Govt. Degree College Handwara

PROGRAMME OUTCOMES & COURSE OUTCOMES

CBCS

DEPARTMENT OF BOTANY
GOVERNMENT DEGREE COLLEGE HANDWARA

Student Learning Outcomes for the Botany Programme

- To unravel the different life forms, present on the planet earth and their role.
- To understand the ecological balance of nature and the consequences of its disturbance.
- To acquaint the students with the knowledge of Plant Taxonomy and its role in solving the problems of plant classification.
- To understand the life cycle of different organisms like viruses, bryophytes, pteridophytes, gymnosperms and angiosperms.
- To understand the various life processes occurring in plants.
- Understand cell and molecular biology.
- Role of medicinal plants to cure diseases (Ethno-botany).
- To apply the academic knowledge in day-to-day life like

1. Showing sensitivity towards environment
2. Conservation of nature & natural resources
3. Avoid overexploitation (of any & every kind)
4. Apply biological principles for the improvements in agriculture, horticulture, floriculture and livestock

S. No.	Course Title	Semester
1.	Biodiversity (Microbes, Algae, Fungi and Archegoniate)	1st
2.	Plant Ecology and Taxonomy	2nd
3.	Plant Anatomy and Embryology	3rd
4.	Physiology and Metabolism	4th
5.	Cell and Molecular Biology	5th
6.	Plant Pathology	6th

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COURSES OFFERED UNDER CBCS	
Course Title	**Biodiversity (Microbes, Algae, Fungi and Archegoniate)**
Course Code	**BOT116C**
Semester	**1st**
CO 1	To understand the general structure of Viruses and Bacteria.
CO 2	To learn about Economic Importance of Bacteria.
CO 3	Understanding the Symbiotic Associations and its significance.
CO 4	To know about the criteria for algal classification.
CO 5	To know about the range of Thallus organization in Algae.
CO 6	To Understand the general characteristics of Archegonates.
CO 7	To know about the life cycles of different Bryophytes.
CO 8	To know about the heterospory and origin of seed habit in Pteridophytes.
CO 9	To understand the morphology and anatomy of Gymnosperms
Course Title	**Plant Ecology and Taxonomy**
Course Code	**BOT216**
Semester	**2nd**
CO 1	To learn about Ecology and its factors.
CO 2	To understand the concept of Plant communities.
CO 3	To understand Ecosystem and Phytogeographical regions.
CO 4	To learn about the Plant Taxonomy
CO 5	To understand the Biological Classifications.
CO 6	To learn about the Identification Keys.
CO 7	To understand the Botanical Nomenclature of Plants.
Course Title	**Plant Anatomy and Embryology**
Course Code	**BOT316**
Semester	**3rd**
CO 1	To learn about different kinds of tissues.
CO 2	To understand the different theories of root and shoot apical meristem.
CO 3	To learn about secondary growth of dicot stem and root.
CO 4	To understand the adaptations in xerophytes and hydrophytes.
CO 5	To learn about general structure of flower.
CO 6	To understand the different kinds of pollination.
CO 7	To learn about structure and development of dicot and monocot embryo.
CO 8	To understand the different types of polyembryony.
Course Title	**Physiology and Metabolism**
Course Code	**BOT416**
Semester	**4th**
CO 1	To learn about the water potential and its components.
CO 2	To understand role of essential elements.
CO 3	To learn about the ETC chain and mechanism of ATP synthesis.
CO 4	To understand the role of Photosynthetic pigments.
CO 5	To learn about the structure and properties of enzymes
CO 6	To understand the mechanism of nitrogen fixation.
CO 7	To understand the responses of plants to light and temperature.
CO 8	To learn about the discovery and physiological roles of phytohormones.
Course Title	**Cell and Molecular Biology**
Course Code	**BOT516DA**

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Semester	5th
CO 1	To understand the structure and function of biological membranes.
CO 2	To learn about the cell wall structure and functions.
CO 3	To learn about the non-membranous organelles of cell.
CO 4	To understand the endosymbiotic hypothesis.
CO 5	To learn about cell cycle and genetic material.
CO 6	To understand the types of DNA and replication.
CO 7	To understand the types of RNAs.
CO 8	To learn about Transcription and Translation in prokaryotes.
Course Title	**Plant Pathology**
Course Code	**BOT616DC**
Semester	6th
CO 1	To learn about scope and importance of plant pathology.
CO 2	To understand the Parasitism, Pathogenesis, Disease cycle of various disease-causing plant pathogens.
CO 3	To learn about methods of plant disease diagnosis.
CO 4	To learn about plant disease managements.
CO 5	To understand the Quarantine and inspections methods, physical and cultural methods.
CO 6	To learn about specific plant diseases.
CO 7	To understand the Symptoms, Casual organisms, disease cycle and control of different plant diseases.

DEPARTMENT OF CHEMISTRY
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Student Learning Outcomes for the Chemistry Programme

- Chemical bonding & Atomic structure: Nature of bonding in different substances and shapes of atoms/molecules based on Quantum Mechanical data interpretation. Periodicity in chemical characteristics of elements. Coordination complexes.
- Stereochemistry, bonding, structure and properties. Bio-inorganic chemistry and role of essential elements in life.
- Aromaticity and methods of determination of reaction mechanism: Requirements and significance of Huckell's Rule, isotope labeling and identification of products. Organic compounds: Stereochemistry, structure, synthesis, and properties of various homologues like alkenes dienes, alkynes, alkyl & aryl halides, nitrogen bearing cyclic and acyclic compounds, etc. Biomolecules: Carbohydrates, nucleic acids, amino acids, etc. Structure elucidation: UV-Visible, IR and NMR.
- Thermodynamics: Laws and their applications. Equilibrium and solution thermodynamics: Clapeyron and Clausius-Clapeyron equation –applications. Electrochemistry and electrochemical cells: Kohlrausch law, Arrhenius theory. Debye-Huckell- Onsager's equation. Electrochemical cells and measurement of EMF. Quantum chemistry and Spectroscopy: limitations of classical mechanics, introduction to operator, Schrodinger wave equation and its importance, rotational and vibrational spectroscopy. Chemical kinetics & Photochemistry: Theories of chemical kinetics, catalysis, laws of photochemistry and kinetics of photochemical reactions.
- To make students acquainted with different techniques of separation and identification of ions(micro scale inorganic analysis), elements(chromatography) organic compounds(functional group analysis), synthesis of some important inorganic and organic compounds and different physico-chemical techniques like determination of reaction rates through kinetic studies, conductometry, pH metry, refractometry, surface tension & viscosity measurements.

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COURSES OFFERED UNDER CBCS	
Course Title	**Chemistry-I**
Course Code	**CH116C**
Semester	**1st**
CO 1	To Understand the nature and strength of forces between chemical constituents
CO 2	Understanding the applications of different theories of chemical bonding
CO 3	To learn the chemical reactivity of S-Block elements
CO 4	To understand the trends in physical properties of S-Block elements.
CO 5	To learn different types of Isomerism in Organic Compounds
CO 6	To learn concept of aromaticity and different types of reaction intermediates
CO 7	To understand the chemical properties of various types of Hydrocarbons.
CO 8	To learn the mechanism of Nucleophilic Substitution reactions of Haloalkanes
Course Title	**Chemistry-II**
Course Code	**CH216C**
Semester	**2nd**
CO 1	To understand the possible mechanism of energy transfer within the domain of different laws.
CO 2	Understanding of equilibrium dynamics in commercially important reactions
CO 3	Understanding of electrical energy and its applications.
CO 4	Understanding of Redox potential and its relationship with spontaneity of a process
CO 5	Understanding of reaction mechanisms involving aromatic compounds.
CO 6	To understand the role of functional groups on the reactivity of aromatic compounds
CO 7	To understand the structure, synthesis and reactivity of carbonyl groups.
CO 8	To understand the mechanisms involving the preparation of carboxylic acids.
Course Title	**Chemistry-III**
Course Code	**CH316C**
Semester	**3rd**
CO 1	To understand the structure, bonding, synthesis, properties and use of the various compounds of P Block elements
CO 2	To decode the trends in the chemical and physical properties of transition and inner transition elements along with their compounds.
CO 3	To study the different aspects of chemical and phase equilibrium.
CO 4	To study the thermodynamics of various solution properties.
CO 5	To understand the rates of second and third order reactions and the dependence of reaction rate on temperature.
CO 6	To comprehend the different theories regarding rates of chemical reactions.

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CO 7	To understand the interaction of radiation with matter, laws governing such interaction and the various physicochemical changes associated with it.
Course Title	**Chemistry-IV**
Course Code	**CH416C**
Semester	**4th**
CO 1	To comprehend the structure, bonding and isomerism in square planner octahedral and tetrahedral coordination complexes.
CO 2	To study the metal coordination behaviour and role of different essential elements in life.
CO 3	To understand the classification, properties and various methods of synthesis of amines along with the mechanism of reactions involved.
CO 4	To comparatively study the structural and chemical aspects of nitrogen bearing heterocyclic compounds.
CO 5	To understand the structural and behavioural aspects of matter in solid, liquid and gaseous states.
CO 6	To understand the interaction of radiation with matter and the basic principles of various spectroscopic techniques.
CO 7	To learn about the use of various spectroscopic techniques in structural elucidation.
Course Title	**Chemistry-V**
Course Code	**CH516DA**
Semester	**5th**
CO 1	To understand the basic need of green chemistry.
CO 2	To know about the tools and principals of green chemistry
CO 3	To understand how to design a green synthesis using the principals of green chemistry.
Co 4	To understand the concept of green solvents.
CO 5	To understand various reactions assisted by microwave in water.
CO 6	To understand the reactions assisted by microwave in organic solvents.
CO 7	To understand the role of green chemistry in sustainable development.
CO 8	Understanding of various reactions assisted by ultrasound.
Course Title	**Chemistry-VI**
Course Code	**CH616D**
Semester	**6th**
CO 1	To understand lattice vibrations and optical phonons.
CO 2	To understand specific heat, od solids in light of various theories.
CO 3	To understand the magnetic properties of different materials.
CO 4	Understanding of nanomaterials, their preparation and special properties.
CO 5	To understand the self-assemblies of surfactants and polymers and their applications.
CO 6	Understanding of superconductivity and characteristics of superconductors.
CO 7	To understand the effect of temperature on superconductivity and applications of superconductors.

DEPARTMENT OF COMMERCE
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Student Learning Outcomes for the Commerce Programme

The Department of Commerce, Govt. Degree College Handwara is committed to create, develop the successful entrepreneurs which can drive economic growth and prosperity. Further, to develop professionals for the industries especially banking sector, insurance companies and financial companies. The unique blend of theory and practical concepts of Commerce are taught to inspire and guide students to become innovative leaders and responsible citizens by developing conceptual, technical and human skills who can contribute to the success of organizations.

Students who have taken admission to this program of B.Com are expected to develop and concentrate on the following:

a. Commercial sense.

b. Managerial and Accountant professionalism.

c. Entrepreneurial Skill.

d. Human Resources Skills.

e. Develop Numerical ability.

f. Strategic Planning, Marketing Strategies.

g. Organizational Behavior.

h. Well Versed with business regulatory frame work.

S. No.	Course Title	Semester
1.	Business Organization and Management	1st
2.	Financial Accounting	1st
3.	Business Law	2nd
4.	Company Law	3rd
5.	Income Tax Law and Practice	3rd
6.	Corporate Accounting	4th
7.	Cost Accounting	4th
8.	Banking And Insurance	5th

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9.	Business Communication	5th
10.	Fundamentals Of Investment	5th
11.	Consumer Protection	6th
12.	International Business	6th

COURSES OFFERED UNDER CBCS	
Course Title	**Business organization and management**
Course Code	**BOM116**
Semester	**1st**
CO 1	To know the Evolution and concept of business, Emerging opportunities in business and social responsibilities and their performance.
CO 2	To understand nature and different forms of organization and to know the procedure of domestic and international business
CO 3	To understand the traits which a good leader must possess and to understand how motivation induces the subordinates to work willingly for organization
CO 4	To understand various sources of finance and to understand the forecasting techniques of human resource requirements.
Course Title	**Financial Accounting**
Course Code	**COM116C1**
Semester	**1st**
CO 1	To understand the basic accounting concepts and conventions, difference between cash and accrual basis of accounting and International Financial Reporting Standards and Indian Financial Standards.
CO 2	To understand different steps in accounting process (both theoretically and practically) and to know the procedure for preparing trial balance with adjustments.
CO 3	To use accounting software for preparing different accounts of a company with imaginary figures and to understand how to backup and restore the data of a company.
CO 4	To understand meaning and types of inventory calculation.
CO 5	To practically understand the hire purchase and instalment system with practical problems.
CO 6	To understand the meaning of inland branches and how it is different from outland branches.
CO 7	To understand circumstances which led to dissolution of firm.
Course Title	**Business Law**
Course Code	**COM216EC**
Semester	**2nd**
CO 1	To familiarize about the basic principles of Contract and Agreement.
CO 2	To gain knowledge about various types of contracts and agreements.

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CO 3	To learn about contract of Indemnity and Bailment.
CO 4	To learn the difference between the Agreement and Agreement to sell.
CO 5	To impart knowledge about the features of Partnership and its Registration.
CO 6	To understand the Implied authority of a partner and mode of dissolution of Partnership.
CO 7	To impart the basic knowledge about the various types of instruments functioning in India.
CO 8	To understand the crossing and its types and bouncing of cheque.
Course Title	**Company law**
Course Code	**COM317C5**
Semester	**3rd**
CO 1	To familiarize with Basic concepts of corporate law and to know the nature and features of company.
CO 2	To learn about the Memorandum and articles of Association and to learn legal position of company.
CO 3	To learn the structure and management of company and to understand the Power position and duties of Higher Authorities of company.
CO 4	To learn about dividend and factors affecting the dividend distribution.
CO 5	To understand provisions relating to appointment and Rotation of Auditor.
CO 6	To understand meaning and legal provisions of whistle Blowing.
Course Title	**Income Tax Law and Practice**
Course Code	**COM317C6**
Semester	**3rd**
CO 1	To familiarize with Basic concepts of Taxation
CO 2	To learn about the calculation of income under the head salary.
CO 3	To learn about the calculation of income under the head House property
CO 4	To learn about the calculation of income under the head Capital Gains.
CO 5	To learn about the calculation of income under the head Business and Profession.
CO 6	To learn about the computation of Total income.
CO 7	To learn about the various rebates and reliefs available to an assesse.
CO 8	To impart the training about the filling of Income tax return.
Course Title	**Corporate Accounting**
Course Code	**COM417C7**
Semester	**4th**
CO 1	To Understand the Accounting treatment of issue, forfeiture and reissue of share.
CO 2	To Understand the Accounting treatment of issue and redemption of preference shares and debentures.
CO 3	To know about Buy back of shares and its financial implications.
CO 4	To know factors affecting the value of Share and Goodwill.
CO 5	To know the concept and accounting treatment of Amalgamation
CO 6	To know the concept of Reconstruction and various schemes of reconstruction.
CO 7	To understand the Final Accounts of Holding companies and to know how it differs from other companies and to learn how to prepare consolidated financial statement.

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CO 8	To understand the Final Accounts of Banking companies and to know how it differs from non-banking companies.
CO 9	To understand the Concept of fund and Cash
CO 10	To learn the preparation of cash flow statement as per relevant accounting standards.
Course Title	**Cost Accounting**
Course Code	**COM116C1**
Semester	**4th**
CO 1	To understand the uses of cost accounting and the principles of cost accounting
CO 2	To know the classification, recording, and appropriate allocation of expenditure
CO 3	To understand different techniques of material control
CO 4	To understand how the labour accounting helps us to reduce the cost of production.
CO 5	To understand which method is used for which type of business
CO 6	To understand the joint and by products and Methods of apportionment of joint cost
Course Title	**Banking And Insurance**
Course Code	**COM516D1**
Semester	**5th**
CO 1	To impart the basic knowledge about the principles of banking.
CO 2	To understand the working of different types of Banks and their changing role.
CO 3	To know about the various types of deposits which banks accept from the customers?
CO 4	To learn about how the cheque work.
CO 5	To learn about the duties of a banker towards the customers.
CO 6	To know about the various types of loans offered by the banks to its customers.
CO 7	To learn about the collateral securities demanded by the banks while offering advances.
CO 8	To impart knowledge about the importance of online banking.
CO 9	To impart the basic knowledge about the basic principles of Insurance like utmost Good faith, proximate cause, subrogation, indemnity etc.
Course Title	**Business Communication**
Course Code	**COM516D2**
Semester	**5th**
CO 1	To impart the basic knowledge about the principles of communication and skills and to learn the process of communication and its types.
CO 2	To understand the working of different types of communication in an organization and how communication works as an effective tool.
CO 3	To understand the importance of written communication, how to write business letters and persuasive letters and to familiarize students about the report writing and its purpose
CO 4	To learn the negotiation skills and its development.
CO 5	To familiarize the students about writing the Resume/CV
CO 6	To learn about the different cultures of people and differences.
CO 7	To impart knowledge about the importance of developing language skills.

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Course Title	**Fundamentals of Investment**
Course Code	**COM518D2A**
Semester	**5th**
CO 1	To Know the Various Avenues of Investment and to understand the Risk-Return relationship of various securities.
CO 2	To understand the Bond, Bond features and its relationship with rate of Interest and to learn how Ratings by CRAs affect Bond prices.
CO 3	To learn different approaches to Equity Analysis and to understand how Analysts price equity.
CO 4	To know different legal provisions by SEBI for the protection of investors and to gain awareness about ill practices in share market like insider trading.
Course Title	**Consumer Protection**
Course Code	**COM618D2A**
Semester	**6th**
CO 1	To impart the basic knowledge about the principles of consumer rights and various types of consumer rights.
CO 2	To learn about the concept of price at retail and whole sale level.
CO 3	To understand the importance of Maximum Retail Price, Fair Price, Labelling and Packaging and To learn about the consumer satisfaction and dissatisfaction level.
CO 4	To understand how the corporate and public redress system works?
CO 5	To learn about the consumer goods and services being offered by the companies and the defects in goods and services being provided.
CO 6	To gain knowledge about the various forums meant for settling the consumer related cases at District level, State level and National level.
CO 7	To learn about how consumers can file a complaint and on what Grounds and the hearing and filing of complaint and disposal of cases.
CO 8	To impart knowledge about the importance of RBI and Ombudsman and to learn about the IRDA and Ombudsman in Insurance.
CO 9	To impart the basic knowledge about the evolution of Consumer in India and to learn how to form the consumer organization.
Course Title	**International Business**
Course Code	**COM618D1A**
Semester	**6th**
CO 1	To impart the basic knowledge about the New Economic Policy 1991 and to know the LPG and its role in opening up the economy to outside world.
CO 2	To learn about the various trade theories and various barriers of trade and their impact on foreign trade.
CO 3	To understand the need and importance of Economic Blocs and the working of IMF and world bank.
CO 4	To know various issues and challenges in the international Business and the role of IT in international business.
CO 5	To know about the various Export promotion measures and the procurement of Finance for international trade.

