੰਧੀ ਸਮਝ ਪ੍ਰਾਪਤ ਕਰਕੇ ਜਾਗਰੂਕ ਹੋਣਗੇ। ਇਸ ਕੋਰਸ ਦੇ ਅਧਿਐਨ ਰਾਹੀਂ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ, ਜਿਸ ਵਿੱਚ ਸੂਫੀ ਕਾਵਿ ਅਤੇ ਕਿੱਥਾ-ਕਾਵਿ ਸ਼ਾਮਲ ਹਨ, ਦੀ ਸਮਝ ਪ੍ਰਾਪਤ ਕਰ ਸਕਣਗੇ। ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਉਪਭਾਸ਼ਾ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਇਸ ਦੀਆਂ ਪਛਾਣ-ਵਿਧੀਆਂ ਅਤੇ ਭਾਸ਼ਾ-ਉਪਭਾਸ਼ਾ ਦੇ ਅੰਤਰ ਬਾਰੇ ਜਾਣੂ ਹੋ ਜਾਣਗੇ।

B.A 5 TH SEM	Elective Subject	Non NEP	ਚੋਣਵੀਂ ਪੰਜਾਬੀ	Learning Outcomes ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੁਰਾਤਨ ਪੰਜਾਬੀ ਕਾਵਿ ਪੜ੍ਹ ਕੇ ਇਸਦੀ ਵਿਆਖਿਆ ਕਰਨ ਦੇ ਯੋਗ ਹੋ ਜਾਣਗੇ। ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਨਾਵਲ ਦੀ ਸਾਹਿਤਕ ਪਰਖ, ਵਿਧੀ, ਪਲਾਟ ਅਤੇ ਪਾਤਰ ਚਿਤਰਨ ਕਰਨ ਦਾ ਗਿਆਨ ਹਾਸਲ ਕਰਨ ਦੇ ਨਾਲ-ਨਾਲ ਇਸ ਦੇ ਅਧਿਐਨ ਸੰਬੰਧੀ ਸਮਝ ਪ੍ਰਾਪਤ ਕਰਕੇ ਜਾਗਰੂਕ ਹੋਣਗੇ। ਇਸ ਕੋਰਸ ਦੇ ਅਧਿਐਨ ਰਾਹੀਂ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ, ਜਿਸ ਵਿੱਚ ਕਿੱਸਾ ਕਾਵਿ ਅਤੇ ਵਾਰ ਕਾਵਿ ਸ਼ਾਮਲ ਹਨ, ਦੀ ਸਮਝ ਅਤੇ ਇਤਿਹਾਸ ਤੋਂ ਜਾਣੂ ਹੋਣਗੇ। ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸਾਹਿਤ ਦੇ ਵੱਖ-ਵੱਖ ਰੂਪਾਂ, ਜਿਸ ਵਿੱਚ ਜਨਮਸਾਖੀ, ਸਲੋਕ, ਕਾਫੀ, ਕਿੱਸਾ, ਸੀਹਰਫ਼ੀ ਬਾਰੇ ਵਿਸਤ੍ਰਿਤ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਹੋਵੇਗੀ।
B.A 6 TH SEM	Elective Subject	Non NEP	ਚੋਣਵੀਂ ਪੰਜਾਬੀ	Learning Outcomes: ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਨਿਬੰਧਾਂ ਦੀ ਸਾਹਿਤਕ ਪਰਖ ਅਤੇ ਇਸ ਦੇ ਅਧਿਐਨ ਕਰਨ ਦੇ ਕਾਬਲਿ ਹੋ ਜਾਣਗੇ। ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ, ਜਿਸ ਵਿੱਚ ਸੂਫੀ ਕਾਵਿ ਅਤੇ ਮੁੱਢਲੇ ਬਸਤੀਵਾਦ ਨਾਲ ਸੰਬੰਧਤ ਕਿੱਸਾ ਕਾਵਿ ਸ਼ਾਮਲ ਹੈ, ਦੀ ਸਮਝ ਅਤੇ ਇਤਿਹਾਸ ਤੋਂ ਜਾਣੂ ਹੋਣਗੇ। ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਭਾਸ਼ਾ ਵਿਗਿਆਨ ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਿਹਾਰਕ ਵਰਤੋਂ ਬਾਰੇ ਵਿਸਤ੍ਰਿਤ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਹੋਵੇਗੀ।
M.A1 st Sem 1	Punjabi	MPI	Madhkali Punjabi Sahit da Itihas	Learning Outcomes ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੀਆਂ ਵਿਭਿੰਨ ਕਾਵਿ-ਧਾਰਾਵਾਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋ ਜਾਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਗੁਰੂ ਗ੍ਰੰਥ ਸਾਹਿਬ ਦੇ ਤੱਤਵਿਕ, ਦਰਸ਼ਨਿਕ ਅਤੇ ਸੱਭਿਆਚਾਰਿਕ, ਸਾਹਿਤਕ ਸੁਭਾਵ ਅਤੇ ਰੂਪ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੀਆਂ ਪ੍ਰਵਿਰਤੀਆਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਹੋਣ ਦੇ ਨਾਲ-ਨਾਲ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਸੰਬੰਧੀ ਡੂੰਘੀ ਜਾਣਕਾਰੀ ਵੀ ਅਰਜਿਤ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਹਾਰਕ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਕਾਵਿ ਦੇ ਤੱਤਾਂ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਯੋਗ ਹੋਣਗੇ।
M.A1 st Sem1	Punjabi	SSP	Sahit, Sidhant, Sanatani Kaav Shastar ate Punajbi Alochna	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਸਾਹਿਤਕ-ਵਾਦਾਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਅਰਸਕੂ ਦੇ ਅਨੁਕਰਨ, ਤਰਾਸਦੀ ਅਤੇ ਵਿਵੇਚਨ ਸਿਧਾਂਤ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਲੋਜਵੈਨਸ ਦੇ ਉੱਤਮ ਸਿਧਾਂਤਾਂ ਦੀਆਂ ਵੱਖ-ਵੱਖ ਪ੍ਰਵਿਰਤੀਆਂ ਨੂੰ ਫੰਗਾਈ ਨਾਲ ਸਮਝ ਸਕਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਸਾਹਿਤ ਸਿਧਾਂਤਾਂ ਸੰਬੰਧੀ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਆਲੋਚਨਾ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ।
M.A1 st Sem 1	Punjabi	MPK		Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਵਿਤਾ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋ ਜਾਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ ਦੇ ਇਤਿਹਾਸਕ ਸੰਦਰਭ

			Madhkali Punjabi Kaav option -I	ਸੰਬੰਧੀ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ ਦੇ ਸਿਧਾਂਤਕ ਪੱਖ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਯੋਗ ਹੋ ਜਾਣਗੇ। ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਕਵਿਤਾ ਦੇ ਵਿਭਿੰਨ ਪਾਸਾਰਾਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਨਾਲ-ਨਾਲ ਸਮਕਾਲੀ ਸਮਾਜ ਬਾਰੇ ਡੂੰਘੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਕਰਨਗੇ।
M.A1 st Sem 1	Punjabi	PNA	Punjabi Novel da Adhyyan option -I	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਵਲ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਵਲ ਦੇ ਸਿਧਾਂਤ, ਇਤਿਹਾਸ, ਪ੍ਰਵਿਰਤੀਆਂ, ਨਾਵਲ-ਜੁਗਤਾਂ ਅਤੇ ਨਾਵਲ ਕਲਾ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਨਾਲ-ਨਾਲ ਸਮਕਾਲੀ ਸਮਾਜ ਬਾਰੇ ਡੂੰਘੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਕਰਨਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਹਾਰਕ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਵਲ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਯੋਗ ਹੋ ਜਾਣਗੇ।
M.A1 st Sem 2	Punjabi	API	ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ	Learning Outcomes : ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ ਪੇਪਰ ਪੜ੍ਹਾਉਂਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਮੱਧਕਾਲ ਤੋਂ ਆਧੁਨਿਕ ਕਾਲ ਵਿੱਚ ਪ੍ਰਵੇਸ਼ ਕਰਨ ਦੀ ਪ੍ਰਕਿਰਿਆ ਤੇ ਜਾਣੂ ਕਰਵਾਉਣਾ। ਮੱਧਕਾਲੀ ਚੇਤਨਾ ਅਤੇ ਆਧੁਨਿਕ ਚੇਤਨਾ ਦੀਆਂ ਵਿਸ਼ੇਸ਼ਤਾ ਬਾਰੇ ਦੱਸਦੇ ਹੋਏ ਆਧੁਨਿਕ ਸਾਹਿਤ ਰੂਪਾਂ ਬਾਰੇ ਸਮਝਾਉਣਾ। ਆਧੁਨਿਕ ਸਾਹਿਤ ਰੂਪਾਂ ਦੀਆਂ ਪ੍ਰਵਿਰਤੀਆਂ ਬਾਰੇ ਵੀ ਜਾਣੂ ਕਰਵਾਉਣਾ।
M.A1 st Sem 2	Punjabi	PKS	ਆਧੁਨਿਕ ਪੱਛਮੀ ਕਾਵਿ ਸ਼ਾਸਤਰ ਅਤੇ ਵਿਹਾਰਕ ਅਲੋਚਨਾ	Learning Outcomes : ਰੂਸੀ ਰੂਪਵਾਦ ਦੇ ਸੰਕਲਪ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿੰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਨਵ-ਅਮਰੀਕੀ ਆਲੋਚਨਾ ਦੀਆਂ ਵਿਧੀਆਂ ਤੋਂ ਜਾਣੂ ਕਰਵਾਉਣਾ। ਮਾਰਕਸਵਾਦੀ ਆਲੋਚਨਾ ਦੇ ਸਥਾਪਿਤ ਸਿਧਾਂਤਾਂ ਬਾਰੇ ਦੱਸਦੇ ਹੋਏ ਮਾਰਕਸਵਾਦੀ ਸਾਹਿਤ ਸਿਧਾਂਤ ਦੇ ਮੂਲ ਸੰਕਲਪਾਂ ਨੂੰ ਪੜ੍ਹਨ ਦੀ ਪ੍ਰੇਰਨਾ ਦੇਣਾ। ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਮੱਧਕਾਲੀ ਕਾਵਿ ਦੇ ਤੱਤਾਂ ਤੋਂ ਜਾਣੂ ਕਰਵਾ ਕੇ ਵਿਹਾਰਕ ਆਲੋਚਨਾ ਦੇ ਸਿਧਾਂਤਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦੇਣਾ।