DEPARTMENT OF COMPUTER APPLICATIONS
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Student Learning Outcomes for the Computer Applications Programme

- An ability to apply knowledge of mathematics, computer science and management in Practice.
- An ability to enhance not only comprehensive understanding of the theory but its application too in diverse field.
- The program prepares the young professional for a range of computer applications, computer organization, and techniques of computer networking, software engineering-Commerce, Web Designing, Computer Graphics, Cloud Computing, Data Mining, Artificial intelligence, Database management system, numeric analysis, C & C++ programming, Android application and Advance JAVA.
- An ability to design a computing system to meet desired needs within realistic constraints Such as safety, security and applicability in multidisciplinary teams with positive attitude.
- An ability to communicate effectively.
- In order to enhance programming skills of the young IT professionals, the program has Introduced the concept of project development in each language/technology learnt during Semester.

S. No.	Course Title	Semester
1.	Programming In C/C++	1st
2.	Computer System Architecture	1st
3.	Discrete Structures	2nd
4.	Programming In Java	2nd
5.	Data Structures	3rd
6.	Operating System	3rd
7.	Computer Networks	3rd
8.	Design And Analysis of Algorithms	4th

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9.	Software Engineering	4th
10.	Database Management System	4th
11.	Internet Technologies	5th
12.	Theory Of Computation	5th
13.	Numerical Methods	5th
14.	Artificial Intelligence	6th
15.	Cloud Computing	6th
16.	Computer Graphics	6th
17.	Project Work	6th

COURSES OFFERED UNDER CBCS	
Course Title	**Programming In C/C++**
Course Code	**BCA16101CC**
Semester	**1st**
CO 1	To learn about the history of C and overview of procedural and object-oriented languages
CO 2	To learn the use of void main () in C programs
CO 3	To understand the use of data types, variables, constants, keywords and operators.
CO 4	To learn the use of standard library functions for input/output in C programs.
CO 5	To understand the concept of expressions in C++.
CO 6	To create C programs using functions and to understand the concept of inline function and command line arguments.
CO 7	To understand the use of structures and unions in C programming
CO 8	To understand the use of pointers and references in C++
CO 9	To understand the concept of dynamic memory allocation
CO 10	To learn the concept of files in C++
CO 11	To learn overloading of various operators in C++
Course Title	**Computer System Architecture**
Course Code	**BCA-16102CC**
Semester	**1st**
CO 1	To understand the basics of Boolean algebra, logic gates.
CO 2	To understand design and functionality of various kinds of digital circuits with and without memory
CO 3	To understand various kinds of codes and number systems used in digital communication and computer systems.

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CO 4	To learn and understand various kind of operation performed on different number systems.
CO 5	To understand the working and operations of the computer at instruction level.
CO 6	To understand the interconnection between various components of a computer system.
CO 7	To understand various components of a central processing unit.
CO 8	To learn and understand various kinds of microoperations.
CO 9	To learn and understand the concepts of cache memory.
CO 10	To understand the concepts of I/O organization.
Course Title	**Discrete Structures**
Course Code	**BCA-16202CC**
Semester	**2nd**
CO 1	To make students understand how to reduce many mathematical concepts to their logical functions in a systematic manner.
CO 2	To define sequences and also explains how sequences can be defined recursively.
CO 3	To make students aware about how to represent any problem involving discrete arrangement of objects.
CO 4	To understand the various logical connectives included in well formed formulas.
Course Title	**Programming In Java**
Course Code	**BCA-16203CC**
Semester	**2nd**
CO 1	To understand basic architecture of java and its features.
CO 2	To learn how to create and manipulate arrays and strings in java.
CO 3	To understand various concepts of OOPs like Class, Object, inheritance, interface Etc.
CO 4	To understand the concept of code reusability using inheritance.
CO 5	To understand different types of errors/Exceptions and how they can be handled.
CO 6	To learn how to exchange information over different networks using Java.Net package.
CO 7	To create small java programs known as APPLETs that are embedded in web pages.
CO 8	To understand the concept of events like “button click” and how these events are handled by writing event handlers (code behind events).
Course Title	**Data Structures**
Course Code	**BCA-16301CC**
Semester	**3rd**
CO 1	To understand basic data structures their complexities and their representations and to learn about the creation and manipulation of arrays.
CO 2	To understand stack data structure and its usage and to learn how to create stack and various stack operations.
CO 3	To understand Linked list data structure, its representation in memory and to learn how to create single, double, circular list.
CO 4	To understand the concept of queue and its implementation.
CO 5	To understand the concept of recursion and to develop recursive definition for simple problems and implement them.

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CO 6	To learn about different searching and sorting techniques and their complexities.
CO 7	To understand the concept of Hashing and to learn how to create hash table according the different hashing methods
Course Title	**Operating System**
Course Code	**BCA-16302CC**
Semester	**3rd**
CO 1	To understand basic concept related to operating system. and various types of operating system.
CO 2	To understand how process are managed, how resources are allocated to process, enable process to share and exchange information, protect the resources of each process from other process and enable synchronization among process.
CO 3	To understand the importance of memory and need to manage this resource by memory allocation, swapping fragmentation paging, page tables and segmentation
CO 4	To understand how to authorize user of o/s and to familiarize with different security aspects.
Course Title	**Computer Networks**
Course Code	**BCA-16303CC**
Semester	**3rd**
CO 1	To describe the services, functions, and interrelationship of different layers in network models.
CO 2	To understand the protocols used in Data link layer, Network layer and Transport layer.
CO 3	To understand the functions of internetworking devices.
CO 4	To Design, calculate, and apply subnet masks and addresses to fulfil networking requirements
CO 5	To analyse the features and operations of various application layer protocols such as Http, FTP, electronic mail, TELNET, DNS, SSH
Course Title	**Design and Analysis of Algorithms**
Course Code	**BCA-16401CC**
Semester	**4th**
CO 1	To make students learn about the concept of algorithms and to understand how to analyse the different techniques of algorithms.
CO 2	To design and analyse the Iterative and Divide & Conquer techniques of algorithms.
CO 3	To design the various sorting and searching techniques for rearranging the items of a given array.
CO 4	To develop some techniques for establishing the most efficient algorithm.
CO 5	To design the balanced trees for performing insert, delete and rotation operation.
CO 6	To aware students about how to calculate the running time of an algorithm.
Course Title	**Software Engineering**
Course Code	**BCA-16402CC**
Semester	**4th**

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CO 1	To apply new software models, techniques and technologies to bring out innovative and novelist solution for the growth of the society in all accepts and evolving int o their continuous profession development
CO 2	To provide an understanding and an appreciation of the principal and practices of risk management
CO 3	To deliver quality software products by possessing the leadership skills as an induvial or contributing to the team development and demonstration effective and modes, working strategies by applying both communication and negotiations management skills
CO 4	To understand how to list the software that has been developed to ensure the quality products.
Course Title	**Database Management System**
Course Code	**BCA-16403CC**
Semester	**4th**
CO 1	Students should be able to understand effectively the underlying concepts of database technologies.
CO 2	Students should be able to explain how data is structured within the database and how different views of databases are independent of each other.
CO 3	Students should have high level order storing of major components of database and their function.
CO 4	Students should be able to model application data requirements using conceptual modelling techniques like ER diagrams and also able to convert tables into ER diagrams.
CO 5	Students should be able to translate data models into relational table schemas (DDLs), compose queries on a database in both SQL and relational algebra and manipulate a database using database facility that is use of DDL and DML.
CO 6	To understand the locking protocols used to ensure isolation, logging techniques to ensure atomicity and durability, recovery techniques used to recover from crashes.
CO 7	Understanding of use of files and when to use a DBMS, how data can be encoded and stored in files.
Course Title	**Internet technologies**
Course Code	**BCA516C1**
Semester	**5th**
CO 1	To understand the object-oriented programming concepts using Java and to learn the use of Objects, Arrays and Array List class in Java
CO 2	To learn the development of web applications and using JavaScript in web pages and to understand the basic concepts of JavaScript such as data types, operators, functions and event handling
CO 3	To learn the development of web applications with databases as backend.
CO 4	Understanding the basics of JSP in order to create robust applications and Creating dynamic HTML content with servlets and java Server pages.
CO 5	To understand the basics of Java Beans
Course Title	**Theory of Computation**
Course Code	**BCA-16502CR**
Semester	**5th**

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CO 1	To understand the basic concepts of formal languages like alphabets, strings, grammars etc.
CO 2	To learn and understand the concepts of regular expressions.
CO 3	To analyse and design deterministic and nondeterministic finite automata and to learn and understand conversion of any NFA to a DFA.
CO 4	To learn and understand how to prove a language to be irregular using Pumping Lemma
CO 5	To learn and understand the concept of context free languages, their grammars and representation in the form of parse tree.
CO 6	To learn and understand various normal forms for context free languages (Chomsky Normal Form, Greibach Normal Form)
CO 7	To learn and understand simple model of computational in the form of a Random-Access Machines (RAM).
CO 8	To learn and understand the concept of Universal Turing Machine and the languages accepted by Turing machines.
Course Title	**Numerical Methods**
Course Code	**BCA -16503DE**
Semester	**5th**
CO 1	To make students understand the computerized representation of numbers and various arithmetic operation on them along with algorithms.
CO 2	To understand the various errors which may strike while performing numerical operation and different number systems.
CO 3	To understand numerical integrations and differentiations.
CO 4	Students become capable to estimate the value based on extending a known sequence of values or facts beyond the area that is certainly known.
Course Title	**Data Mining**
Course Code	**BCA -16504DSE**
Semester	**5th**
CO 1	Understanding the concept of database technology which lead to the need of data mining.
CO 2	Examine the data to be mined and present a general classification of tasks and primitives to integrate a data mining system.
CO 3	Discover Interesting patterns from large amounts of data to analyse and extract patterns to solve problems, make predictions for outcomes.
CO 4	Students will be able to select and apply proper data mining algorithms to build analytical applications.
Course Title	**Artificial intelligence**
Course Code	**BCA -16601CC**
Semester	**6th**
CO 1	To understand artificial intelligence and its scope in today's world.
CO 2	To understand the characteristics of various problems in AI and their control strategies and algorithms to get the solution of various AI problems.
CO 3	To understand different techniques to deal with uncertainty and inconsistences of problems in AI and to know the truth maintenance system.
CO 4	To understand the concept of languages in AI.
Course Title	**Cloud Computing**

DEPARTMENT OF COMPUTER APPLICATIONS

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Course Code	**BCA618DI**
Semester	**6th**
CO 1	To learn what is going on in the world of cloud computing and what are the recent trends in computing.
CO 2	To learn various computing paradigms like Grid Computing, Cluster Computing, Distributed Computing, utility computing and cloud computing.
CO 3	To learn about cloud computing, history of cloud computing and identify the attributes that differentiate cloud services from hosted services.
CO 4	To learn about various cloud service providers like Google Cloud Platform, Microsoft Azure, Amazon EC2 etc
CO 5	To learn about Cloud Computing Architecture and its comparison with traditional computing architecture (Client/Server).
CO 6	To learn about working of Cloud Computing and various deployment models like public cloud, private cloud, hybrid cloud, community cloud.
CO 7	To learn how to use services of Google App Engine, Microsoft Azure, Amazon EC2 and Eucalyptus cloud platforms.
CO 8	To learn about Service Level Agreements (SLA's), billing and accounting in cloud computing and to compare the scaling hardware in traditional and cloud platforms.
Course Title	**Computer Graphics**
Course Code	**BCA-16602CC**
Semester	**6th**
CO 1	To understand the basic of computer graphics and to familiarize with elements of computer graphics and its application
CO 2	To understand the basic architecture of paster and random scan display and to know the input and output devices required for graphics.
CO 3	To understand/ learn algorithm for generating lines circles Ellipses and to familiarize with different geometric transformations and viewing transformation.
CO 4	To understand how to represent curves and different surfaces in graphics.
CO 5	To learn algorithm which determine the surfaces and part of surfaces not visible from a certain view point
CO 6	To understand algorithm and to calculate the intensity of light required for various scenes using illumination model and to understand the basic of computer animation.
Course Title	**Project Work**
Course Code	**BCA -1660DE**
Semester	**6th**
CO 1	Learn critical thinking skills and inquiring skills through application-oriented project development in CS & IT in a team-work environment.
CO 2	Learn literature survey skills
CO 3	Refine communications skills and public speaking skills through written and oral presentations.
CO 4	Learn problem solving skills.
CO 5	Learn proposal development skills to initiate an application-oriented project in the areas of CS & IT.

DEPARTMENT OF ECONOMICS
GOVERNMENT DEGREE COLLEGE HANDWARA

Student Learning Outcomes for the Economics Programme

Economics is the study of how people decide to use resources on an individual and a collective basis. It examines the kinds of work people do and how much time they spend doing it. Economics also looks at production, investments, taxation and how people spend and save money. Before you commit yourself to spending time and effort studying economics, it helps to know the advantages of doing so. Economics is the study of how societies, governments, businesses, households, and individuals allocate their scarce resources. Our discipline has two important features. First, we develop conceptual models of behaviour to predict responses to changes in policy and market conditions. Second, we use rigorous statistical analysis to investigate these changes.

The purview of Economics is widespread and it flanks almost every field related to human beings.

- The introduction, development and advancement of new subjects associated with economics and their analytical applications decipher many unknown behaviours of human beings.
- By the introduction of the conditions of rationality in the areas of Consumption, Production and distribution, it tries to nurture rational thinking
- The students of Economics can go for higher studies in the fields of Economics, Business Administration and Education after attaining post-graduation in economics.
- The subject matter of B.A. Economics programme covers the fields of Agriculture, Industry, Banking, Financial Markets, Planning and Development, Public Finance International Trade and the functioning of international organizations such as World Bank International Monetary Fund, International Development Association, etc.
- Since these are the main subject content of State Level and National Level competitive examinations, banking service, railway service examinations and other competitive examinations the students of Economics can easily crack such examinations and can become successful in getting employment opportunities.
- Completion of Graduation in Economics with good knowledge opens up Job opportunities in the different sectors of the Economy.
- The real understanding of the subject content of Economics help in the character building of students and makes them responsible citizens. They are exposed to national and international problems and hence they will have a thorough understanding of national and international economic events.

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S. No.	Course Title	Semester
1.	**Principles of Microeconomics-I**	1st
2.	**Principles of Microeconomics-II**	2nd
3.	**Principles of Macroeconomics-I**	3rd
4.	**Principles of Macroeconomics-II**	4th
5.	**Economic Development and Policy in India-I**	5th
6.	**Economic Development & Policy in India-II**	6th

COURSES OFFERED UNDER CBCS	
Course Title	**Principles of Microeconomics-I**
Course Code	**ECO116**
Semester	**1st**
CO 1	To familiarize the students about different basic concepts of Microeconomics.
CO 2	To learn about the market mechanism and its application in determining consumer and producer surplus.
CO 3	To understand the concept and working of the utility theory in the determination of consumer's equilibrium.
CO 4	To understand the theory of production and the different laws of production.
CO 5	To learn about revenue and costs in short run and long run.
CO 6	To learn about the price and output determination under perfect competition
Course Title	**Economic Development and Policy in India-I**
Course Code	**DSE-ECO-01**
Semester	**5th**
CO 1	To introduce the students to the basic features and overview of Indian Economy.
CO 2	To analyse the trends of capital formation.
CO 3	To analyse the role of technology and institutions in development.
CO 4	Provides an overview of demographic features of India.
CO 5	To understand the concept of demographic dividend and its role in economic development.
CO 6	To analyze the occupational structure in different sectors of India.

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CO 7	To provide a critical evaluation of growth, poverty and inequality of Indian Economy.
CO 8	To understand Monetary and Fiscal policies and Centre-State financial relations in context of India
Course Title	**Economic Development and Policy in India-II**
Course Code	**DSE-ECO-04**
Semester	**6th**
CO 1	To familiarize the students about policies and performance of Indian Agriculture.
CO 2	To learn about land reforms and various regional variations in the agriculture sector.
CO 3	To understand the various industrial policies and their performance with reference to Indian Economy.
CO 4	To learn about small scale industries and about the importance of public sector in Indian Economy.
CO 5	To learn about India's Foreign trade – trends and policies.
CO 6	To learn about the functioning and working of WTO with reference to Indian economy.

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GOVERNMENT DEGREE COLLEGE HANDWARA

Student Learning Outcomes for the Education Programme

- Understand the basic concepts and ideas of educational theory.
- Build understanding and perspective on the nature of the learner, diversity and learning.
- Comprehend the role of the systems of governance and structural – functional provisions that support school education.
- Develop understanding about teaching, pedagogy, school management and community involvement.
- Build skills and abilities of communication, reflection, art, aesthetics, theatre, self-expression and ICT.

S. No.	Course Title	Semester
1.	**Educational Sociology**	1st
2.	**Educational Psychology**	2nd
3.	**Educational philosophy**	3rd
4.	**Educational technology**	4th
5.	**Statistics in Education**	5th
6.	**Issues & trends in contemporary Indian Education**	6th

COURSES OFFERED UNDER CBCS	
Course Title	**Educational Sociology**
Course Code	**EDU116**
Semester	**1st**
CO 1	The purpose of the topic is to develop knowledge about educational sociology.
CO 2	To explore the concept of culture and its relationship with education.
CO 3	To learn the concept of social change.
CO 4	To understand the different factors of social change.
CO 5	To acquaint students about the concept of social process
CO 6	To understand the various social problems.
CO 7	To learn how education overcomes social problems.