M.A1 st Sem 2	Punjabi	MPK	Madhkali Punjabi Kaav (2) option-1	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਵਿਤਾ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋ ਜਾਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ ਦੇ ਇਤਿਹਾਸਕ ਸੰਦਰਭ ਸੰਬੰਧੀ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ ਦੇ ਸਿਧਾਂਤਕ ਪੱਖ ਦੀਆਂ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਯੋਗ ਹੋ ਜਾਣਗੇ। ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਕਵਿਤਾ ਦੇ ਵਿਭਿੰਨ ਪਾਸਾਰਾਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਹੋਣ ਦੇ ਨਾਲਨਾਲ ਸਮਕਾਲੀ ਸਮਾਜ ਬਾਰੇ ਡੂੰਘੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਕਰਨਗੇ।-
M.A1 st Sem 2	Punjabi	PNA	Punjabi Novel da Adhyyan Option - 1	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਵਲ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਅਧਿਆਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਵਲ ਦੇ ਇਤਿਹਾਸ, ਪ੍ਰਵਿਰਤੀਆਂ, ਪੰਜਾਬੀ ਨਾਵਲ-ਜੁਗਤਾਂ ਅਤੇ ਨਾਵਲ-ਕਲਾ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਨਾਲ-ਨਾਲ ਸਮਕਾਲੀ ਸਮਾਜ ਬਾਰੇ ਫੂਲਗੀ ਜਾਣਕਾਰੀ ਅਰਜਿਤ ਕਰਨਗੇ। ਇਸ ਅਧਿਆਨ ਰਾਹੀਂ ਵਿਹਵਾਰਕ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਵਲ ਦੀਆਂ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਯੋਗ ਹੋ ਜਾਣਗੇ।
M.A 2nd Sem 3	Punjabi	BVP	Bhasha Vigyan ate Punjabi Bhasha	Learning Outcomes ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਵਿਗਿਆਨ ਅਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਭਾਸ਼ਾ ਵਿਗਿਆਨ ਅਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਵਿਭਿੰਨ ਪਾਸਾਰਾਂ, ਦੁਨੀਆ ਵਿਗਿਆਨ ਅਤੇ ਸ਼ਬਦ ਰਚਨਾ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਵਿਗਿਆਨ ਅਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਵਿਹਾਰਕ ਵਰਤੋਂ ਬਾਰੇ ਜਾਣੂ ਹੋਣਗੇ।
M.A 2nd SEM 3	Punjabi	SLP	Sabhyachar, Lokdhara ate Punjabi Sabhyachar	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਂਝੀਭਾਸ਼ਾ ਅਤੇ ਲੋਕਧਾਰਾ ਪ੍ਰਤੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋ ਜਾਣਗੇ। ਇਸ ਅਧਿਆਨ ਰਾਹੀਂ ਵਿਸ਼ਵਿਕਰਨ ਦੇ ਵਰਤਾਰੇ ਵਿੱਚ ਪੰਜਾਬੀ ਸਾਂਝੀਭਾਸ਼ਾ ਦੀ ਸਿੱਖਿਆ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਆਨ ਰਾਹੀਂ ਪੰਜਾਬੀ ਸਾਂਝੀਭਾਸ਼ਿਕ ਮੂਲ ਵਿਧਾਨਾਂ ਨੂੰ ਫੂਲਗੀ ਨਾਲ ਸਮਝ ਸਕਣਗੇ। ਇਸ ਅਧਿਆਨ ਰਾਹੀਂ ਪੰਜਾਬੀ ਸਾਂਝੀਭਾਸ਼ਾ ਅਤੇ ਲੋਕਧਾਰਾ ਸੰਬੰਧੀ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਂਝੀਭਾਸ਼ਾ ਅਤੇ ਲੋਕਧਾਰਾ ਦੀਆਂ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ।
M.A 2nd Sem 3	Punjabi	APK	Adhunik Punjabi Kavita Option-1	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੇ ਸਿਧਾਂਤ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਯੋਗ ਹੋ ਜਾਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੇ ਸੁਭਾਵ ਅਤੇ ਰੂਪ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੀਆਂ ਪ੍ਰਵਿਰਤੀਆਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਹੋਣ ਦੇ ਨਾਲ-ਨਾਲ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੇ ਇਤਿਹਾਸ ਬਾਰੇ ਡੂੰਘੀ ਜਾਣਕਾਰੀ ਅਰਜਿਤ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਹਾਰਕ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੀਆਂ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ।

M.A2nd Sem 3	Punjabi	PNR	Punjabi Natak ate Rangmanch da Adhyyan Ooption -1	Learning Outcomes ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਟਕ ਅਤੇ ਰੰਗਮੰਚ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਨੂੰ ਪੰਜਾਬੀ ਨਾਟਕ ਅਤੇ ਰੰਗਮੰਚ ਦੇ ਸਿਧਾਂਤ, ਇਤਿਹਾਸ ਅਤੇ ਪ੍ਰਵਿਰਤੀਆਂ, ਪੰਜਾਬੀ ਨਾਟਕ-ਜੁਗਤਾਂ ਅਤੇ ਪੰਜਾਬੀ ਰੰਗਮੰਚ ਦੀਆਂ ਸੀਮਾਵਾਂ ਅਤੇ ਸੰਭਾਵਨਾਵਾਂ ਸੰਬੰਧੀ ਸਮਝ ਹਾਸਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਹਾਰਕ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਟਕ ਅਤੇ ਰੰਗਮੰਚ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਯੋਗ ਹੋਣਗੇ।
M.A 2nd Sem 4TH	Punjabi	BPG	ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਅਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਇਤਿਹਾਸ ਅਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ ਦੇ ਵਿਹਾਰ ਨੂੰ ਜਾਣਣ ਦੀ ਰੁਚੀ ਪੈਦਾ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਦੀ ਨਿੱਕੀ ਤੋਂ ਨਿੱਕੀ ਅਤੇ ਵੱਡੀ ਤੋਂ ਵੱਡੀ ਇਕਾਈ ਦਾ ਗਿਆਨ ਹਾਸਲ ਕਰਨਗੇ। ਭਾਸ਼ਾ ਦੀਆਂ ਧੁਨੀਆਂ ਦੀ ਬਰੀਕੀ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾਈ ਨਿਯਮਾਂ ਨਾਲ ਜਾਣੂ ਹੋ ਜਾਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਭਾਸ਼ਾ ਵਿਗਿਆਨ ਅਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਵਿਭਿੰਨ ਪਾਸਾਰਾਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਹੋਵੇਗੀ। ਵਿਹਾਰਕ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ।
M.A 2nd Sem 4TH	Punjabi	PLS	ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਅਤੇ ਲੋਕ ਸਾਹਿਤ	Learning Outcomes : ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ, ਲੋਕ ਪਰੰਪਰਾ ਅਤੇ ਲੋਕ ਵਿਰਾਸਤ ਬਾਰੇ ਡੂੰਘੀ ਜਾਣਕਾਰੀ ਪ੍ਰਦਾਨ ਕਰਦੇ ਹੋਏ ਲੋਕ ਸਾਹਿਤ ਰੂਪਾਂ ਬਾਰੇ ਵਿਸਥਾਰ ਵਿੱਚ ਸਮਝਾਉਣਾ। ਸੱਭਿਆਚਾਰ ਅਤੇ ਸਾਹਿਤ ਦੇ ਅੰਤਰ ਸੰਬੰਧ ਦੀ ਜਾਣਕਾਰੀ ਦੇਣਾ। ਲੋਕਧਾਰਾ ਅਤੇ ਸੱਭਿਆਚਾਰ ਕਿਸ ਤਰ੍ਹਾਂ ਜੁੜੇ ਹੋਏ ਹਨ, ਇਸ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿੰਦੇ ਹੋਏ ਲੋਕ ਗੀਤ, ਲੋਕ ਮੁਹਾਵਰੇ, ਲੋਕ ਸਿਆਣਪਾਂ, ਲੋਕ ਨਾਚਾਂ ਅਤੇ ਲੋਕ ਗਾਥਾਵਾਂ ਸੰਬੰਧੀ ਗਿਆਨ ਵਿੱਚ ਵਾਧਾ ਕਰਨਾ।
M.A2nd Sem 4th	Punjabi	APK	Adhunik Punjabi Kavita Option-1	Learning Outcomes : ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੇ ਸਿਧਾਂਤ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਯੋਗ ਹੋ ਜਾਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੇ ਸੁਭਾਵ ਅਤੇ ਰੂਪ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਸਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੀਆਂ ਪ੍ਰਵਿਰਤੀਆਂ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਹੋਣ ਦੇ ਨਾਲ-ਨਾਲ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੇ ਇਤਿਹਾਸ ਬਾਰੇ ਡੂੰਘੀ ਜਾਣਕਾਰੀ ਅਰਜਿਤ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਹਾਰਕ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ।

<p>M.A2nd Sem 4th</p>	<p>Punjabi</p>	<p>PNR</p>	<p>Punjabi Natak ate Rangmanch da Adhyyan Option - 1</p>	<p>Learning Outcomes ਇਸ ਕੋਰਸ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਟਕ ਅਤੇ ਰੰਗਮੰਚ ਸੰਬੰਧੀ ਸਮਝ ਪੈਦਾ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਨੂੰ ਪੰਜਾਬੀ ਨਾਟਕ ਅਤੇ ਰੰਗਮੰਚ ਦੇ ਸਿਧਾਂਤ, ਇਤਿਹਾਸ ਅਤੇ ਪ੍ਰਵਿਰਤੀਆਂ, ਪੰਜਾਬੀ ਨਾਟਕ-ਜੁਗਤਾਂ ਅਤੇ ਪੰਜਾਬੀ ਰੰਗਮੰਚ ਦੀਆਂ ਸੀਮਾਵਾਂ ਅਤੇ ਸੰਭਾਵਨਾਵਾਂ ਸੰਬੰਧੀ ਸਮਝ ਹਾਸਲ ਹੋਵੇਗੀ। ਇਸ ਅਧਿਐਨ ਰਾਹੀਂ ਵਿਹਾਰਕ ਚਰਚਾ ਕਰਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਟਕ ਅਤੇ ਰੰਗਮੰਚ ਦੀਆਂ ਬਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਦੇ ਯੋਗ ਹੋਣਗੇ।</p>
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Department of Public Administration

Programme	Course Type	Course Code	Course Title	Course Outcome
B.A. (Sem.I) (Under NEP)	Discipline Specific Course	PUB -DSC- 1,101	Fundamentals of Public Administration	The objective of this paper is to acquaint the students with public administration. In addition, the paper shall help them explore the vastness of the subject and its relationship with other social sciences
B.A (Sem.II) (Under NEP)	Discipline Specific Course	PUB -DSC- 2,201	Indian Administrative System	The objective of this paper is to give the students knowledge about working of Indian administration system particularly the functioning of union and state levels.
B.A (Sem.III)	Elective Subject	–	Public personnel administration (with special reference to India)	The objective of this paper is to give the students knowledge about public personnel administration. Also they will get insight into particular issues like grievance redressal machinery, human resources in government etc.
B.A (Sem.IV)	Elective Subject	–	Financial Administration (with special reference to India)	The objective of this paper is to give the students knowledge about financial administration like budgeting, auditing and make them aware of: institutions like parliamentary committees; and concepts like credit, debt.
B.A (Sem.V)	Elective Subject	–	Local Government (with special reference to Punjab)	The objective of the paper is to give the students idea about evolution of local government in India, working of divisional and district administrative functions, finances and personnel of rural administration, concept of state control over local bodies with reference to Punjab.

B.A (Sem .VI)	Elective Subject	–	Development Administration (with special reference to Punjab)	The objective of the paper is to give the students information about the significance of development administrative planning machinery at Centre & State level. This paper would also give an understanding about enterprises as well as the working of Development Administration.
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Department of Sociology

Program me	Course Type	Course Code	CourseTitle	Course Outcome
B.A (Sem.III)	Elective Subject	–	Social structure and social change	This paper basically introduces students with topics like social structure and social change. Students will learn about concepts related to social change
B.A (Sem.IV)	Elective Subject	–	Social Institutions	In this paper, social institution as a co institutions which are foundations of human society, will be diuscussed in an objective and analytical way
B.A (Sem.V)	Elective Subject	–	Society in India	The objective of this paper is to present different types of social systems and Expose them to the tribal, rural and urban society institutions to understand these segments also introduced to the problems associated with these institutions
B.A (Sem.VI)	Elective Subject	–	Disorganisation and emerging problems	This paper exposes the students to social disorganisation. Introduce the students to emerging problems through theoretical and practical exercises

Department of MUSIC

Programme	CourseType	Course Code	Course Title	Course Outcome
B.A SEM 1 (UNDER NEP)	DISCIPLINE SPECIFIC CORE-1	MUVDSC1	HINDUSTANI MUSIC VOCAL	COURSE LEARNING OUTCOMES Acquisition of knowledge about Indian music A simple introduction to Indian ragas and rhythms Information on different singing style
B.A SEM 2 (UNDER NEP)	DISCIPLINE SPECIFIC CORE-2	MUVDSC2	HINDUSTANI MUSIC VOCAL	COURSE LEARNING OUTCOMES Acquisition of knowledge about Indian music A simple introduction to Indian ragas and rhythms Information on different singing style
B.A SEM3 NON NEP	MUSIC VOCAL	--	MUSIC VOCAL	COURSE LEARNING OUTCOMES Students become more interested in learning music. Students gain knowledge of raga and taal The student becomes a good artist
B.A SEM4 NON NEP	MUSIC VOCAL	--	MUSIC VOCAL	COURSE LEARNING OUTCOMES Students become more interested in learning music. Students gain knowledge of raga and taal The student becomes a good artist

B.A SEM5 NON NEP	MUSIC VOCAL	--	MUSIC VOCAL	<p>COURSE LEARNING OUTCOMES</p> <p>The way to sing on stage comes. Knowledge of raga and taal is acquired .A simple introduction to Indian ragas and rhythm</p>
B.A SEM6 NON NEP	MUSIC VOCAL	--	MUSIC VOCAL	<p>COURSE LEARNING OUTCOMES</p> <p>The way to sing on stage comes. Knowledge of raga and taal is acquired. A simple introduction to Indian ragas and rhythm</p>

Department of English

Programme	Course Type	Course Code	Course Title	Course Outcome
B.A. (Sem.I) (Under NEP)	Discipline Specific Course	ENG-DSC-1 (MAJ/MIN)- 101	Introduction to Literary Concepts and Forms – I	The objective of the course is to introduce students to literary concepts and texts from diverse literary periods and traditions and to initiate the students into critical appreciation of literary texts by locating it in specific cultural contexts.
B.A. (Sem.II) (Under NEP)	Discipline Specific Course	ENG-DSC-3 (MAJ/MIN)- 201	Introduction to Literary Concept and Forms – II	The course aims at developing deeper knowledge of literary genres and concepts. It is designed to help the students relate to the textual themes to the contemporary sociocultural context.
B.A. (Sem.III) (Under NEP)	Discipline Specific Course	ENG-DSC-5 (MAJ/MIN)- 301	Literary Movements I	The course provides a comprehensive view of the literary trends and movements. It facilitates a nuanced understanding of the cultural plurality which characterizes the literary corpus across the centuries and enable the learners to critique and classify the evolving generic patterns through literary texts during a specific period.
B.A. (Sem.IV) (Under NEP)	Discipline Specific Course	ENG-DSC-7 (MAJ/MIN)- 401	Literary Movements-II	The major objective of the course is to introduce the students to literary concepts and movements and relevant texts from diverse literary periods and traditions. The course is designed to initiate the students into critical appreciation of literary texts and to facilitate understanding of literature and language of a specific movement with regard to themes and techniques used.