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Course Title	**Educational Psychology**
Course Code	**EDU216**
Semester	**2nd**
CO 1	The purpose of the topic is to develop knowledge about educational psychology.
CO 2	To explore the concept of learning and its various theories.
CO 3	To learn the concept of intelligence.
CO 4	To understand how to nourish creativity among students?
CO 5	To acquaint students about the concept of personality.
CO 6	To understand the various problems of adolescence period.
Course Title	**Educational philosophy**
Course Code	**EDU316**
Semester	**3rd**
CO 1	To explore the concept of philosophy.
CO 2	To understand the relationship between education and philosophy.
CO 3	To define pragmatic philosophy.
CO 4	To describe its educational implications.
CO 5	To prod the students to imbibe the educational thoughts of Tagore, Gandhi and Vivekananda.
CO 6	To learn the concept of ECCE.
Course Title	**Early childhood care and Education**
Course Code	**EDU416S**
Semester	**4th**
CO 1	The purpose of the topic is to develop knowledge about Vedic and Buddhist systems of Education
CO 2	To explore the system of education during Muslim period in India.
CO 3	To learn about different education commissions in British India.
CO 4	To understand the salient features of different education commissions
CO 5	To acquaint students about Radha Krishnan commission and Secondary education Commission
CO 6	To study salient features of Kothari commission and NPE-1986.
Course Title	**Statistics in Education**
Course Code	**EDU516**
Semester	**5th**
CO 1	To describe different types of central tendency
CO 2	To compute mean, median and mode.
CO 3	To understand different measures of variability
CO 4	To compute S.D,Q.D and Range.
CO 5	To compute percentile and percentile rank methods
CO 6	To understand the meaning of parametric and non-parametric statistical techniques.
Course Title	**Issues & trends in contemporary Indian Education**
Course Code	**EDU616**
Semester	**6th**
CO 1	To explore the concept of adult education.
CO 2	To acquaint the students with distance mode of learning.
CO 3	To provide knowledge about differently abled children.
CO 4	To know about different categories of exceptional children.

CO 5	To familiarize the students about various concepts of guidance and counselling, its objectives, need, techniques and emerging concepts in the present age
CO 6	To make students learn various statistical techniques

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S. No.	Course Title	Semester
1.	Fundamentals of Geology	1st
2.	Petrology	2nd
3.	Sedimentary and Economic Geology	3rd
4.	Geochemistry and Geophysics	4th
5.	Structural Geology	5th
6.	Palaeontology & Stratigraphy	6th

COURSES OFFERED UNDER CBCS	
Course Title	**Fundamentals of Geology**
Course Code	**GL120C**
Semester	**1st**
CO 1	Introduction to various theories of origin of earth and solar system and role of various science subjects in understanding geology
CO 2	Introduction to mineral and rocks and explains how rocks record of earth's history
CO 3	Students understand the science of crystallography and various laws that govern it.
CO 4	Gives a student knowledge to classify, recognize various types of minerals in hand and under microscope by using physical and optical properties
Course Title	**Petrology**
Course Code	**GL220C**
Semester	**2nd**
CO 1	Enables the student to know the structure and texture of igneous rocks
CO 2	Enables students to classify the igneous rocks and helps them to understand the various processes that are involved in the formation of igneous rocks
CO 3	Makes students understand the process of metamorphism and various types of metamorphism and the agents that bring the metamorphism
CO 4	Makes student understand the geomorphology and its various agents like action of river, glacier, wind etc.
CO 5	Helps students to learn skills and analytical reasoning to identify various types of igneous and metamorphic rocks in hand and under microscope.
Course Title	**Sedimentary and Economic Geology**
Course Code	**GL320C**
Semester	**3rd**

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CO 1	Enables students to learn the processes involved in formation of sedimentary rocks, and their texture and sedimentary structures
CO 2	Enables students to learn Classification of minerals deposits and various processes involved in formation of ore deposits
CO 3	Enables students to understand the Mode of occurrence of various mineral deposits in India and various theories of origin of petroleum
CO 4	Enables students to learn the migration of petroleum and various traps. Also enable students to learn in detail about the origin of coal, its varieties and their distribution in India
Course Title	**Geochemistry and Geophysics**
Course Code	**GL420C**
Semester	**4th**
CO 1	Enables students to learn the fundamentals of Geochemistry and various phenomenon and laws that govern the geochemistry
CO 2	Enables students to know the fundamentals of Geophysics and geophysical methods and their application in geology
CO 3	Enables students to understand occurrence of earthquakes and earthquake waves. Also enables students to learn basic terminology of seismology and some important theories in seismology
CO 4	Enables students to understand occurrence of ground water and various properties of aquifers. Also enables students to know the various geological and geophysical methods for ground water exploration
Course Title	**Structural Geology**
Course Code	**GL520DA**
Semester	**5th**
CO 1	Introduces students to the basic concepts of field Geology and Topographic and geological maps
CO 2	Helps students to learn classification and techniques to identify various structures like folds, unconformities, foliation and lineation
CO 3	Helps students to learn classification and techniques to identify faults and fault boundaries associated with plate tectonic theory.
Co 4	Enables students to understand the phenomenon associated with plate tectonic processes especially origin of Himalayas
Course Title	**Palaeontology & Stratigraphy**
Course Code	**GL620DA**
Semester	**6th**
CO 1	Enables students to learn about the preservation of fossils and evolution of Man, horse and elephant through geological time
CO 2	To understand the Morphology characters, geological, geographical and stratigraphic distribution various classes of invertebrates and microfossils
CO 3	Enables students to understand the microfossils, vertebrate fossils and plant fossils. Also, extinction of organisms especially of dinosaurs
CO 4	Enables students to understand the stratigraphy of India

DEPARTMENT OF KASHMIRI
GOVERNMENT DEGREE COLLEGE HANDWARA

Student Learning Outcomes for the Kashmiri Programme

After the culmination of the Course, the students will be able

- To gain understanding of the significance of Literature in human Knowledge.
- To know the history, development and literary tenets of Kashmiri short story.
- To have understanding of the growth and development of Kashmiri modern poem.
- To write creative prose in Kashmiri.
- To gain understanding of the significance of Kashmiri Gazal.
- To have understanding of the growth and development of Kashmiri modern poem.
- To know the history, development and literary tenets of Kashmiri short story"
- To understand informative literature,
- To know about kashmiri short story,
- To get acquainted with history, tradition, form and experimentation of Kashmiri poetry.
- To get good grasp of the poetic tenants of nazam.
- To know about the basic features of short story in Kashmiri.

S. No.	Course Title	Semester
1.	**Kashmiri Literature I**	1st
2.	**Kashmiri Literature II**	2nd
3.	**Kashmiri Literature III**	3rd
4.	**Non-Fictional Prose & Modern Kashmiri Short Story**	4th
5.	**Structure of Kashmiri Ghazal, Nazam & Short Story**	5th
6.	**Informative & Non-fictional Prose**	6th

COURSES OFFERED UNDER CBCS	
Course Title	**Kashmiri Literature I**
Course Code	**KRL122**
Semester	**1st**
CO 1	Students become able to gain understanding of the significance of Literature in human Knowledge also students know about the different figures of speeches

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CO 2	Students become able to know the history, development and literary tenets of Kashmiri short story. students know about the texture and technicalities of short story
CO 3	Students become able to have understanding of the growth and development of Kashmiri modern poem. Students know the basic things about the poetic genre
CO 4	Students become able to write creative prose in Kashmiri.
Course Title	**Kashmiri Literature II**
Course Code	**KRL222**
Semester	**2nd**
CO 1	Students know about the basic technicalities of gazal. Also gain understanding of the significance of Kashmiri Gazal.
CO 2	After reading students have understanding of the growth and development of Kashmiri modern poem.
CO 3	Students know the history, development and literary tenets of Kashmiri short story
CO 4	Students know the difference between the informative prose and creative prose.
Course Title	**Kashmiri Literature III**
Course Code	**KRL322**
Semester	**3rd**
CO 1	Students become able to write creative prose in Kashmiri
CO 2	Students become able to know about kashmiri short story also students know about the texture and technicalities of short story
CO 3	Students become able to have understanding of the growth and development of Kashmiri modern poem. Students know the basic things about the poetic genre also know about the biography of some kashmiri poets
CO 4	Students know the basic knowledge about the drama and its different types
Course Title	**Non-Fictional Prose & Modern Kashmiri Short Story**
Course Code	**KRL420**
Semester	**4th**
CO 1	Students become able to write informative prose in Kashmiri
CO 2	Students become able to know about kashmiri short story also students know about the texture and technicalities of short story
CO 3	Students become able to have understanding of the growth and development of Kashmiri modern poem. Students know the basic things about the poetic genre also know about the biography of some kashmiri poets
CO 4	Students know about this literary genre its history and know how it is different from other genres
Course Title	**Nasar te Nazam**
Course Code	**KRL52**
Semester	**5th**
CO 1	Students know about the classical poetry (Vaakh & Shurkh) of Lal Ded and sheikh Ul Aalam
CO 2	Students know about the Sufi poetry and the poets of Kashmir
CO 3	Students know about the art of translation
CO 4	Students know about the Kashmir through the literature written about it.

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Course Title	Nasr te Nazm II
Course Code	KRL620
Semester	6th
CO 1	Students know the difference between the informative prose and creative prose
CO 2	Students know about the contemporary poetry in Kashmir language
CO 3	Students know about the modern short story also know about the differences between the traditional short story and the modern short stories
CO 4	Students know about the phonetics in general and in kashmiri language particular

DEPARTMENT OF PHYSICS
GOVERNMENT DEGREE COLLEGE HANDWARA

Student Learning Outcomes for the Physics Programme

After completion of the graduation in Physics in three years, students would gain an in-depth knowledge of the fundamentals of various branches of Physics. The main objectives of the programme are:

- To recognize and apply the principles of Physics for understanding various phenomena occurring in nature.
- To employ critical thinking and scientific inquiry in the performance, design, interpretation and documentation of laboratory experiments, at a level suitable to succeed at an entry-level position in industry.
- To develop of methods for the handling of electric & electronic appliances and use of modern instrumentation.
- To interpret and analyze quantitative data.
- To understand theoretical concepts of instruments those are commonly used in most of the industries & research institutions.
- To prepare for the employment or advanced studies in Physics or any of the allied fields.

S. No.	Course Title	Semester
1.	Mechanics	1st
2.	Electricity And Magnetism	2nd
3.	Thermal Physics and Statistical Mechanics	3rd
4.	Waves And Optics	4th
5.	Modern Physics –I	5th
6.	Modern Physics –Ii	6th

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COURSES OFFERED UNDER CBCS	
Course Title	**MECHANICS**
Course Code	**PHY1U16**
Semester	**1st**
CO 1	Understand the definition, concepts and ideas of application of vector algebra, Laws of motion, and dynamics of the system of particles.
CO 2	Understand the conservation laws, and special theory of relativity.
CO 3	Study the Kepler's Laws to understand the dynamics of the satellite systems, GPS etc.
CO 4	Study the dynamics and gravitation
CO 5	Study the behavior of rigid body dynamics.
Course Title	**ELECTRICITY AND MAGNETISM**
Course Code	**PHY2U16**
Semester	**2nd**
CO 1	Know the concepts of physics as it applies to electric charges, Gauss law, electric potential, capacitance and dielectrics, magnetic fields, sources of magnetic fields, Faradays law and Electromagnetic waves
CO 2	Study and Analyze the Gause-divergence, Stokes, and Gauss theorem of electrostatics.
CO 3	Understand the applications of Gauss Theorem
CO 4	Study and understand the electric, dielectric, and magnetic effects and their properties in materials
CO 5	Understand the Faradays Laws of electromagnetic induction
CO 6	Analyze and understand the electromagnetic theory and the role of Maxwell's equations
CO 7	Study the electromagnetic wave propagation and the role of Maxwell's equations
CO 8	Study the electromagnetic wave propagation through different media
Course Title	**THERMAL PHYSICS AND STATISTICAL MECHANICS**
Course Code	**PHY-316**
Semester	**3rd**
CO 1	Study of laws of thermodynamic and their applications
CO 2	Study of work done during isothermal, adiabatic process
CO 3	Understand the Carnot's cycle and entropy
CO 4	Study the phenomena of kinetic theory of gases and Maxwell's law of distribution of velocities.
CO 5	Understanding the theory of radiation
CO 6	Study of statistical mechanics, quantum statistics
Course Title	**WAVES AND OPTICS**
Course Code	**PHY4U16:DSC4**
Semester	**4th**
CO 1	Understanding the superposition of two harmonic oscillations
CO 2	Study the theory and experiments of interference using both division of wave-front and division of amplitude
CO 3	Study and understand the diffraction of single and double and multiple slit experiments, Fresnel diffraction, zone periods etc.

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CO 4	Understand the polarization and nature of light waves
CO 5	Understand the theory and application of sound and fluids
Course Title	**MODERN PHYSICS –I**
Course Code	**PHY516D**
Semester	**5th**
CO 1	Develop the concepts of modern physics, basic knowledge of elementary quantum mechanics, nuclear physics, and particle physics
CO 2	Develop the ideas needed to solve the quantum mechanics problems include Plank's radiation law, photoelectric effect, Compton effect, pair production, uncertainty relation for p and x etc
CO 3	Be able to solve and understand the Schrodinger equations, Operators, quantum numbers etc
CO 4	Acquire knowledge in the content areas such as Pauli's exclusion principle, wave functions, coupling, angular momentum and quantization of rotational energies
CO 5	Develop the familiarity with the vast areas of nuclear physics and develop an interest in the concerned subject.
Course Title	**MODERN PHYSICS –II**
Course Code	**PHY-616**
Semester	**6th**
CO 1	Understand the basic concepts and mathematical methods of solid state physics
CO 2	Explore important connections between theory, experiment and current applications
CO 3	Develop a basis for future learning and work experience from the subject
CO 4	Develop an understanding about the function and applications of different electronic devices from the study of semiconductor physics

DEPARTMENT OF POLITICAL SCIENCE
GOVERNMENT DEGREE COLLEGE HANDWARA

Student Learning Outcomes for the Political Science Programme

- The course covers diverse aspects of subjects ranging from political theory to Jammu and Kashmir polity. The main aim in this is to train students in analysis, interpretation and description of political processes.
- The course also aims to help students in preparing for competitive exams like civil services since subject forms the major portion of the general awareness aspect of various exams.
- By reflecting on multi-dimensional aspects of the political events, it helps students in building bridges across communities, participate in awareness Programmes like rights and duties.

S. No.	Course Title	Semester
1.	**Introduction to Political Theory**	1st
2.	**Indian Government and Politics**	2nd
3.	**Comparative Government and Politics**	3rd
4.	**Public Survey and Opinion**	4th
5.	**Western Political Thought**	5th
6.	**Conflict Resolution and Peace Building**	6th

COURSES OFFERED UNDER CBCS	
Course Title	**Introduction to Political Theory**
Course Code	**PS-CR-1**
Semester	**1st**
CO 1	To make students aware about theoretical & practical politics.
CO 2	To understand political realities & importance of political theory in establishing an ideal life.
CO 3	The central idea of this unit is the perfection of democracy as universal model for mankind.
CO 4	To understand compatibility or incompatibility of certain concepts like reservations, censorship etc. vis-à-vis other concepts.
Course Title	**Indian Government and Politics**
Course Code	**PS-CR-2**
Semester	**2nd**
CO 1	To make the students aware about the recent approaches and ways of interpreting the politics of India.

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CO 2	To make students aware about the different provisions of constitution regarding rights, duties etc.
CO 3	To make students understand the history of different institutions existing in India
CO 4	To analyze the new social movements and their origin, development and people's participation in them.
CO 5	To make students aware about different models of development adopted by India and also highlight the regional economic imbalances.
Course Title	**Comparative Government and Politics**
Course Code	**PS-CR-3**
Semester	**3rd**
CO 1	To make students aware about the levels of government and the representatives at different levels.
CO 2	To understand the legal procedure in India and to know the role of different committees in legal procedure.
CO 3	To learn about the role of different committees and their powers in democratic system.
CO 4	To learn about how media works as watchdog and fourth pillar of democratic set up.
Course Title	**Public Survey and Opinion**
Course Code	**PS-SEC – 2**
Semester	**4th**
CO 1	To learn about the conceptions and features of Public Opinion.
CO 2	To learn how to conduct surveys through different sampling methods.
CO 3	To learn about different techniques of survey research like interviewing and questionnaire.
CO 4	To understand about quantitative data analyses and inferential statistics.
CO 5	To learn about prediction in polling and interpreting of polling.
Course Title	**Western Political Thought**
Course Code	**PS – DSE -1**
Semester	**5th**
CO 1	To learn about the concept of western political thought and its origin in Greek society and major themes.
CO 2	To understand the concept of citizenship in Greece and particularly the view of Aristotle on citizenship.
CO 3	To understand about the theory of Natural Rights advocated the John Locke and the emphasize one rights like Life, Liberty & Property
CO 4	To understand about the concept of equality, inequality and its origin advocated by Rousseau.
CO 5	To understand Hobbesian views on state, origin of sovereignty and powers of sovereign in the state.
Course Title	**Conflict Resolution and Peace Building**
Course Code	**PS – SEC - 4**
Semester	**6th**
CO 1	To make students aware about the concept of conflict and related terms and mechanism like conflict resolution, conflict management etc.
CO 2	To acquaint students about the dimensions of the conflict, role of ideologies, different sources of conflict

CO 3	To apprise students about the sites of conflict at local, sub national and international levels as well as their implications.
CO 4	To make students aware the different mechanism of peaceful settlement of disputes and different methods and techniques in the process.

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Student Learning Outcomes for the Sociology Programme

The general course outcomes of BA Sociology are designed to equip students with a strong foundation in sociology, critical thinking skills, research proficiency, and the ability to apply sociological knowledge in diverse settings. The specific objectives of the undergraduate course in sociology offered by University of Kashmir and taught in our college are described below.

S. No.	Course Title	Semester
1.	**Introduction to Sociology**	1st
2.	**Sociological Thought**	2nd
3.	**Indian Society: Structure & Change**	3rd
4.	**Methodology of Social Research**	4th
5.	**Family, Marriage and Kinship**	5th
6.	**Social Stratification**	6th

COURSES OFFERED UNDER CBCS	
Course Title	**Introduction to Sociology**
Course Code	**SOC120C**
Semester	**1st**
CO 1	Acquaint the students with the evolution of the subject.
CO 2	Develop among the learners fundamental clarity about the subject.
CO 3	Unravel the fundamental concerns of the discipline.
Course Title	**Sociological Thought**
Course Code	**SOC220C**
Semester	**2nd**
CO 1	To acquaint the learners with the classical social thinkers/ founding fathers of sociology.
CO 2	To lay bare the contributions of the classical sociologists.
CO 3	To develop among the learners a solid theoretical foundation
Course Title	**Indian Society: Structure & Change**
Course Code	**SOC320C**
Semester	**3rd**
CO 1	To facilitate a deeper understanding of the Indian social structure among learners.

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CO 2	To familiarize the learners with the tradition of change in continuity in India.
CO 3	To provide the necessary knowledge to the learners about the various contemporary issues and challenges faced by the Indian Society.
Course Title	**Methodology of Social Research**
Course Code	**SOC420C**
Semester	**4th**
CO 1	To enable the students to develop fundamental familiarity with the research.
CO 2	To familiarize them with the various tools and techniques of research.
CO 3	To enable the students to understand the essence of the research.
Course Title	**Family, Marriage and Kinship**
Course Code	**SOC520C**
Semester	**5th**
CO 1	To conceptualize the basic institutions of marriage, family and kinship.
CO 2	To understand the relevance of these institutions in society.
CO 3	To understand the underlying dynamics (structural/functional changes) of these institutions in society.
Course Title	**Social Stratification**
Course Code	**SOC620C**
Semester	**6th**
CO 1	Understand the fundamental aspects of social stratification and social mobility.
CO 2	Understand the determinants of social stratification and social mobility in India.
CO 3	Understand the impact of the social stratification and social mobility on the overall functioning of the society.

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Student Learning Outcomes for the Urdu Programme

After the culmination of the Course, the students will be able

- Students will be able to Write sentences, essay, poetry, prose & all other rhetoric & creative writing on.
- Know about Urdu essayists, novelists, dramatists, poets and their poetry.
- Gain knowledge of Urdu poems & enjoy famous Urdu Patriotic poems.
- Get knowledge about History of Urdu Literature, its meanings and importance of the major Urdu Dialects.
- They will be able to write and speak Urdu fluently and consciously & be able to develop their pronunciation.
- Acquainted with the grammatical properties, ability will be increased, develop their language skills through the listening and reading.
- The students will be able to translate the literature from other language in Urdu & understand the text of international languages.

S. No.	Course Title	Semester
1.	**Urdu ghazal aur nazm**	1st
2.	**Classical Urdu Literature**	2nd
3.	**Urdu ki Nasri asnaf**	3rd
4.	**Urdu ki gair Nasri Asnaf**	4th
5.	**Literary History and Criticism**	5th
6.	**Special study of Iqbal**	6th

COURSES OFFERED UNDER CBCS	
Course Title	**Urdu ghazal aur nazm**
Course Code	**URL120**
Semester	**1st**
CO 1	Students become able to gain understanding of the significance of poetry.
CO 2	Students become able to know the history, development and characteristics of different ghazals of famous poets.
CO 3	Students become able to gain understanding of the significance of poetry especially nazm.

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CO 4	Students become able to know the history, development and characteristics of different ghazals of famous poets.
Course Title	**Classical Urdu Literature**
Course Code	**URL220**
Semester	**2nd**
CO 1	Students become able to understand definition, fun and development of masnavi.
CO 2	Students become able to understand definition, fun and development of marsiya.
CO 3	Students become able to understand definition, fun and development of Qaseeda.
CO 4	Students become able to understand definition, fun and development of Rubai.
Course Title	**Urdu ki Nasri asnaf**
Course Code	**URL320**
Semester	**3rd**
CO 1	Students become able to know about prose especially introduction of dastan, origin and development of dastan.
CO 2	Students become able to know about prose especially introduction of Novel, origin and development of Novel.
CO 3	Students become able to know about prose especially introduction of afsana, origin and development of afsana.
CO 4	Students become able to know about prose especially introduction of drama, origin and development of drama.
Course Title	**Urdu ki gair Nasri Asnaf**
Course Code	**URL420**
Semester	**4th**
CO 1	Students become able to know about prose especially introduction of mazmoon types, origin and development of mazmoon.
CO 2	Students become able to know about prose especially introduction of Inshaiya types, origin and development of Inshaiya.
CO 3	Students become able to know about prose especially introduction of khaka types, origin and development of khaka.
CO 4	Students become able to know about prose especially introduction of tanz o mizah types, origin and development of Students become able to know about prose especially tanz o mizah.
Course Title	**Literary History and Criticism**
Course Code	**LHCD520**
Semester	**5th**
CO 1	After reading Students become able to know about adbi khidmat of fort William college and Aligarh tehreek.
CO 2	After reading Students become able to know about the impact of taraqi pasand tehreek on urdu zaban o adab,and will also able to know about Aligarh tehreek.
CO 3	Students will able to know the concept of adbi tanqeed .
CO 4	Students will be able to know about the literary criticism of hali and shibli.
Course Title	**Special study of Iqbal**
Course Code	**AIKD620**
Semester	**6th**

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CO 1	Students know about the life of iqbal and will also able to know about his poetry.
CO 2	Students will be able to gain knowledge about the characteristics of iqbals ghazal and nazm nigari.
CO 3	Students will able to understand the concepts of tasawar e khudi and tasaware marde momin.
CO 4	Students will be able to understand the poems of iqbal,his thoughts and ideas.

DEPARTMENT OF ZOOLOGY
GOVERNMENT DEGREE COLLEGE HANDWARA

Student Learning Outcomes for the Zoology Programme

- Learn basic taxonomy skills and demonstrate identification and classification of non-chordates and Chordates
- To understand the structure of different organ systems in Invertebrates/vertebrates and shall become a subject expert in animal anatomy
- To explain how organisms' function at the level of the gene, genome, cell, tissue, organ and organ system
- To understand the working of different organ systems and their defects / disorders
- Students will be able to apply their knowledge of cell organelles and their function in controlling various cellular mechanisms
- Able to distinguish normal and abnormal activities of cells
- To gain knowledge and skill in the fundamentals of animal sciences, understands the complex interactions among various living organisms
- Understand the economic importance of animals
- Becomes aware about the parasitic diseases & the consequences thereof; understand their mode of transmission, pathogenicity and control and management.
- Understand the defense mechanism against pathogens and will utilize the knowledge for human welfare; gain knowledge on undesirable immunological reactions and their complications in health management
- Understands the environmental conservation process and its importance, pollution control and biodiversity and protection of endangered species

S. No.	Course Title	Semester
1.	Animal Diversity	1st
2.	Comparative Anatomy and Developmental Biology of Vertebrates	2nd
3.	Physiology And Biochemistry	3rd
4.	Genetics And Evolutionary Biology	4th
5.	Animal biotechnology	5th
6.	Immunology	6th

DEPARTMENT OF ZOOLOGY

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COURSES OFFERED UNDER CBCS	
Course Title	**Animal Diversity**
Course Code	**ZO116**
Semester	**1st**
CO 1	To know the general characters and classification of phylum Protista, Porifera, Cnidaria and Helminthes.
CO 2	To understand the concept of canal system in Porifera and parasitic adaptation in Helminthes.
CO 3	To know the general characters and classification of phylum Annelida, Arthropoda, Mollusca and Echinodermata.
CO 4	To understand the concept of filter feeding in Polychaetes, metamorphosis in insects and water vascular system of star fish.
CO 5	To know the general characters and classification of Urochordata, Cephalochordata and fishes.
CO 6	To understand the concept of osmoregulation
CO 7	To know the general characters and classification of Amphibia, Reptelia, Birds and Mammals.
CO 8	To understand the concept of Parental care in amphibian, flight adaptations in birds and adaptive radiation in mammals.
Course Title	**Comparative Anatomy and Developmental Biology of Vertebrates**
Course Code	**ZO216**
Semester	**2nd**
CO 1	To learn about integumentary system and its derivatives.
CO 2	To understand the comparative account of visceral arches, alimentary canal and respiratory organs in different groups
CO 3	To have comparative knowledge of heart, kidney and brain in different groups in animals.
CO 4	To understand the different types of receptors
CO 5	To learn the process of gametogenesis and fertilization.
CO 6	To understand the process of cleavage, blastulation and gastrulation
CO 7	To have knowledge about extra embryonic membranes.
CO 8	To understand different types of Placentae
CO 9	To understand differentiation, intra cellular communication and cell death during embryonic development
Course Title	**Physiology And Biochemistry**
Course Code	**ZO316**
Semester	**3rd**
CO 1	To learn the physiology of digestion, respiration and excretion.
CO 2	To understand the different types of respiratory pigments.
CO 3	To know the concept of cardiac impulse.
CO 4	To understand the concept of action potential and its propagation in nerve fibres.
CO 5	To understand the mechanism of muscle contraction.
CO 6	To understand the physiology of vision and hearing.
CO 7	To understand how hormones control the gametogenesis and reproductive cycles in mammals.
CO 8	To know the hormones of different endocrine glands of humans.

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CO 9	To understand various pathways of carbohydrate, lipid and protein metabolisms.
CO 10	To understand the mechanism of enzyme action, enzyme kinetics and enzyme regulation.
Course Title	**Genetics And Evolutionary Biology**
Course Code	**Z0416**
Semester	**4th**
CO 1	To understand various concepts of classical genetics.
CO 2	To learn how DNA is packed in the nucleus of Prokaryotic and eukaryotic cells.
CO 3	To learn the structural and numerical changes in chromosomes with examples
CO 4	To know the mechanism of DNA replication, transcription and translation.
CO 5	To understand the concept of dosage compensation.
CO 6	To understand various theories of evolution.
CO 7	To learn the concept of natural selection and how this helps in the evolution of new species.
CO 8	To learn the different concepts of species and the process of speciation.
CO 9	To understand the concept of Macro-evolution, role of mass extinction in evolution and the major extinctions that have took place in geological time scale
Course Title	**Animal biotechnology**
Course Code	**ZO516**
Semester	**5th**
CO 1	To develop fundamental knowledge in animal biotechnology
CO 2	To learn about the animal biotechnology applications in lab and industry settings.
Course Title	**Immunology**
Course Code	**ZO616**
Semester	**6th**
CO 1	To understand key components of the innate and adaptive immune response.

PROGRAMME OUTCOMES & COURSE OUTCOMES

NEP

DEPARTMENT OF ANTHROPOLOGY
GOVERNMENT DEGREE COLLEGE
HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

COURSES OFFERED UNDER NEP	
Course Title	INTRODUCTION TO ANTHROPOLOGY
Course Code	ANT122J
Semester	1st
CO 1	To acquaint the students with the basic concepts of anthropology and its relationship with other sciences
CO 2	To equip the students with the theoretical concepts
CO 3	To acquaint the students to anthropometric techniques
Course Title	BIOLOGICAL ANTHROPOLOGY
Course Code	ANT222J
Semester	2nd
CO 1	To enable the students to learn about Fossil Hominids: Australopithecus, Habitat Ecology and Distribution of Homo Neanderthalensis
CO 2	To enable students to learn about various characteristics features and classification of Primates
CO 3	To enable the students to learn about the various stages of Human Growth, Population Genetics and Human Racial Classification
Course Title	SOCIAL ANTHROPOLOGY
Course Code	ANT322J
Semester	3rd
CO 1	The students will be able to understand the various sociological approaches and perspectives regarding the institution of marriage, family, kinship and religion. They will also be abreast with the various recent debates pertaining to social institutions.
Course Title	ANTHROPOLOGY: TRIBES IN INDIA
Course Code	ANT422J1
Semester	4th
CO 1	To equip the students with the basic concept of Tribal Anthropology and tribal geography.
CO 2	To acquaint the students with socio-religious, political and economic organization of tribes.
CO 3	To acquaint student with tribal social structure by way of carrying out field study on any one local tribes.
Course Title	ANTHROPOLOGY: ARCHAEOLOGICAL ANTHROPOLOGY
Course Code	ANT422J2
Semester	4th
CO 1	To acquaint about Geological Time Scale with greater emphasis on Cenozoic era
CO 2	To acquaint about Palaeolithic and Neolithic cultures.
CO 3	To enable the students to understand the tools and techniques of prehistoric cultures by first-hand experience of local archaeological sites
Course Title	ANTHROPOLOGY: HUMAN GROWTH AND DEVELOPMENT
Course Code	ANT422J3
Semester	4th
CO 1	To enable the students to learn about physical growth and development.
CO 2	To enable student to learn about various factors which are affecting human growth
CO 3	To enable student to learn about how to measure and study various parts of the human body and body composition.

DEPARTMENT OF ARABIC
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

After Completion of BA in Arabic programme, student will have learned the fundamental facts and concepts of Arabic language and literature. He/she will have developed communicative skills and can exchange ideas through oral and written mode. He/she will have enabled to appreciate literary prose and poetry. He should be able to apply analytical skills and critical thinking in the perusal of literary texts. This programme equips students to continue their studies in a postgraduate programme in language, literary, cultural and comparative studies. Last but not least language basically pertains to Listening, Speaking, Reading and Writing Skills. Student should demonstrate an appropriate level of skills in the second language. Translation of basic language structures from Arabic to English and Vice Versa is also given due place in this programme.

COURSES OFFERED UNDER NEP	
Course Title	ARABIC LITERATURE - ARABIC LANGUAGE & LITERATURE - I
Course Code	ARL122J
Semester	1st
CO 1	Read and understand the Arabic text.
CO 2	Improve the communicative skills in Arabic
Course Title	ARABIC LANGUAGE AND LITERATURE-II
Course Code	ARL222J
Semester	2nd
CO 1	Gain acquaintance with Arabic language
Course Title	PROFICIENCY IN ARABIC
Course Code	ARL322J
Semester	3rd
CO 1	Read and understand the advanced Arabic text.
CO 2	Improve the communicative skills in Arabic
CO 3	Improve the accuracy, fluency and communication skills
Course Title	ARABIC TEXT & APPLIED GRAMMAR
Course Code	ARL422J1
Semester	4th
CO 1	Learn practical and applied grammar
CO 2	Translate the text from Arabic into English and vice-versa.
CO 3	Gain efficiency in Arabic morphology and Syntax.
Course Title	INTRODUCTION TO CONTEMPORARY ARAB WORLD
Course Code	ARL422J2
Semester	4th
CO 1	Gain acquaintance with Arabic language, Arab world and its culture.
CO 2	Understand Arab economy and its influence on the world trade.
CO 3	Acquire the knowledge of important organizations of the Arab world.
Course Title	BRIEF HISTORY OF ARABIC LITERATURE (CLASSICAL TO MODERN PERIOD)
Course Code	ARL422J3
Semester	4th

DEPARTMENT OF ARABIC

GOVERNMENT DEGREE COLLEGE HANDWARA

PROGRAMME OUTCOMES / COURSE OUTCOMES

CO 1	Gain knowledge of Arabic prose and poetry during Pre-Islamic and Islamic period.
CO 2	Understand development of Arabic literature during Abbasid period.
CO 3	Learn about the history, origin and development of the Arabic Short story, Arabic Novel and Arabic Drama in the modern period.

DEPARTMENT OF BIOCHEMISTRY
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

- Demonstrate an understanding of basic biochemical principles, such as the structure and/or function of biomolecules, metabolic pathways, and the regulation of biological/biochemical processes.
- Gain proficiency in basic laboratory techniques in both chemistry and biology, and be able to apply the scientific method to the processes of experimentation and hypothesis testing.
- Apply and effectively communicate scientific reasoning and data analysis in both written and oral forums.
- Understand and practice the ethics surrounding scientific research.
- Establish a diagnostic laboratory

COURSES OFFERED UNDER NEP	
Course Title	BIOCHEMISTRY
Course Code	BCH122J
Semester	1st
CO 1	To provide students with an understanding of biomolecules, the basic building blocks of living organisms, mainly focusing on their structural, biological roles and/or functions.
CO 2	The course will emphasise on structure and function of various biomolecules at molecular and cellular level. Further, the course will give students an opportunity to learn basic laboratory techniques.
Course Title	CELL BIOLOGY AND MICROBIOLOGY
Course Code	BCH222J
Semester	2nd
CO 1	Able to differentiate various cell types including prokaryotic and eukaryotic cells.
CO 2	Proficient in differentiating animal vs plant cells
CO 3	Well versed about the various cellular organelles and their function.
CO 4	Able to comprehend about cell-to-cell communication.
CO 5	Able to comprehend the drug sensitivity of gram-positive vs gram negative bacteria.
Course Title	ENZYMOLOGY
Course Code	BCH322J
Semester	3rd
CO 1	The students will be able to describe the structure, regulation, functions and the mechanism of action of enzymes.
Course Title	BASICS OF METABOLISM AND BIOENERGETICS
Course Code	BCH422J1
Semester	4th
CO 1	This course aims to introduce the students to basics of metabolism and bioenergetics with an expectation to learn how the principles of bioenergetics and thermodynamics hold good in biological systems also and how are these central in understanding metabolism.

DEPARTMENT OF BIOCHEMISTRY
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

Course Title	**IMMUNOLOGY**
Course Code	**BCH422J2**
Semester	**4th**
CO 1	Trace the components of immune system and development of an immune response.
CO 2	Describe immunological barriers and their protective functions
CO 3	Explain the structure, properties and functions of antibodies.
CO 4	Compare and contrast primary and secondary immune response.
CO 5	Explain the importance of phagocytosis and natural killer cells in innate body defence.
CO 6	Describe the roles of different types of T cells, B cells and APCs
CO 7	Compare and contrast the origin, maturation process, and general function of B and T lymphocytes
CO 8	Describe the mechanisms of hypersensitivity reactions
CO 9	List the Immunodeficiency diseases and understand transplantation.
CO 10	Production of Monoclonal antibodies
CO 11	Understand the vaccines, their development and their importance.
Course Title	**TOOLS AND TECHNIQUES IN BIOCHEMISTRY**
Course Code	**BCH422J3**
Semester	**4th**
CO 1	This course aims to equip students with appropriate laboratory tools and practices. It also helps in utilizing the theoretical, technical and analytical skills to tackle issues and problems in the field of biochemistry. It provides students with some work experience, for example a summer internship or a research project in a research laboratory to further boost the career prospects.

DEPARTMENT OF BOTANY
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAM OUTCOMES / COURSE OUTCOMES

INTRODUCTION: The four-year undergraduate program in Botany offers an exciting and mesmerizing journey into the realm of plant life-from the tiniest cells to vast ecosystems. The program aims to provide the students a blend of rigorous coursework, hands-on laboratory experiences and immersive field studies, so as to produce knowledgeable, skilled and responsible individuals who are equipped to understand, explore and contribute to the fascinating world of plants-their conservation and sustainable use for the betterment of society and environment.