B.A. (Sem.V)	Elective Subject	-	English Elective	<p>The main aim of teaching English (Elective) to B.A.III students is to enable them to approach a wide variety of literary texts and genres with critically sensitive and analytical understanding. The idea is to introduce the students to the basic concepts of literature and also empower them to read, analyze and write about a poem, prose essay or drama in an independent manner. It is with this modest aim in mind that the new text books have been selected for B.A English Third Year (Elective) courses. The focus of the new text books is two-fold: to teach finer nuances of literature and language through an integrated approach; and to help and motivate for students to develop basic tools of analyzing a variety of literary texts/genres.</p>
B.A. (Sem.VI)	Elective Subject	-	English Elective	<p>The main aim of teaching English (Elective) to B.A.III students is to enable them to approach a wide variety of literary texts and genres with critically sensitive and analytical understanding. The idea is to introduce the students to the basic concepts of literature and also empower them to read, analyze and write about a poem, prose essay or drama in an independent manner. It is with this modest aim in mind that the new text books have been selected for B.A. English Third Year (Elective) courses. The focus of the new text books is two-fold: to teach finer nuances of literature and language through an integrated approach; and to help and motivate for students to develop basic tools of analyzing a variety of literary texts/genres.</p>

B.A. (Sem.I) (UnderNEP)	Ability Enhancement Course	ENG AEC- 1- 101	Language Skills: Listening and Speaking	The course is aimed at enabling the students to understand the structure of language and how language varies over time, across social situations and social groups. It is also designed to make the students proficient in articulating thoughts and communicating ideas in English language. The students should be able to hold meaningful conversations. The student should also be able to effectively use English language to meet professional and personal goals
B.A. (Sem.II) (Under NEP)	Ability Enhancement Course	ENG-AEC- 2- 201	Language Skills: Reading and Writing	The syllabus is designed to make the students learn to compose comprehensive and well-structured paragraphs, to utilize literary terms, vocabulary, critical methods, and various lenses of interpretation in their writing.
B.A. (Sem.III) (Under NEP)	Ability Enhancement Course	ENG- AEC-3- 301	Language Skills: Listening, Speaking, Reading, WRITING I	The course helps to understand the structure of language and how language varies over time across social situations and social groups. The course also makes them proficient in articulating thoughts and communicating ideas in English language, to participate in debates and discussions where ideas are tested and sharpened, and honing the skill of public speaking.
B.A. (Sem.IV) (Under NEP)	Ability Enhancement Course	ENG-AEC- 4- 401)	LANGUAGE SKILLS: LISTENING, SPEAKING, READING, WRITING II	The course helps to understand the structure of language and how language varies overtime across social situations and social groups. The course also makes them Proficient in articulating thoughts and communicating ideas in English language, to participate in debates and discussions where ideas are tested and sharpened, and honing the skill of public speaking.

B.A. (Sem.V)	English Compulsory	-	English Compulsory	
B.A. (Sem.VI)	English Compulsory	-	English Compulsory	
B.Sc. Sem. 1 (Under NEP)	Ability Enhancement Course	ENG- AEC- 1- 101	Lan Skills: and ggu agag e List enin g Spe akin g	The course is aimed at enabling the students to understand the structure of language and how language varies over time, across social situations and social groups. It is also designed to make the students proficient in articulating thoughts and communicating ideas in English language. The students should be able to hold meaningful conversations. The student should also be able to effectively use English language to meet professional and personal goals
B.Sc.(Sem.I I) (UnderNEP)	Ability Enhancement Course	ENG- AEC- 2- 201	Lang Skills: uage and Readi ng Writin g	The syllabus is designed to make the students learn to compose comprehensive and well-structured paragraphs, to utilize literary terms, vocabulary, critical methods, and various lenses of interpretation in their writing.
B.Sc.(Sem.I II) (UnderNEP)	Ability Enhancement Course	ENG- AEC-3- 301	LANGUAGE SKILLS: LISTENING, SPEAKING, READING, WRITING I	The course helps to understand the structure of language and how language varies over time across social situations and social groups. The course also makes them proficient in articulating thoughts and communicating ideas in English language, to participate in debates and discussions where ideas are tested and sharpened, and honing the skill of public speaking.

B.Sc. (Sem.IV) (UnderNEP)	Ability Enhancement Course	ENG- AEC-4- 401)	LANGUAGE SKILLS: LISTENING, SPEAKING, READING, WRITING II	The course helps to understand the structure of language and how language varies over time across social situations and social groups. The course also makes them proficient in articulating thoughts and communicating ideas in English language, to participate in debates and discussions where ideas are tested and sharpened, and honing the skill of public speaking.
B.Com. (Sem.I) (UnderNEP)	Ability Enhancement Course	ENG-AEC- 1- 101	Language Listening Skills: and Speaking	The course is aimed at enabling the students to understand the structure of language And howl anguage varies over time,across social situations and social groups.It is also designed to make the students proficient in articulating thoughts and communicating ideas in English language. The students should be able to hold meaningful conversations. The student should also be able to effectively use English language to meet professional and personal goals
B.Com. (Sem.II) (Under NEP)	Ability Enhancement Course	ENG-AEC- 2- 201	Language Skills: Reading and Writing	The syllabus is designed to make the students learn to compose comprehensive and well-structured paragraphs,to utilize literary terms,vocabulary,critical methods,and various lenses of interpretation in their writing.
B.Com. (Sem. III) (Under NEP)	Ability Enhancement Course	ENG- AEC-3- 301	LANGUAGE SKILLS: LISTENING, SPEAKING, READING, WRITING I	The course helps to understand the structure of language and how language varies over time across social situations and social groups. The course also makes them proficient in articulating thoughts and communicating ideas in English language, to participate in debates and discussions where ideas are tested and sharpened, and honing the skill of public speaking.

B.Com. (Sem.IV) (Under NEP)	Ability Enhancement Course	ENG- AEC-4- 401)	LANGUAGE SKILLS: LISTENING, SPEAKING, READING, WRITING II	The course helps to understand the structure of language and how language varies over time across social situations and social groups. The course also makes them proficient in articulating thoughts and communicating ideas in English language, to participate in debates and discussions where ideas are tested and sharpened, and honing the skill of public speaking.
B.C.A. (Sem.I) (Under NEP)	Ability Enhancement Course	ENG-AEC- 1- 101	Language Skills: Listening and Speaking	The course is aimed at enabling the students to understand the structure of language and how language varies over time, across social situations and social groups. It is also designed to make the students proficient in articulating thoughts and communicating ideas in English language. The students should be able to hold meaningful conversations. The student should also be able to effectively use English language to meet professional and personal goals
B.C.A. (Sem.II) (Under NEP)	Ability Enhancement Course	ENG- AEC- 2- 201	Language Skills: Reading and Writing	The syllabus is designed to make the students learn to compose comprehensive and well-structured paragraphs, to utilize literary terms, vocabulary, critical methods, and various lenses of interpretation in their writing.
B.C.A. (Sem.III) (Under NEP)	Ability Enhancement Course	ENG- AEC-3- 301	LANGUAGE SKILLS: LISTENING, SPEAKING, READING, WRITING I	The course helps to understand the structure of language and how language varies over time across social situations and social groups. The course also makes them proficient in articulating thoughts and communicating ideas in English language, to participate in debates and discussions where ideas are tested and sharpened, and honing the skill of public speaking.

B.C.A. (Sem.IV) (Under NEP)	Ability Enhancement Course	ENG-AEC- 4- 401)	LANGUAGE SKILLS: LISTENING, SPEAKING, READING, WRITING II	The course helps to understand the structure of language and how language varies over time across social situations and social groups. The course also makes them proficient in articulating thoughts and communicating ideas in English language, to participate in debates and discussions where ideas are tested and sharpened, and honing the skill of public speaking.
B.C.A.(Sem .II) (UnderNEP)	Ability Enhancement Course	ENG- AEC- 2- 201	Language Skills: Reading and Writing	The syllabus is designed to make the students learn to compose comprehensive and well-structured paragraphs, to utilize literary terms, vocabulary, critical methods, and various lenses of interpretation in their writing.
B.C.A. (Sem.III) (Under NEP)	Ability Enhancement Course	ENG- AEC-3- 301	LANGUAGE SKILLS: LISTENING, SPEAKING, READING, WRITING I	The course helps to understand the structure of language and how language varies over time across social situations and social groups. The course also makes them proficient in articulating thoughts and communicating ideas in English language, to participate in debates and discussions where ideas are tested and sharpened, and honing the skill of public speaking.
B.C.A. (Sem.IV) (Under NEP)	Ability Enhancement Course	ENG-AEC- 4- 401)	LANGUAGE SKILLS: LISTENING, SPEAKING, READING, WRITING II	The course helps to understand the structure of language and how language varies over time across social situations and social groups. The course also makes them proficient in articulating thoughts and communicating ideas in English language, to participate in debates and discussions where ideas are tested and sharpened, and honing the skill of public speaking.

Department of History

Pro gramme	Course Type	Course Code	Course Title	Course Outcome
B.A. (Sem. I) (Under NEP)	Discipline Specific Core	HIS-DSC1(MAJ/MIN)- 101	History of India Upto c.1200 CE	<ol style="list-style-type: none"> 1. Understanding of the Historiography of India upto c. 1200. 2. Understanding of political concepts in ancient India. 3. Understanding of the economy with reference to taxation and trade in ancient India 4. Understanding of major religious traditions in ancient India.
B.A. (Sem. II) (Under NEP)	Discipline Specific Core	HIS-DSC-2- (MAJ/MIN)- 201	History of India c.1200- 1947CE	<ol style="list-style-type: none"> 1. Understanding of the Islamic political concept of India up to c. 1200- 1947 CE. 2. Understanding of the emergence of native states in Medieval India 3. Understanding of the movement of European trading companies in India 4. Basic understanding of National movements and the contribution of popular movements under the colonial regime.
B.A. (Sem.III)	Elective Subject		HISTORY OF INDIA, 1750-1964 A.D.	To introduce the students to the broad developments in the history of India in Modern times.