COURSES OFFERED UNDER NEP	
Course Title	BOTANY-1: BIODIVERSITY (MICROBES, ALGAE, FUNGI AND ARCHEGONIATE)
Course Code	BOT122J
Semester	1st
CO 1	The student should be able to understand the economic importance and diversity of viruses, bacteria, fungi, algae, bryophytes, pteridophytes and gymnosperms
CO 2	To acquaint students about the classification, structure, morphology and reproduction of viruses, bacteria, fungi, algae, bryophytes, pteridophytes and gymnosperms.
Course Title	BOTANY – 2: ANATOMY OF ANGIOSPERMS
Course Code	BOT222J
Semester	2nd
CO 1	To aware the students about the fundamental concept of plant anatomy
CO 2	To make them understand the structure of different organs of plant, secondary growth and structure of wood in plants
Course Title	BOTANY: MORPHOLOGY OF ANGIOSPERMS
Course Code	BOT322J
Semester	3rd
CO 1	To impart knowledge to the students about morphology of angiosperms
CO 2	To acquaint them about the importance of morphology in understanding Botany.
Course Title	BOTANY: PLANT TAXONOMY
Course Code	BOT422J1
Semester	4th
CO 1	To give students understanding about the concept, components and scope of plant taxonomy, classification and identification of plants, importance of herbaria and botanical gardens
CO 2	To learn about principles and rules of nomenclature
Course Title	BOTANY: PLANT PHYSIOLOGY
Course Code	BOT422J2
Semester	4th

DEPARTMENT OF BOTANY
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAM OUTCOMES / COURSE OUTCOMES

CO 1	To give students understanding about the concept and mechanism of various physiological processes viz water and nutrient uptake, transport, photosynthesis, respiration and plant hormones
Course Title	**BOTANY: PLANT BIOCHEMISTRY**
Course Code	**BOT422J3**
Semester	**4th**
CO 1	To give students understanding about the structure, properties, functions and synthesis of important biomolecules involved in various biochemical pathways, enzymes and their biological roles.

DEPARTMENT OF BUSINESS ADMINISTRATION
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

COURSES OFFERED UNDER NEP	
Course Title	PRINCIPLES OF MANAGEMENT
Course Code	POM122J
Semester	1st
CO 1	To acquaint the students with the basic principles of management and how the same can be applied to improve the efficiency and effectiveness of an organization in the present dynamic business environment.
Course Title	BUSINESS ECONOMICS
Course Code	POM222J
Semester	2nd
CO 1	To acquaint the students with economic concepts and techniques and enable them to apply this knowledge in business decision making.
Course Title	MARKETING MANAGEMENT
Course Code	POM322J
Semester	3rd
CO 1	This course shall familiarize students with the marketing function in Organizations. It will equip the students with understanding of the Marketing Mix elements and sensitize them to certain emerging issues in Marketing. The course will use and focus on Indian experiences, approaches and cases
Course Title	BUSINESS ENVIRONMENT
Course Code	POM422J1
Semester	4th
CO 1	Identify the Micro and Macro dimensions affecting the business.
CO 2	Relate business environment with day-to-day business activities.
CO 3	Explain the impact of fiscal policy and monetary policy on business
CO 4	Evaluate the impact of environmental factors on business decision making.
Course Title	PRODUCTION AND OPERATIONS MANAGEMENT
Course Code	POM422J2
Semester	4th
CO 1	Apply the concepts, theories, and principles in production and operations management to analyse and evaluate real-world operational scenarios and propose appropriate solutions.
CO 2	Design facility layouts that minimize material handling costs, reduce bottlenecks and enhance productivity.
CO 3	Demonstrate an understanding of the principles and techniques of production planning and control develop production plans that align with demand, optimize resource utilization, and ensure timely product delivery.
CO 4	Analyse inventory systems and determine appropriate inventory control methods to optimize inventory levels and costs.
Course Title	MANAGEMENT ACCOUNTING
Course Code	POM422J3
Semester	4th
CO 1	Demonstrate an understanding of the accounting knowledge required for the managerial decision making.
CO 2	Analyse the financial statements of companies for effective financial performance management.
CO 3	Use the highly relevant skills developed in the areas of budgeting for better control of business organizations

DEPARTMENT OF CHEMISTRY
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

INTRODUCTION: The undergraduate course in Chemistry provides a foundation for understanding the fundamental concepts in chemistry and their practical applications in various fields like medicine, material science and industry.

COURSES OFFERED UNDER NEP	
Course Title	CHEMISTRY-I
Course Code	CHM122J
Semester	1st
CO 1	Understand the nature and strength of forces between chemical constituents, different theories of chemical bonding and acid base concepts
CO 2	Recognize the key reactive intermediates in organic chemistry and understand different aspects of stereochemistry.
CO 3	Understand the structural and behavioural aspects of states of matter.
Course Title	CHEMISTRY-II
Course Code	CHM222J
Semester	2nd
CO 1	The student should be able to comprehend various aspects of p-block elements.
CO 2	Understand basic concepts of organic reaction mechanisms.
CO 3	Describe principles of thermodynamics and their application to real systems
Course Title	FUNDAMENTALS OF CHEMISTRY AND CHEMICAL ANALYSIS-III
Course Code	CHM322J
Semester	3rd
CO 1	Appreciate and contrast chemistry of transition elements.
CO 2	Understanding of electronic, magnetic, spectral and bonding properties of their complexes
CO 3	Applications of transition elements
CO 4	Learn the chemistry of oxygen bearing compounds
CO 5	Evaluate fundamentals of conduction and electrochemical cells
CO 6	Understand the kinetics of chemical processes.
Course Title	CONCEPTS IN ANALYTICAL CHEMISTRY
Course Code	CHM422J1
Semester	4th
CO 1	Analytical chemistry and its significance and scope
CO 2	About significant figures and errors, essential for reporting data/results in scientifically correct way
CO 3	Different types of separation methods and their scope and limitations.
CO 4	Theory of gravimetry and titrimetry, which are important component of their laboratory courses
CO 5	Different methods of chromatography, its working and scope.
Course Title	INORGANIC CHEMISTRY
Course Code	CHM422J2
Semester	4th
CO 1	Provide basic understanding of coordination compounds, their bonding and applications.

DEPARTMENT OF CHEMISTRY
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

CO 2	Importance of metal ions in biology and knowledge of various enzymes and their activities
CO 3	Understand the structure and importance of metalloproteins, synthetic oxygen carrier model compounds
CO 4	Understand balancing of redox reactions, trends in standard potentials, redox indicators, nuclear forces and application of radioisotopes
CO 5	Understanding of electronic, magnetic, and spectral properties of inner transition elements and applications of these elements
Course Title	**STEREOCHEMSTRY AND REACTION MECHANISM**
Course Code	**CHM422J3**
Semester	**4th**
CO 1	Students will be expected to gain knowledge about basic concept of symmetry and chirality in the molecules, their spatial arrangement, properties and reactivity of stereoisomers, importance of the configuration of chiral organic compounds
CO 2	The students will also gain knowledge about reaction mechanism and stereochemistry involved in formation of products.
CO 3	The broad spectrum of pericyclic reactions involved in organic synthesis, mechanism and applications

DEPARTMENT OF COMMERCE
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

The Department of Commerce, Govt. Degree College Handwara is committed to create, develop the successful entrepreneurs which can drive economic growth and prosperity. Further, to develop professionals for the industries especially banking sector, insurance companies and financial companies. The unique blend of theory and practical concepts of Commerce are taught to inspire and guide students to become innovative leaders and responsible citizens by developing conceptual, technical and human skills who can contribute to the success of organizations.

Students who have taken admission to this program of B. Com are expected to develop and concentrate on the following:

a. Commercial sense.

b. Managerial and Accountant professionalism.

c. Entrepreneurial Skill.

d. Human Resources Skills.

e. Develop Numerical ability.

f. Strategic Planning, Marketing Strategies.

g. Organizational Behavior.

h. Well Versed with business regulatory frame work.

COURSES OFFERED UNDER NEP	
Course Title	FUNDAMENTALS OF ACCOUNTING
Course Code	ATT122J
Semester	1st
CO 1	To enable the learners to have full understanding of basic Accounting Concepts and Conventions, and make them understand different Subsidiary Books, posting of Journal to Ledger, preparation of Trial Balance and rectification of errors.
CO 2	To make the student understand how the Bank Reconciliation Statement is prepared and how accounting for Depreciation and Valuation of Inventory is done.
CO 3	To enable the students, acquire the knowledge of Computerized Accounting like Tally and generating reports of Ledger, Trial Balance and Financial statements.
Course Title	INDIAN FINANCIAL SYSTEM
Course Code	FIN122N

DEPARTMENT OF COMMERCE
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

Semester	**1st**
CO 1	Have a thorough understanding of the rationale and significance of a financial system in supporting the acceleration of economic growth and development
CO 2	Have an understanding of different of different money market instruments and how each of the segments of this market operates.
CO 3	How primary and secondary capital markets in India operate?
CO 4	How to invest directly or indirectly in the capital market?
Course Title	**PARTNERSHIP ACCOUNTING**
Course Code	**ATT222J**
Semester	**2nd**
CO 1	To enable the learners to have an understanding of accounting for partnership, preparation of profit and loss appropriation account, treatment of Goodwill and preparation of revaluation account and balance sheet
CO 2	To enable learners, understand the effect of admission of a partner on profit sharing ratio, accumulated profits and losses and make them understand various implication of retirement and death of a partner.
CO 3	To enable the students, understand the effect of dissolution of partnership on settlement of accounts and make the learn the treatment of insolvency, sale and amalgamation of partnership firms.
Course Title	**FINANCIAL SERVICES**
Course Code	**FIN222N**
Semester	**2nd**
CO 1	Have a fair and up to date knowledge of the various financial services at the disposal of various market participants
CO 2	Have a satisfactory degree of understanding of the complexities of the financial services.
CO 3	Have insights into the principles, operational policies, and practices of financial services' sector to meet the growing needs of the economy.
Course Title	**INCOME TAX LAW AND PRACTICE**
Course Code	**AAT322J**
Semester	**3rd**
CO 1	To enable students to acquire knowledge about the basic principles of taxation.
CO 2	To provide working knowledge of different heads of tax.
CO 3	To make students understand the computation of income from various sources.
Course Title	**FINANCIAL ANALYSIS & REPORTING**
Course Code	**FIN322N**
Semester	**3rd**
CO 1	To enable students to understand differing accounting policies and their impact on financial statements.
CO 2	Evaluate different types of performance measurement systems in accounting commonly used financial control systems.
CO 3	Demonstrate knowledge of management accounting concepts and techniques.
CO 4	Students will demonstrate critical thinking skills

DEPARTMENT OF COMPUTER APPLICATIONS
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

PROGRAMME OUTCOMES

- Demonstrate proficiency in programming languages such as C/C++, Java, and Python.
- Apply problem-solving skills to analyze and solve complex computational problems.
- Design and develop software applications using appropriate software engineering principles and practices.
- Understand the fundamental concepts of database management systems and develop skills in SQL.
- Demonstrate knowledge of computer networks and network protocols.
- Develop proficiency in web development technologies such as HTML, CSS, JavaScript, and PHP.
- Apply algorithms and data structures to design efficient and effective solutions.
- Apply artificial intelligence (AI) and machine learning (ML) techniques to solve real-world problems.
- Understand the principles of cloud computing and its applications.
- Design and implement user-friendly graphical user interfaces (GUIs) for software applications.
- Develop skills in data analysis, manipulation, and visualization.
- Demonstrate knowledge of computer graphics principles and techniques.
- Understand the basics of software testing and quality assurance.
- Apply project management principles and practices to software development projects.
- Demonstrate knowledge of ethical and legal considerations in the field of computer applications.
- Apply mathematical and statistical concepts to analyse and interpret data.
- Demonstrate effective communication and presentation skills.
- Work effectively in teams and collaborate with peers on software development projects.
- Demonstrate proficiency in using office productivity tools such as MS Office.
- Understand the fundamentals of operating systems and computer architecture.
- Demonstrate knowledge of data security and privacy principles.
- Develop skills in software debugging, troubleshooting, and error handling.

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- Apply principles of software optimization and performance tuning.
- Understand the basics of mobile application development.
- Demonstrate knowledge of computer organization and computer hardware.
- Develop an understanding of software requirements gathering and analysis.
- Apply principles of user experience (UX) design in software development.
- Demonstrate knowledge of data mining and data warehousing concepts.
- Understand the basics of internet technologies and web services.
- Stay updated with the latest advancements and emerging trends in the field of computer applications.

COURSES OFFERED UNDER NEP	
Course Title	COMPUTER FUNDAMENTALS
Course Code	CAP122J
Semester	1st
CO 1	To introduce to the students the basic understanding of the working of a computer system.
CO 2	To familiarize the students with the basic notations and data representation methods used.
CO 3	To familiarize the students with the various software and hardware aspects of computers.
CO 4	To make the students understand the need and working of the interconnection and communication between computers.
CO 5	To make the students familiar with the basic internet technology and concepts
Course Title	INTERNET BASICS & MULTIMEDIA COMPUTING
Course Code	ACP122N
Semester	1st
CO 1	To provide the knowledge of different concepts of multimedia that encompasses all multimedia components including text, images, audio, video etc.
CO 2	To familiarize the students with the concepts of multimedia computing and applications.
CO 3	To introduce the fundamentals of Internet, and the principles of web design.
Course Title	PROGRAMMING FUNDAMENTALS THROUGH C
Course Code	CAP222J
Semester	2nd
CO 1	To demonstrate the use of flowcharts and algorithms for problem solving
CO 2	To introduce the concepts of structured programming
CO 3	To familiarize the student with the syntactic constructs of C
CO 4	To enable to the students to translate algorithms into C programs

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Course Title	**WEB DESIGNING**
Course Code	**ACP222N**
Semester	**2nd**
CO 1	To construct basic websites using HTML and Cascading Style Sheets.
CO 2	To build dynamic web pages with validation using Java Script objects and by applying different event handling mechanisms.
CO 3	To develop modern interactive web applications using JavaScript.
CO 4	To equip the students with skills required for designing, developing web application.
Course Title	**DATA COMMUNICATION & COMPUTER NETWORKS**
Course Code	**CAP322J**
Semester	**3rd**
CO 1	To Understand the Rudiments of How computers communicate
CO 2	To understand the operation on the components in a data communication systems and functional relationship of these components
CO 3	To introduce the fundamental concepts of computer Network, topologies, protocols and functioning & significance of networking standards.
CO 4	To provide knowledge of protocols, IP addressing and error detection & correction mechanisms.
Course Title	**DIGITAL ELECTRONICS**
Course Code	**ACP322N**
Semester	**3rd**
CO 1	To introduce concepts of number systems and Boolean algebra.
CO 2	To familiarize students with the operation and use of basic digital logic gates as well as the design and minimization of combinational logic circuits.
CO 3	To introduce the concept of microprocessors and familiarize them with basic operation of a CPU.
Course Title	**DBMS**
Course Code	**CAP422J1**
Semester	**4th**
CO 1	To introduce the core concept of Relational Database.
CO 2	To enable students to design the databases for a wide variety of Real-World problems
CO 3	To introduce the concept and process of Database Normalization
CO 4	To enable the student to learn DML, DDL, DCL commands using SQL.
Course Title	**OOPS with C++**
Course Code	**CAP422J2**
Semester	**4th**
CO 1	Be able to explain the difference between object-oriented programming and procedural programming.
CO 2	Be able to program using C++ features such as composition of objects, operator overloading, inheritance and polymorphism, file I/O, etc
CO 3	Be able to build C++ classes using appropriate encapsulation and design principles.
CO 4	Be able to apply object-oriented techniques to solve bigger computing problems.
Course Title	**COMPUTING MATHEMATICS**
Course Code	**CAP422J3**
Semester	**4th**

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CO 1	To introduce elements of 10+2 level mathematics to students of Computer Applications who are from a medical or arts background
CO 2	To cover fundamental concepts of matrices and determinants
CO 3	To cover fundamental concepts of calculus.
CO 4	To acquire fundamental knowledge regarding the problems of approximation and errors in Computer based numerical problems solving.
Course Title	**FUNDAMENTALS OF IOT**
Course Code	**ACP422N**
Semester	**4th**
CO 1	Understand the fundamental characteristics of IoT, including its physical design, basic components, and the concepts of things, sensing, and actuators.
CO 2	Explore various application areas of IoT such as home automation, smart cities, medical, logistics, environment, analytics, and smart grids.
CO 3	Gain insights into IoT protocols used for communication and data exchange within IoT ecosystems.
CO 4	Develop hands-on skills in working with hardware platforms like Raspberry Pi and Arduino, and learn how to implement basic sensors for monitoring temperature, humidity, proximity, gas, air quality, and ultrasonic sensors

DEPARTMENT OF ECONOMICS
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Economics is the study of how people decide to use resources on an individual and a collective basis. It examines the kinds of work people do and how much time they spend doing it. Economics also looks at production, investments, taxation and how people spend and save money. Before you commit yourself to spending time and effort studying economics, it helps to know the advantages of doing so. Economics is the study of how societies, governments, businesses, households, and individuals allocate their scarce resources. Our discipline has two important features. First, we develop conceptual models of behavior to predict responses to changes in policy and market conditions. Second, we use rigorous statistical analysis to investigate these changes.

The purview of Economics is widespread and it flanks almost every field related to human beings.

- ✓ The introduction, development and advancement of new subjects associated with economics and their analytical applications decipher many unknown behaviors of human beings.
- ✓ By the introduction of the conditions of rationality in the areas of Consumption, Production and distribution, it tries to nurture rational thinking
- ✓ The students of Economics can go for higher studies in the fields of Economics, Business Administration and Education after attaining post-graduation in economics.
- ✓ The subject matter of B.A. Economics programme covers the fields of Agriculture, Industry, Banking, Financial Markets, Planning and Development, Public Finance International Trade and the functioning of international organizations such as World Bank International Monetary Fund, International Development Association, etc.
- ✓ Since these are the main subject content of State Level and National Level competitive examinations, banking service, railway service examinations and other competitive examinations the students of Economics can easily crack such examinations and can become successful in getting employment opportunities.
- ✓ Completion of Graduation in Economics with good knowledge opens up Job opportunities in the different sectors of the Economy.
- ✓ The real understanding of the subject content of Economics helps in the character building of students and makes them responsible citizens. They are exposed to national and international problems and hence they will have a thorough understanding of national and international economic events.