B.A. (Sem.IV)	Elective Subject		HISTORY OF THE PUNJAB, 1469-1966A.D.	To introduce the students to the broad developments in the history of the Punjab from the mid 15 th to the mid 19 th century i.e. the medieval period
B.A. (Sem.V)	Elective Subject		WORLD HISTORY 1500- 1870A.D.	To introduce the students to the history of the Modern World.
B.A. (Sem.VI)	Elective Subject		WORLD HISTORY (1871 to 1991 A.D.)	To introduce the students to the history of the Modern World in the period of European Domination.
M.A. History (Sem.I)	Compulsory Paper	HIS111	The Punjab (mid-fifteenth to seventeenth centuries)	This paper aims to examine the politico-administrative, social and religious milieu of Guru Nanak in order to understand his response to the contemporary environment and the foundation of Sikh movement. It also deals with growth of Sikh movement under his first four successors, the phase of confrontation with Mughal state and its culmination under Guru Gobind Singh. It also attempts to discuss the administrative structure, agrarian and urban economy of the Punjab under the Mughals.
M.A. History (Sem.I)	Compulsory Paper	HIS231	Ancient India: An Overview	Building upon a prior basic knowledge of the history of ancient India, this course introduces the student to the major currents in the study of that history. It focusses on the the political processes that underlay the structures of the state and society but also takes the student into the details of social and cultural history.

M.A. History (Sem.I)	Compulsory Paper	HIS221	Medieval India: Political Processes	This paper seeks to examine the major political developments in the Indian subcontinent during a span of nearly five centuries i.e. from the thirteenth to the seventeenth century. It aims at an in-depth analysis of the processes of state formation in the Delhi Sultanate and Mughal Empire. It lays emphasis on (1) the long-term strategies that enabled these two states to establish political control and (2) to explore the functioning of political institutions and the articulation of political ideologies. It pays equal attention to the changing composition of the ruling class as well as the response of the powerful local elements.
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M.A. History (Sem.I)	Compulsory Paper	HIS211	Modern India: Political Processes	The paper is a study of British colonialism in which India can be studied as a classic case of British Imperialism. The historical context has been undertaken with a holistic interpretation of different approaches and interpretations such as Colonialist, Nationalist, Marxist, Subaltern, and Gandhian. The construction of the colonial state in north and south India followed constitutional changes which further enhanced to establish British control. Indian nationalism responded starting with peasant and tribal revolts, mutiny of 1857, emergence of Indian National Congress, militant movements, Subhas Bose, feminist movements.
M.A. History (Sem.II)	Compulsory Paper	HIS125	Punjab in the Eighteenth Century	This paper challenges the notion of the eighteenth century as a 'dark period' in the Indian history and brings out the political process by which over a hundred new centres of power and not only the 'twelve misaldars' came up in the Punjab after the decline of the Mughal Empire. It deals with all the new rulers, Sikh as well as non-Sikh, in terms of their political organization, administrative arrangements, patterns of state patronage and the main features of urban as well as agrarian economy.
M.A. History (Sem.II)	Optional Paper	HIS711	Agrarian Economy of Modern India	This course examines the impact of colonialism on India's agrarian economy in the nineteenth and early twentieth centuries.

M.A. History (Sem.II)	Optional Paper	HIS844	China & Japan (1840-1950)	This courses aims to trace the various phases of history of China and Japan in modern times in context of their struggle against invasion of west. Also the present course seeks to evaluate the internal struggle as well as various efforts made within these nations which were directed towards the quest of their identities as important powers of the world.
M.A. History (Sem.II)	Optional Paper	HIS812	USA (1820-1973)	The emergence of America as a world leader was substantially based on the transformations taking place in that country as it tries to adjust itself to the post-Napoleonic world order of the nineteenth century. This course traces the main currents in American history to find an understanding of that transformation.
M.A. History (Sem.II I)	Compulsory Paper	HIS123	Punjab in the Nineteenth Century	The aim of the present course is to make an assessment of British policy and programme in Punjab and study the construction of State. It critically examines and evaluates administrative, social, cultural, economic developments as well as socio-religious resurgence in the province between 1849-1901.
M.A. History (Sem.III)	Optional Paper	HIS412	Rise and Growth of Colonialism in India	This course aims to introduce the student to the broad trends in the rise and growth of colonialism and its specific form in India in modern times.

M.A. History (Sem.III)	Optional Paper	HIS601	Gender Relations in Modern India	The subject of Gender in our era has become a focus of thought and study. There is concern for and discussion of women's roles, rights, economics and womens' studies. Gender relations in Indian history is a critical understanding of Social reality from the Gender perspective. The crucial insight that while sex is biologically given, gender is socially constructed is the basic premise on which the paper is based. In virtually every area of social change, gender has become a category of analysis, which is to say that political, economic and development issues are thought of in terms of women's participation and their consequences for society. The aim of the paper is to give an overview of Gender Relations in 19 th & 20 th Century India. To understand the subject and its structure, the first unit deal with the different perspectives on writings of the subject. A background is given of the position of women in ancient and Medieval India. A unit is devoted to the Colonial period. Two units demarcate the Initiatives and strategies employed post-independence to better the condition of women in every sphere.
M.A. History (Sem.III)	Optional Paper	HIS213	Constitutional Development in Modern India, 1773-1947	To examine the various aspects of constitutional development in India.

M.A. History (Sem.IV)	Compulsory Paper	HIS126	Punjab in the Twentieth Century	The course traces the history of Punjab from 1901 to 1966 focusing on How the agrarian policies and legislations passed by the British Raj in these years affected the Punjab Peasantry. How the discontentment led the Peasantry to join the National Movement which Gandhi spearheaded. Punjab's participation in the various phases is discussed particularly the phase of partition and how the province was further bifurcated in 1966.
M.A. History (Sem.IV)	Optional Paper	HIS912	History and Historical Method	This paper provides an understanding of the meaning and nature of history and emphasizes on the value of interpretation in history. In a critical and comprehensive manner, it analyses the various trends in Indian historiography and underlines the changes in the stance of historians through times as well as their impact on history writing.
M.A. History (Sem.IV)	Optional Paper	HIS467	Peasant Movements in Modern India	This course introduces the student to the complex issue of peasant movements in India in the twentieth century.
M.A. History (Sem.IV)	Optional Paper	HIS418	Socio-Religious Reform Movements in Modern India	The course seeks to examine the variety of socio-religious reform movements in response to colonial rule in the regional context. The common links between them and their contrasts, and our understanding of the changes in the colonial times. Specific themes related to education, depressed classes, gender and identity are highlighted to study the conflict and competition in the socio-religious reform movements.

Department of Physics

Programme	Course Type	Course Code	Course Title	Course Outcome
B.Sc. (Sem.I) (Under NEP)	Discipline Specific Core	(PHY-DSC-1 Maj/Min-101)	Mechanics	<ul style="list-style-type: none">• To develop a comprehensive understanding of Cartesian and spherical polar coordinate systems and explore the concept of solid angles and their significance in physical problems.• To establish the relationship between the conservation laws and the symmetries of space and time.• To explore elastic collisions in laboratory and center-of-mass reference frames and to derive relationships between velocities, angles, and kinetic energies in these frames.• To understand Galilean transformations, invariance, and the transformation equations for inertial frames inclined to each other.• To investigate the postulates of the special theory of relativity and explore the kinematical consequences of Lorentz transformations, including length contraction, time dilation, and the twin paradox.

				<ul style="list-style-type: none">• To derive and understand the relativistic transformation of velocities, the Concept of simultaneity in relativity, and the relativistic Doppler effect.
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<p>B.Sc. (Sem.II) (Under NEP)</p>	<p>Discipline Specific Core</p>	<p>(PHY-DSC-2 Maj/Min-201)</p>	<p>Electricity and Magnetism</p>	<ul style="list-style-type: none"> • To gain a solid foundation in vector calculus, including the concepts of gradient, divergence, and curl in Cartesian coordinates. • To study the fundamental principles of electrostatics, including Coulomb's law, electric fields from various charge distributions, and the concepts of electric potential and work. • To explore the behavior of materials in electric fields, focusing on polarization, dielectric properties, and the relationships between electric susceptibility, permittivity, and the displacement vector. • To study the behavior of electric currents, including current density and the microscopic form of Ohm's law. • To understand the response of materials to magnetic fields, including the concepts of magnetization, magnetic susceptibility, permeability, and the relationships between free and bound currents.
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<p>B.Sc. (Sem.III)</p>		<p>Paper A</p>	<p>Statistical Physics and Thermodyna mics - I</p>	<p>After the successful completion, students will be able to:</p> <ul style="list-style-type: none"> • Understand the basic statistical concepts like probability, random variables, expected value, variance and common probability distributions. • Develop the relation between microscopic and macroscopic description through statistical mechanics, effect of constraints on the system. • Learn the equilibrium state of dynamic system with distribution of n- particles in two and k compartments of unequal sizes. • Understand the phases pace and its division into elementary cells. • Explain the basic approach in three statistics: Maxwell-Boltzman statistics, B.E.statistics, F.D.statistics and Comparison of M.B., B.E. and F.D.
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B.Sc. (Sem.III)		Paper B	Optics and Laser-I	<p>After the successful completion, students will be able to:</p> <ul style="list-style-type: none"> • Understand the phenomenon like reflection, refraction, interference, diffraction etc. And their applications. • Understand the resolving power of different optical instruments like Young's double slit experiment. Lloyd's mirror and Fresnel's biprism.
B.Sc. (Sem.III)		Paper-C	Quantum Physics-I	<p>After the successful completion, students will be able to:</p> <ul style="list-style-type: none"> • Understand the origins of quantum mechanics, fundamental postulates of quantum mechanics. Eigenvalues and eigenfunctions and operator formalism. • Learn Planck's formula of Black body radiation, Wave-particle duality, Photoelectric effect, X-ray diffraction, Compton effect and Pair production. • Have the knowledge of de Broglie waves, wave packet, Phase velocity and Group velocity, Electron microscope, Particle in a box, Particle diffraction, Davisson-Germer experiment, Uncertainty principle with illustrations. • Understand the Problems in one and three-dimensions using time dependent and time independent Schrödinger wave equations.

<p>B.Sc. (Sem.IV)</p>		<p>PaperA</p>	<p>Statistical Physics and Thermodyna mics – II</p>	<p>After the successful completion, students will be able to:</p> <ul style="list-style-type: none"> • Statistical definition of entropy, change of entropy of a system, additive nature of entropy, law of increase of entropy, reversible and irreversible processes with examples. • Understand the efficiency of Carnot's engine and the significance of first law and second of thermodynamics. • Understand the derivation of Maxwell's thermo-dynamical relations and applications. • Get the idea of the thermo-dynamical treatment of Joule-Thomson effect. Use of Joule-Thomson effect for liquification of helium, and production of very low temperature by adiabatic demagnetization.
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B.Sc. (Sem.IV)		Paper B	Optics and Laser-II	<p>After the successful completion, students will be able to:</p> <ul style="list-style-type: none">• Understand the Laser Fundamentals and Interaction of light with matter.• Know the kinetics of optical absorption, Qualitative account of Collisional broadening, Doppler broadening & Natural broadening.• Learn the Mechanism of Luminescence, Lasing action, Components of Laser, Elementary theory of optical cavity.• Understand the types of lasers and their working.• Get insight of the Fiber Optics: Photonics, Optical fibre, Construction, and their application.
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<p>B.Sc. (Sem.IV)</p>		<p>Paper C</p>	<p>Quantum Physics-II</p>	<p>After the successful completion, students will be able to:</p> <ul style="list-style-type: none"> • Know the Radiative transitions, selection rules and life times, Spectrum of hydrogen atom and fine structure. • Understand the Electron angular momentum, Larmor's frequency, electron spin angular momentum, Stern Gerlach experiment, spin-orbit coupling, total angular momentum. • Learn the Hyperfine structure, Anomalous Zeeman effect, Lande-g factor Paschen-Back Effect, Stark Effect. • Recognize the Electronic configurations, Hund's rule, Spin-Orbit coupling, L-S coupling, J-J couplings, term symbols. Atomic spectra of H, Na, He and Hg, selection rules. X-ray spectra, nomenclature. • Understand the Complex molecules, molecular spectra, selection rules, symmetric structures, rotational vibrational levels and spectra of diatomic molecules, vibration-rotation spectra, electronic spectra of molecules.
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B.Sc. (Sem.V)		Paper A	Condensed Matter Physics – I	<p>After the successful completion, students will be able to:</p> <ul style="list-style-type: none"> • Gain insights of basics of crystalline structures of solids. • Understand the concept of reciprocal lattice for the theoretical study of crystalline solids. • Understand the band theory of electronic structure of solids. • Distinguish between metals, semi conductors and insulators. • Enhance the knowledge of free electron theory of metals.
B.Sc. (Sem.V)		Paper B	Electronics and Solid- State Devices – I	<p>After the successful completion, students will be able to:</p> <ul style="list-style-type: none"> • Learn the concept of current and voltage sources and application of Thevenin’s and Norton’s Theorems. • Understand the construction and working of CRO and its applications. • Enhance the knowledge of semiconductors and associated devices like pn- junction, Zener diode. • Interpret and analyze various kinds diode circuits like clipper, rectifiers. • Understand the structure and working of Bipolar Junction Transistor, its characteristics. • Analyze the role of BJT in CB, CE and CC configuration amplifiers. • Gain insight about h-parameters through analysis of CE amplifiers.

B.Sc. (Sem.V)		Paper C	Nuclear and Particle Physics – I	<p>After the successful completion, students will be able to:</p> <ul style="list-style-type: none"> • Understand and gain insight into the properties of atomic nuclei. • Describe the nature of nuclear forces using meson theory. • Learn about the features and applications of liquid drop model and shell model. • Acquire detailed knowledge about radioactivity and differentiate between its various modes. • Understand nuclear reactions and associated theoretical concepts.
B.Sc. (Sem.VI)		Paper A	Condensed Matter Physics – II	<p>After completion of this course, students will be able to:</p> <ul style="list-style-type: none"> • Gain insights of basics of lattice dynamics, phonons and specific heat of solids. • Understand the microscopic mechanism of magnetic phenomena in solids. • Gain the knowledge of Liquid crystals and their applications. • Enhance the knowledge of phenomenon of superconductivity. • Acquire the knowledge of fast emerging field of nano materials.

B.Sc. (Sem.VI)		Paper B	Electronics and Solid- State Devices - II	<p>After the successful completion, students will be able to:</p> <ul style="list-style-type: none"> • Learn the structure and working of JFET and MOSFET in detail along with their characteristics. • Describe in detail about various types of oscillators and feedback in amplifiers. • Understand the characteristics and application of operational amplifiers. • Convert binary and decimal numbers and apply Boolean algebra for simplification of logic circuits. • Draw and explain various logic circuits. • Gain insight into the analog and digital communication systems, modulation-demodulation.
B.Sc. (Sem.VI)		Paper C	Nuclear and Particle Physics – II	<p>After successful completion, students will be able to:</p> <ul style="list-style-type: none"> • Understand the interactions of different types of nuclear radiation with matter • Gain knowledge of various radiation detectors (Gas-filled detectors, Scintillation detectors and Semiconductor Detectors). • Classify elementary particles and detail their respective properties, detail the role of symmetry and conservation

				<p>principles and describe quark model</p> <ul style="list-style-type: none">• Know the origin and composition of cosmic rays.
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Department of Mathematics

Programme	Course Type	Course Code	Course Title	Course Outcome
B.A./B.SC (Sem I) (UnderNEP)	Discipline Specific Course	MAT-DSC1-101	ALGEBRA & TRIGONOMETRY	The main goal of this course is to deliver basics of Binomial Theorem, Properties of Binomial coefficients. The course introduces the concept of De Moivre's theorem and its applications, eigen values and eigen vectors of a matrix. The objective is to understand nature of solution of a linear system of equations.
B.A./B.SC (Sem II) (UnderNEP)	Discipline Specific Course	MAT-DSC2-201	CALCULUS-I	The main goal of this course is to introduce the basics of limits, continuity and differentiability of functions. Besides this, differentiation of hyperbolic and inverse hyperbolic with their applications will also be studied. The course will cover Mean Value Theorems and their applications
B.A./B.SC (Sem III) (UnderNEP)	Discipline Specific Course	MAT-DSC3-301	THEORY OF EQUATIONS	The objective of this course is to provide a comprehensive understanding of polynomials and polynomial equations. Students will explore methods for solving these equations, the relationship between roots and coefficients, and various techniques for transforming polynomial equations. Additionally, they will discover key theorems and interesting properties related to polynomials, deepening their problem-solving skills in this area.

B.A./B.SC (Sem IV) (UnderNEP)	Discipline Specific Course	MAT-DSC4 -401:	Calculus-II	The objective of this course is to analyze plane curves by looking at certain key parameters such as concavity, convexity, points of inflection, multiple points, and asymptotes. Students will also explore concepts of curvature and radius of curvature for various curves. The course will cover integration techniques for hyperbolic and inverse hyperbolic functions, alongwith Reduction formulae for essential integrals.
B.A./B.SC (SemV)	Elective Subject	Paper I	ANALYSIS-I	The objective of this course is to study Countable and uncountable sets. Students will also explore Riemann integral, Integrability of continuous and monotonic functions, Properties of integrable functions, The fundamental theorem of integral calculus, Mean value theorems of integral calculus. Beta and Gamma functions and Improper Integrals.
B.A./B.SC (SemV)	Elective Subject	PaperII	Modern Algebra	The objective of this course is to analyze Groups, Subgroups, Lagrange's Theorem, Normal subgroups and Quotient Groups, Homomorphisms, Isomorphism Theorems, Conjugate elements, Class equation, Permutation Groups, Alternating groups, Simplicity. Students will also explore Rings and its properties.