DEPARTMENT OF ECONOMICS
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PROGRAMME OUTCOMES / COURSE OUTCOMES

COURSES OFFERED UNDER NEP	
Course Title	BASIC MICROECONOMICS
Course Code	ECO122J
Semester	1st
CO 1	Develop a basic understanding of theoretical concepts in microeconomics
CO 2	Exhibit a broad understanding of the theory of demand and be in a position to calculate demand elasticity under different circumstances
CO 3	Demonstrate an understanding of utility theory and analyse changes in budget and its impact on consumer's equilibrium
CO 4	Acquire the skills to calculate revenue and cost functions of a firm.
Course Title	BASIC MACROECONOMICS
Course Code	ECO222J
Semester	2nd
CO 1	Develop a basic understanding of theoretical concepts of macroeconomics.
CO 2	Exhibit a broad understanding of the national income concepts and its measurement so that students can calculate national income under different methods.
CO 3	Demonstrate an understanding of investment and analyse its impact on macro-economy.
CO 4	Acquire skills to calculate price change through different indices.
Course Title	MONETARY ECONOMICS
Course Code	ECO322J
Semester	3rd
CO 1	Demonstrate a clear understanding of the fundamental concepts of money, its evolution, and the functions it serves in an economy.
CO 2	Analyse and evaluate how to measure the money supply, and the factors influencing money supply, including high-powered money.
CO 3	Analyse the structure of Indian Financial System including its various components.
CO 4	Evaluate the role of the Reserve Bank of India in conducting monetary policy.
Course Title	ECONOMICS OF DEVELOPMENT
Course Code	ECO422J1
Semester	4th
CO 1	Demonstrate a good understanding of basic concepts of development, poverty and inequality.
CO 2	Gain a comprehensive idea about historical and contemporary processes of development.
CO 3	Understand the role of labour and migration in the process of economic development.
Course Title	MATHEMATICS FOR ECONOMICS
Course Code	ECO422J2
Semester	4th
CO 1	Understand the concepts of sets and functions, including different types of functions and their properties, and apply them to economic models and analysis.

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CO 2	Analyse and apply calculus basics, including limits, continuity, differentiability, and integration techniques, in economic contexts, and solve economic problems using these tools.
CO 3	Apply the concepts of partial derivatives, marginal analysis, Lagrange multipliers, to solve various optimization problems
CO 4	Apply concepts of integration to calculate consumer's & producer's surplus
Course Title	**STATISTICAL METHODS FOR ECONOMICS**
Course Code	**ECO422J3**
Semester	**4th**
CO 1	Develop the basic understanding of role and types of data in day-to-day life along with the concept and use of Methods of Sampling.
CO 2	Exhibit a broader understanding of Concept of Probability and be in a position to apply these concepts in everyday life.
CO 3	Acquire the skills that are fundamental to the Statistical Analysis and Inference.
CO 4	Acquire the skills required to extract information from Descriptive Data.

DEPARTMENT OF EDUCATION
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

PROGRAMME OUTCOMES:

- Understand the basic concepts and ideas of educational theory.
- Build understanding and perspective on the nature of the learner, diversity and learning.
- Comprehend the role of the systems of governance and structural – functional provisions that support school education.
- Develop understanding about teaching, pedagogy, school management and community involvement.
- Build skills and abilities of communication, reflection, art, aesthetics, theatre, self-expression and ICT.

COURSES OFFERED UNDER NEP	
Course Title	EDUCATION
Course Code	EDU122J
Semester	1st
CO 1	The content of the course will abreast the students with the concept of Philosophy and its influence on the Education System.
CO 2	The Course will enable the students to understand the educational implications of different schools of Philosophy.
CO 3	The paper also aims at enabling the students to understand the Educational contribution of different educational thinkers and their relevance in the contemporary Education Systems.
Course Title	EDUCATION
Course Code	EDU222J
Semester	1st
CO 1	The course will enable the students to understand the influence of Sociology on Education and the contribution of different sociologists and their relevance to the contemporary education system
CO 2	The content will also abreast the students with the culture, dimensions of culture and role of Education vis-a-vis culture
CO 3	The course will also make the students understand the social interaction process and the Elements of Social Structure.
Course Title	PSYCHOLOGICAL FOUNDATIONS OF EDUCATION
Course Code	EDU322J
Semester	3rd
CO 1	Shall make the learners understand about the concept and theories of learning
CO 2	Shall make the learners understand the various theories and tests of intelligences
CO 3	Shall abreast the students with dynamics and theories of personality
CO 4	Shall make the understand the growth and development of adolescents and various defence mechanisms
CO 5	Shall help the learners to get practical experience of preparing the seminar presentation
Course Title	INDIAN EDUCATION IN HISTORICAL PERSPECTIVE

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Course Code	**EDU422J1**
Semester	**4th**
CO 1	Shall make the students understand about the education system in India during Ancient and Medieval period
CO 2	Shall abreast the learners about different educational policies during British period
CO 3	Shall make the students understand the recommendations of various committees and commissions during post-independence period
CO 4	Shall help the learners to prepare the seminar presentation and book review
Course Title	**INCLUSIVE EDUCATION**
Course Code	**EDU422J2**
Semester	**4th**
CO 1	Shall make the students understand about the nature of inclusive education
CO 2	Shall make the students understand exceptionality and different types of impairment
CO 3	Shall help the learners to get knowledge about the policies and legislation governing for inclusion
CO 4	The learners shall understand different Teaching and evaluative strategies in inclusive education
Course Title	**ENVIRONMENTAL EDUCATION**
Course Code	**EDU422J3**
Semester	**4th**
CO 1	The Course Content shall help the learners to explore the knowledge of environmental education and it is importance in present life
CO 2	Shall make the students understand the environmental hazards and its consequences in our day-to-day life.
CO 3	Shall develop environmental awareness and ethics among the learners that promote an understanding of the ecological interdependence of the social and economic spheres.
CO 4	Shall help the learners to understand various environmental legislations
CO 5	Shall help the learners to get practical knowledge about the environment

DEPARTMENT OF ENGLISH
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

Student Learning Outcomes for the English Programme

After the completion of this course, a student will be able to

- To develop an understanding of English Literature along with language skills.
- To familiarize students with different forms of poetry, prose, fiction, and drama from across the globe
- To enable the students to get exposed to advanced level of grammatical patterns and usages in English and to improve their skills to speak and write effectively in English
- To identify the linguistic structures of poetic texts: symbols, metaphors, and other tropes
- To locate multiple perspectives within a single text like gender, race, caste, ethnicity, etc and to understand the rationale of polyphony
- To enable students in reading literary/cultural texts closely, beyond the literal and recognize the dominant voice/s within the text and its agendas
- To develop a literary sensibility and cultivate a sense of appreciation for various genres like poetry, prose, dramas

DEPARTMENT OF ENGLISH
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PROGRAMME OUTCOMES / COURSE OUTCOMES

COURSES OFFERED UNDER NEP	
Course Title	ENGLISH LITERATURE
Course Code	ELR122J
Semester	1st
CO 1	Understand various poetic forms in English literature such as sonnet, ode, elegy, etc
CO 2	Identify different poetic devices like meter, rhyme, metaphor, similes, etc
CO 3	Gain insights into the history of English Drama
CO 4	Acquire a better understanding of Elizabethan era and Shakespearean Dramas
Course Title	ENGLISH LITERATURE
Course Code	ELR222J
Semester	2nd
CO 1	By the end of the course, the learners will have developed a strong foundation in English literature and a comprehensive knowledge of literary history and theories.
CO 2	Be exposed to the best poetic compositions of 17th and 18th century in English literature
CO 3	Develop a thorough understanding of the factors that led to the growth of English novel and different kinds of novels.
CO 4	Be exposed to the novels of Jane Austen
Course Title	BRITISH POETRY AND DRAMA
Course Code	ELR322J
Semester	3rd
CO 1	By the end of the course, students will have gained an understanding of various narrative and stylistic features used in the 17th to 19th century literary texts
CO 2	Students will have a nuanced understanding of the dramatic literature of the Elizabethan and Restoration Period
CO 3	Students will have gained an idea about the development of literary genres especially Romantic Poetry
CO 4	Students will have developed an understanding of the 17th and 19th century poetry

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COURSES OFFERED UNDER NEP	
Course Title	ENVIRONMENT AND ECOLOGY
Course Code	EVS122J
Semester	1st
CO 1	This paper is designed to introduce the basic concepts of Environment and Ecology leading to better understanding of inter-connections of Environmental Science as a discipline.
Course Title	NATURAL RESOURCES AND BIODIVERSITY
Course Code	EVS222J
Semester	2nd
CO 1	This paper is expected to have a broad understanding of various natural resources including biodiversity in terms of availability and diverse consumptive patterns
CO 2	Comprehend and explain evolutionary relationship among the various chordate groups
CO 3	Understand the ecological distribution and evolutionary divergence of chordates
Course Title	ENVIRONMENTAL CHEMISTRY
Course Code	EVS322J
Semester	3rd
CO 1	This course introduces the students to basic analytical chemistry relevant to the course and is designed to and is designed to equip the students to handle the analytical instruments.
CO 2	The students will also learn basic principles of various chemical processes occurring in the different components of the environment.

DEPARTMENT OF GEOGRAPHY
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PROGRAMME OUTCOMES / COURSE OUTCOMES

COURSES OFFERED UNDER NEP	
Course Title	**GEOGRAPHY (PHYSICAL GEOGRAPHY)**
Course Code	**GGY122J**
Semester	**1st**
CO 1	The outcomes of a Physical Geography course aim to provide students with a comprehensive understanding of the natural processes and features of the Earth's physical environment. Here are potential course outcomes for a Physical Geography course: Fundamental Concepts, Spatial Patterns and Processes: Analyze spatial patterns and processes in physical geography, such as the distribution of landforms, climates, vegetation, soils, and water bodies across the globe, Earth's Systems, Climate and Weather Patterns, Biogeography and Ecosystems, Geomorphology, Hydrology and Water Resources, Soil Science, Natural Hazards and Disasters, Spatial Analysis and Mapping Skills, Fieldwork and Observation, Critical Thinking and Problem-Solving and Environmental Awareness and Sustainability: These outcomes equip students with a foundational understanding of the Earth's physical systems and processes, preparing them for further study or careers in fields such as environmental science, resource management, urban planning, and more
Course Title	**GEOGRAPHY (HUMAN GEOGRAPHY)**
Course Code	**GGY222J**
Semester	**2nd**
CO 1	Learning outcomes for a Human Geography course are designed to provide students with a comprehensive understanding of human activities, their relationship with the environment, and spatial patterns. Here are potential learning outcomes for a Human Geography course: Fundamental Concepts: Understand fundamental concepts and theories in human geography, including space, place, scale, globalization, cultural landscape, and spatial interactions, Cultural Geography, Population Geography, Urban Geography, Economic Geography, Political Geography, Social Geography, Health Geography, Environmental Perception and Behavior, Cultural Landscapes and Place Identity, Globalization and Connectivity, Spatial Analysis and GIS, Critical Thinking and Problem-Solving:, Ethical and Sustainable Perspectives, Effective Communication: These outcomes aim to equip students with a broad understanding of the spatial dimensions of human activities, enabling them to critically analyze, interpret, and address complex social, cultural, economic, and environmental issues within different geographical contexts.
Course Title	**GEOGRAPHY (GEOGRAPHICAL THOUGHT)**
Course Code	**GGY322J**
Semester	**3rd**
CO 1	The course outcomes of Geographical Thought, typically in an academic context, aim to equip students with a comprehensive understanding of various theories, concepts, and perspectives within the field of geography. These outcomes are designed to provide students with a foundational knowledge base and critical thinking skills necessary to comprehend and analyze geographical phenomena. Here are some potential course outcomes of Geographical Thought: Understanding Theoretical Foundations: Gain a deep understanding of the historical evolution of geographical thought,

	including key theories and paradigms that have shaped the discipline. Critical Analysis of Spatial Concepts, Knowledge of Major Geographical Theories, Applying Geographic Perspectives, Understanding Regional Development, Integration of Technology and Geospatial Analysis, Critical Thinking and Problem-Solving, Awareness of Global Issues, Interdisciplinary Approach, Communication Skills, Ethical and Environmental Awareness and Cultural and Social Understanding. These course outcomes aim to provide students with a broad foundation in geographical thought and equip them with skills and knowledge applicable to various careers related to geography, environmental studies, urban planning, resource management, and more.
Course Title	**FUNDAMENTALS OF REMOTE SENSING**
Course Code	**GGY422J2**
Semester	**4th**
CO 1	The learning outcomes for a course in Fundamentals of Remote Sensing aim to provide students with a foundational understanding of remote sensing principles, techniques, and applications. Here are potential learning outcomes for a course in Remote Sensing: Introduction to Remote Sensing, Remote Sensing Platforms and Sensors, Electromagnetic Radiation and Spectral Characteristics, Image Acquisition and Interpretation, Types of Remote Sensing Data, Image Processing Techniques, Spatial and Spectral Resolution, Image Classification and Analysis, Digital Elevation Models (DEM), Remote Sensing Applications, Integration with Geographic Information Systems (GIS), Remote Sensing in Environmental Studies, Remote Sensing Ethics and Data Integrity, Critical Thinking and Problem-Solving and Effective Communication: These outcomes aim to equip students with the necessary theoretical knowledge and practical skills to understand, analyze, and interpret remotely sensed data for various applications in environmental studies, natural resource management, urban planning, and other geographical fields.

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PROGRAMME OUTCOMES / COURSE OUTCOMES

COURSES OFFERED UNDER NEP	
Course Title	FUNDAMENTALS OF GEOLOGY
Course Code	GLY122J
Semester	1st
CO 1	The study of this course will strengthen student's knowledge with respect to understanding the essentials of the structural dynamics of the earth.
CO 2	The students will understand the origin of our solar system and planets, including earth.
CO 3	The students will understand the different surface processes and geomorphological features and their development.
CO 4	Studying the basics of mineralogy will help the students in understanding and building the overall knowledge in Geology
Course Title	CRYSTALLOGRAPHY AND PETROLOGY
Course Code	GLY222J
Semester	2nd
CO 1	The course will help the students to exhibit an improved understanding of crystallography and fundamental petrologic processes and common rock types.
CO 2	The students will gain an understanding of the processes involved in the formation of igneous and metamorphic rocks, their textures, structures, classifications and their importance.
CO 3	The students will also learn to identify, describe and classify rocks using hand specimens and under petrological microscope.
Course Title	SEDIMENTOLOGY
Course Code	GLY322J
Semester	3rd
CO 1	the students will gain an understanding of the processes involved in the formation of sedimentary rocks, their textures, structures, classifications and their importance
CO 2	Students will be able to identify primary and secondary sedimentary structures and their depositional environments.
CO 3	Students will be able to identify sedimentary rocks and their depositional environments with stratigraphic sequence aspects.
Course Title	PALEONTOLOGY AND STRATIGRAPHY
Course Code	GLY422J1
Semester	4th
CO 1	The study of Palaeontology and Stratigraphy encompasses the aspects of the age of the earth, the chronological arrangement of rocks, and the appearance and evolution of life through geologic time.
CO 2	The concepts of stratigraphy, correlation, and palaeontology would enable the students to understand the changes that occurred in the history of the earth and relate them to their field observations and also, to understand the framework of the stratigraphy of India.
CO 3	The students will be exposed to the principles of stratigraphy including order of superposition.
Course Title	ENGINEERING GEOLOGY
Course Code	GLY422J2
Semester	4th

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CO 1	The students will learn the skills of identifying and mapping different geological structures and the alignment of engineering projects and their environmental effects.
CO 2	Will also help students to comprehend the dynamic nature of the Earth's lithosphere.
CO 3	Reading geologic maps and solving simple map problems using strike and preparations of cross sections useful in engineering projects are also the focus of the course.
Course Title	**MEDICAL GEOLOGY**
Course Code	**GLY422J3**
Semester	**4th**
CO 1	The student will be able to understand the distribution of trace elements and their cyclic movement through the abiotic-biotic environment and their influence on human health, flora and fauna.
CO 2	The course is designed to include the basic concepts of Medical Geology, the interaction between abundances of elements and isotopes and the health of humans and plants.
CO 3	The course provides a basic understanding of the geogenic and anthropogenic distribution of trace elements, their toxic effects on human health and that of flora and fauna
CO 4	Students will be able to analyse the link between the natural environment and human health for the betterment of global society.

DEPARTMENT OF HISTORY
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

Programme Outcomes

1. Knowledge of Historical Context: Students will gain a deep understanding of the historical context, social structures, political systems, and cultural aspects of medieval, modern, ancient Indian, and Kashmir history. They will be able to identify and analyze the key factors that shaped these periods.
2. Familiarity with Chronological Framework: Students will develop a strong chronological framework and be able to accurately place events, rulers, and significant historical figures within the specific time periods under study. They will understand the continuity and changes that occurred during these periods.
3. Analytical and Critical Thinking: Students will cultivate analytical and critical thinking skills to assess historical sources, interpret primary and secondary materials, and evaluate different perspectives on historical events and processes. They will be encouraged to develop their own arguments based on evidence.
4. Research and Writing Skills: The course will enhance students' research and writing abilities. They will learn to gather relevant historical information, synthesize it, and present their findings effectively in written form. They will be encouraged to engage in independent research projects related to the course content.
5. Understanding Regional History: The course will specifically focus on Kashmir history, enabling students to comprehend the unique historical experiences of the region. Students will learn about the political, cultural, and socio-economic dynamics that shaped Kashmir's past, including its interactions with other regions.
6. Awareness of Historical Significance: Students will develop an appreciation for the significance of historical events and processes. They will recognize the impact of historical developments on the present and future, allowing them to draw connections between the past and contemporary issues.
7. Cultural Sensitivity and Diversity: Through the study of medieval, modern, ancient Indian, and Kashmir history, students will gain cultural sensitivity and an understanding of the diverse nature of Indian society. They will appreciate the contributions of various communities, religious groups, and individual to the historical fabric of the country.

Overall, the course aims to equip undergraduate students with a comprehensive understanding of the medieval, modern, ancient Indian, and Kashmir history, enabling them to critically analyze historical sources, develop research skills, and appreciate the complexities of India's past.