B.A./B.SC (SemV)	Elective Subject	Paper III	Probability Theory	<p>The objective of this course is to study Review of notion of Probability, conditional Probability and independence, Bayes' Theorem. Random Variables : Concept, probability density function, cumulative distribution function, discrete and continuous random variables, expectations, mean, variance, moment generating function, skewness and kurtosis. Discrete Random Variables: Bernoulli random variable, binomial random variable, negative binomial random variable, geometric random variable, Poisson random variable. Students will also explore Continuous Random Variables: Uniform random variable, exponential random variable, Beta random variable, Gamma random variable, Chi-square random variable, normal random variable. Bivariate Random Variables: Joint distribution, joint and conditional distributions, Conditional Expectations, Independent random variables, the correlation coefficient, Bivariate normal distribution.</p>
B.A./ B.SC (Sem VI)	Elective Subject	Paper IV	Analysis II	<p>The objective of this course is to study Double and triple integrals, Vector Integration : Line, Surface and Volume integration. Gauss divergence theorem, Stokes' theorem, Green's theorem. Students will also explore Sequences and series of functions : Pointwise and uniform convergence, Cauchy criterion for uniform convergence, Weierstrass M-test, Abel's and Dirichlet's tests for uniform convergence, uniform convergence and continuity, uniform convergence and Riemann integration, uniform convergence and differentiation, Weierstrass approximation theorem (Statement only), Abel's and Taylor's theorems for power series. Fourier series</p>

B.A./B.SC (Sem VI)	Elective Subject	Paper V	Linear Algebra	The objective of this course is to analyze Vector Space : Definition and Examples of Vector Spaces, Subspaces, Algebra of subspaces, Linear span, Linear dependence and independence of vectors, Basis and dimension of a vector space, Basis and dimension of subspace, Direct sums and complements Linear transformations, Rank and Nullity of a linear transformation, Vector space of linear transformations . Linear transformations and matrices, Change of basis. Characteristic roots and characteristic vectors, Algebraic and Geometric multiplicity of a characteristic value, Cayley-Hamilton theorem, Diagonalizable operators and matrices. Minimal polynomial of a linear operator (matrix).
B.A./B.SC (Sem VI)	Elective Subject	Paper VI	Numerical Analysis	The objective of this course is to analyze Solution of Equations: Bisection, Secant, Regula Falsi, Newton's Method, Roots of Polynomials. Interpolation: Lagrange and Hermite Interpolation, Divided Differences, Difference Schemes, Interpolation Formulas using Difference. Numerical Differentiation. Numerical Quadrature: Newton-Cote's Formulas, Gauss Quadrature Formulas, Chebychev's Formulas. Students will also explores Linear Equations and methods for solving them. The Algebraic Eigenvalue problem: Jacobi's Method, Givens' Method, Householder's Method, Power Method, QR Method, Lanczos' Method. Ordinary Differential Equations: Euler Method, Single-step Methods, Runge-Kutta's Method, Multi-step Methods.

M.Sc (Sem I)	Compulsory Subject	MATH- 601S	Real Analysis I	The objective of this course is to analyze Basic Topology: Finite, countable and uncountable sets. Metric spaces, compact sets. Perfect sets. Connected sets. Sequences and series: Convergent sequences (in metric spaces). Subsequences. Cauchy sequences. Upper and lower limits of a sequence of real numbers. Riemann's Theorem on Rearrangements of series of real and complex numbers. Continuity: Limits of functions (in metric spaces). Continuous functions. Continuity and compactness. Continuity and connectedness. Monotonic functions. The Riemann-Stieltjes integral: Definition and existence of the Riemann-Stieltjes integral. Properties of the integral. Integration of vector-valued functions. Rectifiable curves. Sequences and series of functions: Problem of interchange of limit processes for sequences of functions. Uniform convergence. Uniform convergence and continuity. Uniform convergence and integration. Uniform convergence and differentiation. Equicontinuous families of functions, The Stone-Weierstrass theorem.
M.Sc (Sem I)	Compulsory Subject	MATH- 602S	Algebra I	The objective of this course is to analyze & Review of basic concepts of groups with emphasis on exercises. Permutation groups, Even and odd permutations, Conjugacy classes of permutations, Alternating groups, Simplicity of A_n , $n > 4$. Cayley's Theorem, Direct products, Fundamental Theorem for finite abelian groups, Sylow theorems and their applications, Finite Simple groups & Survey of some finite groups, Groups of order p^2 , pq (p and q primes). Solvable groups, Normal and subnormal series, composition series, the theorems of

				Schreier and Jordan Holder.
M.Sc (Sem I)	Compulsory Subject	MATH- 603S	Differential Equations	The objective of this course is to analyze Existence and uniqueness of solution of first order equations. Boundary value problems and SturmLiouville theory. ODE in more than 2-variables. Partial differential equations of first order. Partial differential equations of higher order with constant coefficients. Partial differential equations of second order and their classification.
M.Sc (Sem I)	Compulsory Subject	MATH- 604S	Complex AnalysisI	The objective of this course is to analyze Complex plane, geometric representationofcomplex numbers, joint equation ofcircle and straight line, stereographic projection and the spherical representation of the extended complex plane. Topology on the complex plane, connected and simply connected sets. Complex valued functions and their continuity. Curves, connectivity through polygonal lines. Analytic functions, Cauchy-Riemann equations, Harmonic functions and Harmonic conjugates. Power series, exponentialand trigonometric functions, $\arg z$, $\log z$, az and their continuous branches. Complex Integration, line integral, Cauchy's theorem for a rectangle, Cauchy's theorem in a disc, index of a point with respect to a Closed curve, Cauchy's integral formula,

				Higher derivatives, Morrrera's theorem, Liouville's theorem, fundamental theorem of Algebra. The general form of Cauchy's theorem.
M.Sc (Sem I)	Compulsory Subject	MATH- 605S	Number theory I	The objective of this course is to analyze Divisibility, Greatest common divisor, Euclidean Algorithm, The Fundamental Theorem of arithmetic, congruences, Specialdivisibilitytests, Chinese remainder theorem, Fermat's little theorem, Wilson's theorem, residue classes and reduced residueclasses, Euler's theorem, An Application to cryptography, Arithmetic functions $\varphi(n)$, $d(n)$, $\sigma(n)$, $\sigma_2(n)$, Mobius inversion Formula, the greatest integer function, perfect numbers, Mersenne primes and Fermat numbers.Primitive roots and indices. Quadratic residues, Legendre symbol, Quadratic reciprocity law, Jacobi symbol, Binary quadratic forms and their reduction, sums of two and four squares, positive definite binary quadratic forms.

M.Sc (Sem II)	Compulsory Subject	MATH- 621S	Real analysis II	The objective of this course is to analyze Differentiation: Differentiation of vector-valued functions. Functions of several variables: The space of linear transformations on \mathbb{R}^n to \mathbb{R}^m as a metric space. Differentiation of a vector-valued function of several variables. The inverse function theorem. The implicit function theorem. Lebesgue measure: Introduction. Outer measure. Measurable sets and Lebesgue measure. A nonmeasurable set. Measurable functions. Littlewood's three principles. The Lebesgue integral: The Lebesgue integral of a bounded function over a set of finite measure. The integral of a non-negative function. The general Lebesgue integral. Convergence in measure. Differentiation and Integration: Differentiation of monotone functions. Differentiation of an integral. Absolute continuity. Convex functions.
M.Sc (Sem II)	Compulsory Subject	MATH- 622S	Algebra II	The objective of this course is to analyze Factorization Theory in Integral Domains, Divisibility, Unique Factorization Domain (UFD), Principal Ideal Domain (PID), Euclidian Domain (ED) and their relationships. Noetherian and Artinian Rings, Examples and Counter Examples, Artinian Rings without zero divisors, Nil Ideals in Artinian Rings, Hilbert Basis Theorem. Modules, Difference between Modules and Vector Spaces, Module Homomorphisms, Quotient Module, completely reducible or Semisimple Modules, Free Modules, Representation and Rank of Linear Mappings, Smith normal Form over a PID, Finitely generated modules over a PID, Rational Canonical Form, Applications to finitely generated abelian groups.

M.Sc (Sem II)	Compulsory Subject	MATH- 623S	Vector Analysis & Mechanics	The objective of this course is to analyze Scalar and vector point functions, Differentiation and integration of vectors, Gradient divergence and curl operators, Green's and Stoke's theorems, Gauss' divergence theorem, Curvilinear co-ordinates. Generalized co-ordinates. Lagrange's equations. Hamilton's canonical equations. Hamilton's principle of least action. Reduction to the equivalent one body problem. The equations of motion and first integral. The equivalent one-dimensional problem and classification of orbits. The Virial theorem. Rigid body motion about an axis. Moving axis.
M.Sc (Sem II)	Compulsory Subject	MATH- 624S	Complex Analysis II	The objective of this course is to analyze Maximum Modulus principle, Schwarz' Lemma, Taylor series and Laurent series. Singularities, Cauchy's residue theorem. Calculus of residues, bilinear transformations. Zeros and poles of meromorphic functions, Rouché's theorem, Argument Principle. Definitions and examples of conformal mappings. Infinite products, Weierstrass theorem, Mittag-Leffler's theorem, Canonical product, Analytic Continuation through power series (basic ideas), Natural boundary, the Gamma function and Riemann Zeta function.
M.Sc (Sem II)	Compulsory Subject	MATH- 625S	Number Theory II	The objective of this course is to analyze Farey sequences, Continued fractions, Approximation of reals by rationals, Pell's equations, Minkowski's theorem in Geometry of Numbers and its applications. Order of magnitude and average order of arithmetic functions, Euler summation formula, Abel's Identity, Elementary

				results on distribution of primes.
M.Sc (Sem III)	Compulsory Subject	MATH- 617S	Field Theory	The objective of this course is to analyze Fields, examples, characteristic of a field, subfield and prime field of a field, field extension, the degree of a field extension, algebraic extensions and transcendental extension, Adjunction of roots, splitting fields, finite fields, existence of algebraic closure, algebraically closed fields. Separable, normal and purely inseparable extensions. Perfect fields, primitive elements. Langrange's the oremon primitive elements. Galois extensions, the fundamental theorem of Galois theory, Cyclotomic extensions, and Cyclic extensions, Applications of cyclotomic extensions and Galois theory to the constructability of regular polygons, Solvability of polynomials by radicals.
M.Sc (Sem III)	Compulsory Subject	MATH- 618S	Topology	The objective of this course is to analyze Topological Spaces, bases for a topology, the order topology, the product topology on X, Y, the subspace topology, closed sets and limit points, continuous functions, the product topology, the metric topology, the quotient topology. Connected spaces, connected subspaces of the real line, components and local connectedness. UNIT-II Compact spaces, compact space of the real line, limit point compactness, local compactness, net. The countability axioms, the separation axioms, Normal spaces, the Urysohn Lemma, the Urysohn Metrization Theorem, the