DEPARTMENT OF HISTORY
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PROGRAMME OUTCOMES / COURSE OUTCOMES

COURSES OFFERED UNDER NEP	
Course Title	HISTORY OF ANCIENT INDIA
Course Code	HST122J
Semester	1st
CO 1	To understand the significance of various categories of sources.
CO 2	To understand the origin, growth and development of various cultures in Indian subcontinent.
CO 3	To appreciate the importance of various processes of interaction and accommodation in the making of Indian plural culture.
CO 4	To appreciate the value of heritage.
Course Title	HISTORY OF MEDIEVAL INDIA
Course Code	HST222J
Semester	2nd
CO 1	Engage with the medieval period in Indian History
CO 2	Develop an understanding of power relations and administrative structures
CO 3	Understand the negotiation between the monarchy and nobility that accounted for changes in polity and administrative mechanisms
CO 4	Evaluate the rise and working of supra-regional kingdoms and emergence of regional resistance to empires.
CO 5	Understand socio-economic forces that shaped the medieval ways of life
Course Title	HISTORY OF MODERN INDIA
Course Code	HST322J
Semester	3rd
CO 1	Develop proper understanding of the historical processes and dynamics that led to the establishment of British rule in India
CO 2	Understand the nature and purpose of British rule in India
CO 3	Develop a nuanced understanding of the different events and episodes in Modern India history by locating them [events/ episodes] in a space-time context.
CO 4	Appreciate the contribution of masses and leaders in the struggle for freedom
Course Title	HISTORY OF ANCIENT KASHMIR
Course Code	HST422J1
Semester	4th
CO 1	Understand the significance of various categories of sources for writing the history of ancient Kashmir
CO 2	Develop an understanding of the origin and growth of various cultures, civilizations, kingdoms and empires of ancient Kashmir.
CO 3	Know about the nature of relations between Kashmir and the neighbouring regions
Course Title	SOCIO-CULTURAL HISTORY OF ANCIENT INDIA
Course Code	HST422J2
Semester	4th
CO 1	Develop proper understanding of the socio-cultural structure of Ancient India
CO 2	Understand the forces that shaped the socio-cultural matrix of the time under reference
CO 3	Know the emergence and significance of different religious traditions
CO 4	Appreciate the contribution made by Indian philosophers and women in different walks of life.

DEPARTMENT OF HISTORY
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

Course Title	ECONOMIC HISTORY OF ANCIENT INDIA
Course Code	HST422J3
Semester	4th
CO 1	Develop a fair understanding of the key features, structures, and mechanisms of economic activities during ancient period.
CO 2	Gain insights into the agricultural practices in ancient India, including the types of crops grown, irrigation methods, and agricultural technologies employed.
CO 3	Acquire deeper knowledge of commodity composition and trade routes and trading practices trading practices that were prevalent during ancient India
CO 4	Understand the forces that determined the contours of economic change during ancient India.

DEPARTMENT OF KASHMIRI
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

Programme Outcomes

After the culmination of the Course, the students will be able

- To gain understanding of the significance of Literature in human Knowledge.
- To know the history, development and literary tenets of Kashmiri short story.
- To have understanding of the growth and development of Kashmiri modern poem.
- To gain understanding of the significance of Kashmiri Gazal.
- To have understanding of the growth and development of Kashmiri modern poem.
- To know the history, development and literary tenets of Kashmiri short story"
- To understand informative literature,
- To know about kashmiri short story,
- To get acquainted with history, tradition, form and experimentation of Kashmiri poetry,
- To get familiarized with the tenants of Kashmiri Ghazal.
- To get good grasp of the poetic tenants of nazam.
- To know about the basic features of short story in Kashmiri.

COURSES OFFERED UNDER NEP	
Course Title	KASHMIRI LITERATURE
Course Code	KRL122J
Semester	1st
CO 1	To gain understanding of the significance of Literature in human Knowledge
CO 2	To know the history, development and literary tenets of Kashmiri short story
CO 3	To have understanding of the growth and development of Kashmiri modern poem.
CO 4	To write creative prose in Kashmiri
Course Title	KASHMIRI LITERATURE
Course Code	KRL222J
Semester	2nd
CO 1	To gain understanding of the significance of Kashmiri Gazal.
CO 2	To have understanding of the growth and development of Kashmiri modern poem.
CO 3	To know the history, development and literary tenets of Kashmiri short story"
CO 4	To write creative prose in Kashmiri.
Course Title	KASHMIRI LITERATURE-III
Course Code	KRL322J

DEPARTMENT OF KASHMIRI
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

Semester	**3rd**
CO 1	To understand informative literature.
CO 2	To know about kashmiri short story.
CO 3	To get acquainted with history, tradition, form and experimentation of Kashmiri poetry
CO 4	To get familiarized with the tenants of Kashmiri Ghazal
Course Title	**KASHMIRI LITERATURE-IV**
Course Code	**KRL422J1**
Semester	**4th**
CO 1	Have better understanding of informative prose.
CO 2	To get good grasp of the poetic tenents of nazam.
CO 3	To know about the basic features of short story in Kashmiri.
Course Title	**KASHMIRI LITERATURE-IVB**
Course Code	**KRL422J2**
Semester	**4th**
CO 1	To get good grasp of the tenents of Ghazal.
CO 2	To get familiarized with the growth and development of Ghazal in Kashmiri.
CO 3	To analyse and appreciate Kashmiri Ghazal
Course Title	**KASHMIRI LITERATURE-VI**
Course Code	**KRL422J3**
Semester	**4th**
CO 1	To understand informative literature in Kashmiri.
CO 2	To get acquainted with history, tradition, form and experimentation of Kashmiri poetry.
CO 3	To get familiarized with the tenents of Kashmiri Ghazal.
CO 4	Understand the forces that determined the contours of economic change during ancient India.

DEPARTMENT OF MATHEMATICS
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

The Bachelor's Degree in B.A/B.Sc. Mathematics is awarded to the students on the basis of knowledge, understanding, skills, attitudes, values and academic achievements sought to be acquired by learners at the end of this program. Hence, the learning outcomes of mathematics for this course are aimed at facilitating the learners to acquire these attributes, keeping in view of their preferences and aspirations for knowledge of mathematics. Mathematics is the study of quantity, structure, space and change. It has very broad scope in science, engineering and social sciences. The key areas of study in mathematics are Calculus, Algebra, Geometry, Analysis and Differential Equations. Programme Specific Outcome of B.A/B.Sc. Mathematics

- Think in a critical manner.
- Familiarize the students with suitable tools of mathematical analysis to handle issues and problems in mathematics and related sciences.
- Acquire good knowledge and understanding to solve specific theoretical and applied problems in advanced areas of mathematics and statistics.
- Provide students/learners sufficient knowledge and skills enabling them to undertake further studies in mathematics and its allied areas on multiple disciplines concerned with mathematics.
- Encourage the students to develop a range of generic skills helpful in employment, internships and social activities.

Bachelor's degree in mathematics is the culmination of in-depth knowledge of algebra, calculus, geometry, differential equations and several other branches of mathematics. This also leads to study of related areas like computer science, Financial Mathematics, statistics and many more. Thus, this programme helps learners in building a solid foundation for higher studies in mathematics. The skills and knowledge gained has intrinsic beauty, which also leads to proficiency in analytical reasoning. This can be utilized in modelling and solving real life problems. Students undergoing this programme learn to logically question assertions, to recognize patterns and to distinguish between essential and irrelevant aspects of problems.

They also share ideas and insights while seeking and benefitting from knowledge and insight of others. This helps them to learn behave responsibly in a rapidly changing interdependent society. Students completing this programme will be able to present mathematics clearly and precisely, make vague ideas precise by formulating them in the language of mathematics, describe mathematical ideas from multiple perspectives and explain fundamental concepts of mathematics to non-mathematicians. Completion of this programme will also enable the learners to join teaching profession in primary and secondary schools. This programme will also help students to enhance their employability for government jobs, jobs in banking, insurance and investment sectors, data analyst jobs and jobs in various other public and private enterprises.

DEPARTMENT OF MATHEMATICS
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

COURSES OFFERED UNDER NEP	
Course Title	MATHEMATICS/APPLIED MATHEMATICS: CALCULUS - I
Course Code	MMT122J
Semester	1st
CO 1	Students shall be able to apply differential operators to understand the dynamics of various real-life situations.
CO 2	The students shall be able to use differential calculus in optimization problems.
Course Title	MATHEMATICS/APPLIED MATHEMATICS: CALCULUS - II
Course Code	MMT222J
Semester	2nd
CO 1	The techniques involved in the course shall be used to estimate area and to solve complex problems.
Course Title	MATHEMATICS/APPLIED MATHEMATICS: THEORY OF MATRICES
Course Code	MMT322J
Semester	3rd
CO 1	Students shall be able to apply techniques of matrix theory to solve real life problems
CO 2	Use matrix techniques in coding theory and cryptography
CO 3	Use eigenvalues to find the stability of various systems.
Course Title	MATHEMATICS/APPLIED MATHEMATICS: REAL ANALYSIS-I
Course Code	MMT422J1
Semester	4th
CO 1	Students shall be able to apply these concepts to determine convergence and divergence of real sequences and infinite series
CO 2	Explore new ideas in mathematical and modern analysis
Course Title	MATHEMATICS/APPLIED MATHEMATICS: GEOMETRY
Course Code	MMT422J2
Semester	4th
CO 1	The student is expected to handle 2D and 3D geometrical concepts.
CO 2	Understand the nature of Hyperbolic functions.
CO 3	Trace standard curves in Cartesian coordinates and polar coordinates.
Course Title	MATHEMATICS/APPLIED MATHEMATICS: THEORY OF NUMBERS
Course Code	MMT422J3
Semester	4th
CO 1	Students will be able to deal with the problems arising in cryptography and information theory especially in RSA encryption and decryption
CO 2	Solve congruences, linear Diophantine equations, and other higher concepts of Discrete Mathematics

DEPARTMENT OF PERSIAN
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

COURSES OFFERED UNDER NEP	
Course Title	PERSIAN LITERATURE
Course Code	PRL122J
Semester	1st
CO 1	Enables the students to enhance and develop writing skills
Course Title	PERSIAN LITERATURE
Course Code	PRL222J
Semester	2nd
CO 1	To enable the students to understand the trends in Persian literature and enhance their writing skills.
Course Title	PERSIAN LITERATURE: COLLOQUIAL PERSIAN LANGUAGE & LITERATURE
Course Code	PRL322J
Semester	3rd
CO 1	Enable the students to learn the compound verbs used in both literary and colloquial language
Course Title	SELECT PERSIAN PROSE
Course Code	PRL422J1
Semester	4th
CO 1	Making students enable to read, write and translate the Persian text with the help of some select prose works.
Course Title	SELECTED PERSIAN POETRY
Course Code	PRL422J2
Semester	4th
CO 1	The course will provide an atmosphere to students to learn about Persian poetry, its reading techniques rendering and other poetic tools used
Course Title	HISTORY OF PERSIAN LITERATURE (ANCIENT IRAN)
Course Code	PRL422J3
Semester	4th
CO 1	This course will emphasis upon the basic information regarding the ancient Iran, its languages and scripts of writing

DEPARTMENT OF PHYSICS
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

The outcome of the course is the motivation for higher education and to inculcate the innovative thinking among the students that inspires them for research. Upon the completion of physics course, the students will be able:

1. To recognize and apply the principles of Physics for understanding various phenomena occurring in nature.
2. To employ critical thinking and scientific inquiry in the performance, design, interpretation and documentation of laboratory experiments, at a level suitable to succeed at an entry-level position in industry.
3. To develop of methods for the handling of electric & electronic appliances and use of modern instrumentation.
4. To interpret and analyze quantitative data.
5. To understand theoretical concepts of instruments those are commonly used in most of the industries & research institutions.
6. To prepare for the employment or advanced studies in Physics or any of the allied fields.

COURSES OFFERED UNDER NEP	
Course Title	MECHANICS
Course Code	PHY122J
Semester	1st
CO 1	Understanding of Cartesian, cylindrical polar and spherical polar coordinate systems
CO 2	The course will emphasise on Newtonian physics and inertial & non-inertial frames of reference
CO 3	Make students aware of Conservation of energy and momentum, Special theory of relativity, Central force field and Kepler's laws
Course Title	ELECTRICITY AND MAGNETISM
Course Code	PHY222J
Semester	2nd
CO 1	The course will emphasise on Vector integration and Gauss-divergence theorem & Stoke's theorem, Electrostatics and Applications of Gauss law
CO 2	Make students aware of Equation of continuity, Lorentz Drude theory and Kirchoff's law
CO 3	Well versed about Electromagnetic induction and electromagnetic wave propagation
Course Title	WAVES AND OPTICS
Course Code	PHY322J

DEPARTMENT OF PHYSICS
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

Semester	**3rd**
CO 1	The students will be able to describe Superposition of harmonic oscillations
CO 2	The students will understand Beats and Lissajous figures
CO 3	The students will understand Travelling and standing waves, group velocity and phase velocity
CO 4	Well versed about the Electromagnetic nature of light
CO 5	Interference and Young's double slit experiment
CO 6	Well versed about the Polarization of light
Course Title	**THERMAL PHYSICS**
Course Code	**PHY422J1**
Semester	**4th**
CO 1	Students shall have the understanding of the concepts like Kinetic theory of gases and Classical theory of heat capacities, Mean free path and various transport phenomena, Entropy change in different processes, Maxwell's thermodynamic relations, Black body radiations and spectral distribution, Planck's law, Wein's law, Rayleigh-Jeans law and Stefan Boltzmann law, Macrostate & microstate and thermodynamic probability, Maxwell-Boltzmann law, Fermi-Dirac distribution law and Bose-Einstein distribution law

DEPARTMENT OF POLITICAL SCIENCE
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

Subject Outcomes

- The course covers diverse aspects of subjects ranging from political theory to Jammu and Kashmir polity. The main aim in this is to train students in analysis, interpretation and description of political processes.
- The course also aims to help students in preparing for competitive exams like civil services since subject forms the major portion of the general awareness aspect of various exams.
- By reflecting on multi-dimensional aspects of the political events, it helps students in building bridges across communities, participate in awareness Programmes like rights and duties.

COURSES OFFERED UNDER NEP	
Course Title	INTRODUCTION TO POLITICAL THEORY
Course Code	PLS122J
Semester	1st
CO 1	To introduce students to basic conceptual categories
CO 2	To make them familiar with the advanced theoretical debate in Political Theory & Political Philosophy
CO 3	To relate concepts to daily political practice
CO 4	To bridge gap between theory and practice of Political Science
CO 5	To enhance skill and job potential of students.
Course Title	GOVERNMENT AND POLITICS IN INDIA
Course Code	PLS222J
Semester	2nd
CO 1	Introduce Students to the emergence of Indian Polity
CO 2	Acquaint students with the Constitution of India and the way it provides the ideological and institutional framework for Indian Polity.
CO 3	Introduce Students to the dynamics of political processes in India
CO 4	Introduce students to the identity formations and their role in shaping political discourses
Course Title	INTERNATIONAL POLITICS
Course Code	PLS322J
Semester	3rd
CO 1	To Provide comprehensive understanding of emergence of modern state system and the development of international politics as a distinct field of study
CO 2	Provide students with the background of the evolution of the discipline along with the changing nature and scope of international politics

DEPARTMENT OF POLITICAL SCIENCE
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

CO 3	To acquaint students with the emergence of UN system, its working and reforms, along with Cold War, Nam and end of bipolarity and the emergence of uni-polar moment in the aftermath of end of Cold War.
CO 4	The course also provides an overview of contemporary dynamics of international politics, by focusing on the issues of Globalization, IPE, Regional Integration and the current dynamics of emerging multi-polarity and the return of Great Power politics in Asia.
Course Title	**INDIAN POLITICAL THOUGHT**
Course Code	**PLS422J1**
Semester	**4th**
CO 1	Understand the historicity of Indian Political Thought
CO 2	Nuance the differences between western and Eastern contributions to the theory.
CO 3	Have a deeper understanding of various Indian philosophies associated with politics
CO 4	Have clarity about richness in Indian Political thought.
CO 5	Have the knowledge about the philosophies that have shaped the Indian political landscape.
CO 6	Have deeper understanding about the post Indian independence political bigwigs which have impacted political scene.

DEPARTMENT OF SOCIOLOGY
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

The Honors Course in Sociology is designed to equip students with a strong foundation in sociology, critical thinking skills, research proficiency, and the ability to apply sociological knowledge in diverse settings.

COURSES OFFERED UNDER NEP	
Course Title	INTRODUCTION TO SOCIOLOGY
Course Code	SOC122J
Semester	1st
CO 1	Acquaint the learners with the evolution of the subject.
CO 2	Develop among the learner's fundamental clarity about the subject
CO 3	Unravel the fundamental concerns of the discipline.
CO 4	The learners are expected to be well versed with the emergence and domain of the sociology
CO 5	The learners are also expected to develop a very good understanding of the fundamental concepts and schools of thought in sociology.
Course Title	SOCIAL INSTITUTIONS
Course Code	SOC222J
Semester	2nd
CO 1	The students will be able to understand the various sociological approaches and perspectives regarding the institution of marriage, family, kinship and religion. They will also be abreast with the various recent debates pertaining to social institutions.
Course Title	CLASSICAL SOCIOLOGICAL TRADITION
Course Code	SOC322J
Semester	3rd
CO 1	To familiarize the students with the founding fathers of Sociology
CO 2	To introduce students to the trends in classical sociology
CO 3	To offer an overview of different approaches to the study of society and various perspectives of the founders of sociological theory.
Course Title	INDIAN SOCIETY - STRUCTURE AND CHANGE
Course Code	SOC422J1
Semester	4th
CO 1	After reading this paper the students will be able to understand and comprehend the Indian Society in all its dimensions particularly features like Caste, Class and debates relating to modernization, Sanskritization and Islamization.
Course Title	SOCIAL DEMOGRAPHY
Course Code	SOC422J2
Semester	4th
CO 1	To understand the influence of population on social phenomena.
CO 2	To acquaint students the demographic features and trends of Indian society vis-à-vis world population.
CO 3	To understand population control in terms of social needs
CO 4	To appreciate population control measures and their implementation.
Course Title	SOCIAL MOVEMENTS IN INDIA

DEPARTMENT OF SOCIOLOGY
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

Course Code	SOC422J3
Semester	4th
CO 1	To sensitize the students to the variety and dynamics of social movements and their role in social transformation.
CO 2	To acquaint the students with various social movements that took place in Indian society

DEPARTMENT OF URDU
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

Student Learning Outcomes for the Urdu Programme

After the culmination of the Course, the students will be able

- Students will be able to Write sentences, essay, poetry, prose & all other rhetoric & creative writing on.
- Know about Urdu essayists, novelists, dramatists, poets and their poetry.
- Gain knowledge of Urdu poems & enjoy famous Urdu Patriotic poems.
- Get knowledge about History of Urdu Literature, its meanings and importance of the major Urdu Dialects.
- They will be able to write and speak Urdu fluently and consciously & be able to develop their pronunciation.
- Acquainted with the grammatical properties, ability will be increased, develop their language skills through the listening and reading.
- The students will be able to translate the literature from other language in Urdu & understand the text of international languages.