				Tietze Extension Theorem, the Tychonoff Theorem.
M.Sc (Sem III)	Compulsory Subject	MATH- 661S	Probability & Mathematical Statistics I	The objective of this course is to analyze Nature of Data and methods of compilation: Measurement scales, Attribute and variable, Discrete and continuous variables. Collection, Compilation and Tabulation of data. Representation of data: Histogram, Frequency Polygon, Frequency Curve, Ogives. Measures of central tendency: Mean, Median, Mode, Geometric Mean, Harmonic Mean and their properties. Measuring variability of data: Range, Quartile deviation, Deciles and Percentiles. Standard deviation, Central and non-central moments, Sample and Population variance. Skewness and Kurtosis, Box and Whisker plot. Probability: Intuitive concept of Probability, Combinatorial problems, conditional probability and independence, Bayes' theorem and its applications. Random Variables and Distributions: Discrete and Continuous random variables. Probability mass function and Probability density function. Cumulative distribution function. Expectation of single- and two-dimensional random variables. Properties of random variables. Moment generating function and probability generating functions. Distributions: Bernoulli distribution. Binomial

				distribution. Poisson distribution, Negative Binomial and Hypergeometric distributions. Uniform, Normal distribution. Normal approximation to Binomial and Poisson distributions. Beta, Gamma, Chi-square and Bivariate normal distributions. Sampling distribution of mean and variance (normal population) .Chebyshev's inequality, weak law of large numbers, Central limit theorems.
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M.Sc (Sem III)	Compulsory Subject	MATH- 675S	Special Functions	<p>The objective of this course is to analyze Hypergeometric Functions: The hypergeometric series, An integral formula for the hypergeometric series, The hypergeometric equation, Linear relations between the solutions of the hypergeometric equation, Relations of contiguity, The confluent hypergeometric function, Generalised hypergeometric series. Legendre Functions: Legendre polynomials, Recurrence relations for the Legendre polynomials, The formulae of Murphy and Roderigues, Series of Legendre polynomials, Legendre's differential equation, Neumann's formula for the Legendre functions, Recurrence relations for the functions $Q_n(\mu)$, The use of Legendre functions in potential theory, Legendre's associated functions, Integral expression for the associated Legendre function, Surface spherical harmonics, Use of associated Legendre functions in wave mechanics. Bessel Functions: The origin of Bessel functions, Recurrence relations for the Bessel coefficients, Series expansions for the Bessel coefficients, Integral expressions for the Bessel coefficients, The addition formula for the Bessel coefficients, Bessel's differential equation, Spherical Bessel functions, Integrals involving Bessel functions, The modified Bessel functions, The Ber and Bei functions, Expansions in series of Bessel functions, The use of Bessel functions in potential theory, Asymptotic expansion of Bessel functions. The Functions of Hermite And Laguerre: The Hermite polynomials, Hermite's differential equation, Hermite functions, the occurrence of Hermite functions in</p>
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				<p>wave mechanics, The Laguerre polynomials, Laguerre's differential equation, The associated Laguerre polynomials and functions, The wave functions for the hydrogen atom.</p>
M.Sc (Sem III)	Compulsory Subject	MATH-678S	Linear Programming	<p>The objective of this course is to analyze Linear Programming and examples, Convex Sets, Hyperplane, Open and Closed half-spaces, Feasible, Basic Feasible and Optimal Solutions, Extreme Point & graphical methods. Simplex method, Charnes-M method, Two phase method, Determination of Optimal solutions, unrestricted variables, Duality theory, Dual linear Programming Problems, fundamental properties of dual Problems, Complementary slackness, Unbounded</p>

				<p>solution in Primal. Dual Simplex Algorithm, Sensitivity analysis. Parametric Programming, Revised Simplex method, Transportation Problems, Balanced and unbalanced Transportation problems, U-V method, Paradox in Transportation problem, Assignment problems, Integer Programming problems: Pure and Mixed Integer Programming problems, 0-1 programming problem, Gomary's algorithm, Branch & Bound Technique. Travelling salesman problem</p>
M.Sc (SemIV)	Compulsory Subject	MATH- 637S	Linear Algebra	<p>The objective of this course is to analyze definition and examples of vector spaces (over arbitrary fields), subspaces, direct sum of subspaces, linear dependence and independence, basis and dimensions, linear transformations, quotient spaces, algebra of linear transformations, linear functions, dual spaces, matrix representation of a linear transformation, rank and nullity of a linear transformation, invariant subspaces. Characteristic polynomial and minimal polynomial of a linear transformation, eigenvalues and eigenvectors of a linear transformation, diagonalization and triangularization of a matrix, Jordan and Rational canonical forms, bilinear forms, symmetric bilinear forms, Sylvester's theorem, quadratic forms, Hermitian forms, Inner product spaces, Gram-schmidt orthonormalization process.</p>

M.Sc (Sem IV)	Compulsory Subject	MATH-638S	Functional Analysis	The objective of this course is to analyze Banach Spaces with examples of L^p ($[a,b]$) and C ($[a,b]$), Hahn Banach theorem, open mapping theorem, closed graph theorem, Baire Category theorem, Banach Steinhaus theorem (uniform boundedness principle), Boundedness and continuity of linear transformation, Dual Spaces, embedding in second dual. Hilbert space, orthonormal basis, Bessel's inequality, Riesz Fischer theorem, Parseval's identity, bounded Linear functionals; projections, Riesz Representation theorem, adjoint operators, self adjoint, normal, unitary and isometric operators.
M.Sc (Sem IV)	Optional Subject	MATH-681S	Probability & Mathematical Statistics II	The objective of this course is to analyze Point and Interval Estimation: General concept of Point estimation, unbiasedness, consistency, efficiency and Sufficiency. Factorization theorem, completeness, Rao-Blackwell theorem, Cramer-Rao inequality. Maximum likelihood method of estimation and method of moments. Interval estimation, confidence intervals for means, difference of means and variances. Hypothesis Testing: The basic idea of Significance test. Null and alternative hypothesis, Type-I and Type II errors. Uniformly most powerful tests, Likelihood Ratio tests. t, Chi-square and F-distributions. Tests of significance based on t, Chi-square and F. One way and two-way Analysis of Variance (ANOVA). Non-Parametric Tests: Sign test, Wilcoxon signed rank test, Mann-whitney test.

M.Sc (Sem IV)	Optional Subject	MATH- 695S	Integral Transform & Their Applications	<p>The objective of this course is to analyze Laplace Transforms: Definition and examples, Existence theorem and basic properties, Convolution theorem and properties of convolution, Differentiation and Integration of Laplace transform, the inverse Laplace transform and examples, Tauberian theorems for Laplace transforms and Watson's Lemma, Laplace transforms of fractional integrals and fractional derivatives. Applications of Laplace Transform to Solve/Evaluate : Ordinary and partial differential equations, Initial and boundary value problems, Integral equations, Definite integrals, Difference equations and Differential-difference equations. Finite Laplace Transforms: Definition and examples, Basic operational properties, Applications, Tauberian theorems for finite Laplace transforms. Hankel Transforms: Definition and examples, operational properties, Applications to solve partial differential equations. Fourier Transforms : Fourier Integral formulas, Definition and examples, Basic properties, Fourier cosine and sine transforms and examples, Basic properties of Fourier cosine and sine transforms, Multiple Fourier transforms. Applications of Fourier Transform to Solve/Evaluate : Ordinary and Partial differential equations, Integral equations, Definite integrals. Applications of Multiple Fourier transform. Finite Fourier Cosine and Sine Transforms : Definition and examples, Basic properties, Applications, Multiple finite Fourier transforms and their applications. Mellin Transforms : Definition and examples, Basic operational properties and Applications.</p>
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M.Sc (Sem IV)	Optional Subject	MATH-698S	Non Linear Programming	<p>The objective of this course is to analyze Nonlinear Programming: Convex functions, Concave functions, Definitions and basic properties, subgradients of convex functions, Differentiable convex functions, Minima and Maxima of convex function and concave functions. Generalizations of convex functions and their basic properties. Unconstrained problems, Necessary and sufficient optimality criteria of first and second order. First order necessary and sufficient Fritz John conditions and Kuhn-Tucker conditions for Constrained programming problems with inequality constraints, with inequality and equality constraints. Kuhn Tucker conditions and linear programming problems. Duality in Nonlinear Programming, Weak Duality Theorem, Wolfe's Duality Theorem, Hanson-Huard strict converse duality theorem, Dorn's duality theorem, strict converse duality theorem, Dorn's Converse duality theorem, Unbounded dual theorem, theorem on no primal minimum. Duality in Quadratic Programming. Quadratic Programming: Wolfe's method, Beale's method for Quadratic programming. Linear fractional programming, method due to Charnes and Cooper. Nonlinear fractional programming, Dinkelbach's approach. Game theory - Two-person, Zero-sum Games with mixed strategies, graphical solution, solution by Linear Programming</p>
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