Course Title	**Urdu ghazal aur nazm**
Course Code	**URL122J**
Semester	**1st**
CO 1	Students become able to gain understanding of the significance of poetry.
CO 2	Students become able to know the history, development and characteristics of different ghazals of famous poets.
CO 3	Students become able to gain understanding of the significance of poetry especially nazm.
CO 4	Students become able to know the history, development and characteristics of different ghazals of famous poets.
Course Title	**Classical Genres of Urdu Poetry**
Course Code	**URL222J**
Semester	**2nd**
CO 1	Students become able to understand definition, fun and development of masnavi.
CO 2	Students become able to understand definition, fun and development of marsiya.
CO 3	Students become able to understand definition, fun and development of Qaseeda.
CO 4	Students become able to understand definition, fun and development of Rubai.
Course Title	**History of Urdu Language and Literature**
Course Code	**URL322J**
Semester	**3rd**
CO 1	After reading Students become able to know about adbi khidmat of fort William college and Aligarh tehreek.

DEPARTMENT OF URDU

GOVERNMENT DEGREE COLLEGE HANDWARA

PROGRAMME OUTCOMES / COURSE OUTCOMES

CO 2	After reading Students become able to know about the impact of taraqi pasand tehreek on urdu zaban o adab,and will also able to know about Aligarh tehreek.
CO 3	Students will able to know the concept of adbi tanqeed.

DEPARTMENT OF ZOOLOGY
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

Student Learning Outcomes for the Zoology Programme

After the completion of this course, a student will be able to

- Learn basic taxonomy skills and demonstrate identification and classification of non-chordates and Chordates
- To understand the structure of different organ systems in Invertebrates/vertebrates and shall become a subject expert in animal anatomy
- To explain how organisms' function at the level of the gene, genome, cell, tissue, organ and organ system
- To understand the working of different organ systems and their defects / disorders
- Students will be able to apply their knowledge of cell organelles and their function in controlling various cellular mechanisms
- Able to distinguish normal and abnormal activities of cells
- To gain knowledge and skill in the fundamentals of animal sciences, understands the complex interactions among various living organisms
- Understand the economic importance of animals
- Becomes aware about the parasitic diseases & the consequences thereof; understand their mode of transmission, pathogenicity and control and management.
- Understand the defense mechanism against pathogens and will utilize the knowledge for human welfare; gain knowledge on undesirable immunological reactions and their complications in health management
- Understands the environmental conservation process and its importance, pollution control and biodiversity and protection of endangered species
- Gain knowledge of small-scale industries like Sericulture, fish farming, bee keeping aquaculture animal husbandry, poultry farm

DEPARTMENT OF ZOOLOGY
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

COURSES OFFERED UNDER NEP	
Course Title	INTRODUCTION TO SYSTEMATICS & NON-CHORDATES
Course Code	ZOL122J
Semester	1st
CO 1	Learn basic taxonomy skills and demonstrate classification and identification abilities of non-chordates
CO 2	Comprehend and explain evolutionary relationship among the various non-chordate groups
CO 3	Get sensitized with the relevance of animal diversity in understanding life from a broader perspective
CO 4	The learner will utilize the knowledge gained from these creatures for the economy and human welfare
Course Title	INTRODUCTION TO CHORDATES
Course Code	ZOL222J
Semester	2nd
CO 1	Demonstrate the identification and classification of chordates
CO 2	Comprehend and explain evolutionary relationship among the various chordate groups
CO 3	Understand the ecological distribution and evolutionary divergence of chordates
Course Title	COMPARATIVE ANATOMY OF VERTEBRATES
Course Code	ZOL322J
Semester	3rd
CO 1	After the completion of course, a student should be able to understand the structure of different organ systems in vertebrates and shall become a subject expert in animal anatomy
Course Title	COMPARATIVE PHYSIOLOGY OF VERTEBRATES
Course Code	ZOL422J1
Semester	4th
CO 1	After the completion of this course, a student will be able to understand the working of different organ systems and their defects/disorders
Course Title	FUNDAMENTALS OF IMMUNOLOGY
Course Code	ZOL422J2
Semester	4th
CO 1	Students will be able to understand the defence mechanism against pathogens and utilize the knowledge for human welfare
CO 2	Gain knowledge on undesirable immunological reactions and their complications in health management.
Course Title	FUNDAMENTALS OF PARASITOLOGY
Course Code	ZOL422J3
Semester	4th
CO 1	The learner becomes aware about the parasitic diseases and the consequences thereof.
CO 2	Understand their mode of transmission, pathogenicity and control and management.

DEPARTMENT OF INDIAN MUSIC
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES
Student Learning Outcomes for the Indian Music Programme

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

- Demonstrate a fair understanding of the nuances of Indian classical music.
- Understand the theoretical and practical aspects of Prescribed ragas and talas.
- Gain proficiency to sing Alankars/Sargam Geet/Chota Khayal with correct voice production in the prescribed Ragas.

DEPARTMENT OF INDIAN MUSIC
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

COURSES OFFERED UNDER NEP	
Course Title	INDIAN MUSIC - I
Course Code	IMC123J
Semester	1st
CO 1	understand the theoretical and practical aspects of Prescribed ragas and talas •
CO 2	Gain proficiency to sing Alankars/Sargam Geet/Chota Khayal with correct voice production in the prescribed Ragas.
Course Title	INDIAN MUSIC - II
Course Code	IMC223J
Semester	2nd
CO 1	demonstrate a fair understanding of the nuances of Indian classical music
CO 2	understand the theoretical and practical aspects Indian Music including of ragas and talas.
Course Title	INDIAN MUSIC - III
Course Code	IMC323J
Semester	3rd
CO 1	demonstrate a fair understanding of the nuances of Indian classical music
CO2	understand the theoretical and practical aspects Indian Music including of ragas and talas. Gain proficiency to sing complex Alankars/Sargam Geet/Lakshan Geet/drut Khayal /light comp.
CO3	Students will gain a practical understanding of Ethnographic Research.
Course Title	INDIAN MUSIC - IV
Course Code	IMC422J1
Semester	4th
CO 1	Demonstrate a fair understanding of the nuances of Indian classical music.
CO2	Understand the theoretical and practical aspects Indian Music including of ragas and talas
Course Title	INDIAN MUSIC - IVA
Course Code	IMC422J2
Semester	4th
CO 1	demonstrate a fair understanding of important milestones in the history of Indian music.
CO 2	critically analyse the historical development of music through the study of important treatises on Indian Music
Course Title	INDIAN MUSIC - IVB
Course Code	IMC422J3
Semester	4th
CO 1	demonstrate a fair understanding of important milestones in the history of Indian music.
CO 2	critically analyse the historical development of music through the study of important treatises on Indian Music
Course Title	INDIAN MUSIC - V
Course Code	IMC522J1
Semester	5th
CO 1	Acquire performance skills & proficiency to skilfully present a Khayal Gayan

	before the audience
Course Title	**INDIAN MUSIC - VA**
Course Code	**IMC522J2**
Semester	**5th**
CO1	acquire performance skills & proficiency to skilfully present a Khayal Gayan before the audiencA
Course Title	**INDIAN MUSIC - VB**
Course Code	**IMC522J3**
Semester	**5th**
CO1	Gain proficiency to sing complex Alankars/Sargam Geet/Lakshan Geet/Drut Khayal /light compositions with correct voice production in the prescribed Ragas.
Course Title	**INDIAN MUSIC - VI**
Course Code	**IMC622J1**
Semester	**6th**
CO1	The students will learn about the concepts of tribes, their classification and distribution.
CO2	They will also learn about peasantry and how it is related to tribes.
Course Title	**INDIAN MUSIC - VIA**
Course Code	**IMC622J2**
Semester	**6th**
CO1	critically analyse the historical development of music through the study of important treatises on Indian Music
Course Title	**INDIAN MUSIC - VIB**
Course Code	**IMC622J3**
Semester	**6th**
CO1	Demonstrate a fair understanding of the nuances of Indian classical music. To understand the theoretical and practical aspects Indian Music including of ragas and talas

DEPARTMENT OF BIO-CHEMISTRY
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

Student Learning Outcomes for the Bio-Chemistry Programme

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

- Able to differentiate various cell types including prokaryotic and eukaryotic cells.
- Proficient in differentiating animal vs plant cells.
- Well versed about the various cellular organelles and their function.
- Able to comprehend about cell-to-cell communication.
- Capable of comprehending the phases of the cell cycle
- Intensive fieldwork, laboratory experiments, and research techniques and designs ensure that students acquire direct practical experience.

COURSES OFFERED UNDER NEP	
Course Title	BIOCHEMISTRY
Course Code	BCH122J
Semester	1st
CO 1	The course aims to offer insights into the basic structure of eukaryotic and prokaryotic cells including cellular organelles and their function.
CO 2	The laboratory course is aiming to train the students regarding the techniques involved in study of cell structure, cell counting, blood group typing and observe various stages of mitosis.
Course Title	CELL BIOLOGY
Course Code	BCH223J
Semester	2nd
CO 1	Able to differentiate various cell types including prokaryotic and eukaryotic cells.
CO 2	Proficient in differentiating animal vs plant cells.
CO 3	Well versed about the various cellular organelles and their function.
Course Title	ENZYMOLOGY
Course Code	BCH322J
Semester	3rd
CO 1	The objective of the course is to provide a deeper insight into the fundamentals of enzyme structure and function, enzyme kinetics, enzyme catalysis and enzyme inhibition.
CO2	The students will be able to describe the structure, regulation, functions and the mechanism of action of enzymes.
Course Title	BASICS OF METABOLISM AND BIOENERGETICS

DEPARTMENT OF BIO-CHEMISTRY
GOVERNMENT DEGREE COLLEGE HANDWARA
PROGRAMME OUTCOMES / COURSE OUTCOMES

Course Code	BCH422J1
Semester	4th
CO 1	This course aims to introduce the students to basics of metabolism and bioenergetics with an expectation to learn how the principles of bioenergetics and thermodynamics hold good in biological systems also and how are these central in understanding metabolism.
Course Title	IMMUNOLOGY
Course Code	BCH422J2
Semester	4th
CO 1	The course aims to provide students with the basic knowledge about the functioning of the immune system, inflammation, the causes and pathogenesis of major alterations in the immune response, vaccines
Course Title	TOOLS AND TECHNIQUES IN BIOCHEMISTRY
Course Code	BCH422J3
Semester	4th
CO 1	This course aims to equip students with appropriate laboratory tools and practices. It also helps in utilizing the theoretical, technical and analytical skills to tackle issues and problems in the field of biochemistry.
CO 2	It provides students with some work experience.
Course Title	CARBOHYDRATE AND AMINO ACID METABOLISM
Course Code	BCH522J1
Semester	5th
CO 1	Metabolism is central to biochemistry and thus this course aims to introduce the students to Biochemistry with an expectation to learn how biochemistry is central to disease diagnosis, prognosis, therapeutic intervention, biochemical industry and/or medicinal industry.
Course Title	HUMAN PHYSIOLOGY
Course Code	BCH522J2
Semester	5th
CO1	Demonstrate knowledge of major organ systems function.
CO2	To understand the physiology and basic regulatory concepts related to the Digestive, Hepatobiliary, Respiratory, Circulatory, Musculo-skeletal, Nervous, Excretory and Reproductive systems.
CO3	Name the key physiology themes (homeostasis & regulation, structure/function relationships.
Course Title	GENETICS
Course Code	BCH522J3
Semester	5th
CO1	Study historical overview and laws of Inheritance. Gene interactions and their outcome.
CO2	Understand Mendel's laws.
CO3	Chromosomal abnormalities in various genetic disorders.
Course Title	LIPID AND NUCLEIC ACID METABOLISM
Course Code	BCH622J1
Semester	6th
CO1	Metabolism is central to biochemistry and thus this course aims to introduce the students to Biochemistry with an expectation to learn how biochemistry is central to disease diagnosis, prognosis, therapeutic intervention, biochemical industry and/or medicinal industry.
Course Title	MOLECULAR BIOLOGY

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Course Code	**BCH622J2**
Semester	**6th**
CO1	Molecular biology deals with nucleic acids and proteins and how these molecules interact within the cell to promote proper growth, division, and development.
CO2	It is a large and ever-changing discipline. This course will emphasize the molecular mechanisms of DNA replication, repair, protein synthesis etc.
Course Title	**BIOLOGY OF MICROBES**
Course Code	**BCH622J3**
Semester	**6th**
CO1	This Syllabus focuses on studying the unicellular and clusters of microscopic animals, viruses, and bacteria. The aim of course is to teach the effects of these organisms on the human body and the environment.
CO2	This syllabus also contains the information on different types of viruses and bacteria, their structures and how they affect human cells and hence causing different diseases.

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PROGRAMME OUTCOMES

The four-year bachelors' program in Biotechnology aims to equip graduates with a strong foundation in fundamental biological sciences, enabling them to proficiently execute laboratory techniques, utilize modern biotechnology tools, and apply critical thinking to solve real-world challenges in biomedicine, agriculture, and other related fields. Students will develop effective communication and professional skills, fostering a strong ethical and safety awareness in research. This program emphasizes lifelong learning, preparing graduates for successful careers in diverse sectors including industry, academia, and research, while fostering the ability to adapt to the dynamic advancements within the field of biotechnology.

COURSE OUTCOMES (CO)

COURSES OFFERED UNDER NEP	
Semester	1ST
Course Title	BIOMOLECULES STRUCTURE AND FUNCTION
Course Code	BTG122J/ BTG122N
CO1	This course is aimed to introduce students to the basic concepts of life through the coordination of different biomolecules.
CO2	Understanding of structure, classification, function and physio-chemical properties of different bio-molecules.
CO3	Understanding of the properties of biocatalysts (enzymes), their mechanism of catalysis, and the kinetics of enzyme reaction and inhibition.
CO4	Practical knowledge about the estimation of different bio-molecules, and enzyme assay.
Semester	2ND
Course Title	MICROBIOLOGY AND IMMUNOLOGY
Course Code	BTG222J/ BTG222N
CO1	This course is aimed to introduce students about the creation of life through cellular processes.
CO2	Understanding about the physiology, structure, nutrition, and growth kinetics of microbes, methods for culturing bacteria and different types of

	bacterial cultures with their characteristic growth kinetics.
CO3	Wide knowledge of the immune system, its components and functioning of humoral and cell mediated immune responses.
CO4	Practical know-how of different techniques used in microbiology and immunology.
Semester	3RD
Course Title	MOLECULAR CELL BIOLOGY
Course Code	BTG322J/ BTG322N
CO1	This course is aimed to provide students an insight about basic structure and function of cells and their organelles.
CO2	Understanding of membrane transport, cell-cell interactions, and different phases of the cell cycle.
CO3	Hands-on training on plasma membrane permeability, karyotyping and mitosis.
Semester	4TH
Course Title	BIOTECHNIQUES
Course Code	BTG422J1/ BTG422N
CO1	This course is designed to give students exposure to various techniques and instruments used in biotechnology.
CO2	Practical knowledge of microscopes, UV-Visible spectroscopy, electrophoresis, chromatography and centrifugation.
Semester	4TH
Course Title	MOLECULAR BIOLOGY
Course Code	BTG422J2
CO1	This course is designed to provide students with the information flow in a living system at molecular level.
CO2	Understanding of the structure of DNA, process of replication, transcription and translation.
CO3	Hands-on training on various commonly used techniques in molecular biology.
Semester	4TH
Course Title	RECOMBINANT DNA TECHNOLOGY

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Course Code	BTG422J3
CO1	Students will have an understanding of cloning vectors and various tools utilized in recombinant DNA technology, and its applications.
CO2	Understanding of restriction enzymes, vector selection for cloning, expression of recombinant proteins and cDNA library.
CO3	Practical know-how of different techniques used in recombinant DNA technology.

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PROGRAMME OUTCOMES / COURSE OUTCOMES

Student Learning Outcomes for the Clinical Bio-Chemistry Programme

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

- The course is designed to give a general insight into clinical biochemistry as a subject and to acquaint the students with the basic ethics of laboratory,
- Essentials of lab management, quality control and impart awareness about hazards and safety measures in the clinical laboratory.
- The students will also learn about basics of specimen collection and handling for diagnostic investigations.

COURSES OFFERED UNDER NEP	
Course Title	FUNDAMENTALS OF CLINICAL BIO-CHEMISTRY
Course Code	CBC123J
Semester	1st
CO 1	To learn about the scope and history of clinical biochemistry.
CO 2	To learn about the basic ethics of working in a clinical biochemistry laboratory.
CO 3	To learn about quality control and quality assurance in a clinical laboratory
Course Title	CLINICAL PHYSIOLOGY AND DIAGNOSTICS-I
Course Code	CBC223J
Semester	2nd
CO 1	To learn the components and functional aspects of blood and its associated disorders.
CO 2	To learn about hepatic system and its associated disorders.
CO 3	To learn about renal system and its associated disorders.
Course Title	CLINICAL PHYSIOLOGY AND DIAGNOSTICS-II
Course Code	CBC322J
Semester	3rd
CO 1	To learn human endocrinology system. To learn the disorders associated with various vitamin deficiencies.
CO2	To understand the endocrine disorders.
CO3	To learn the laboratory diagnosis of various endocrine disorders; To learn the role of vitamins in metabolism.
Course Title	CELL BIOLOGY AND ASSOCIATED DISORDERS
Course Code	CBC422J1
Semester	4th
CO 1	The student should be able to explain the basic principles of so-called emerging diseases, the concepts of hosts and vectors, pathogen transmission

	cycles in nature, and general principles to prevent transmission
CO2	. Identify the most common food- and water-borne pathogens. Identify and analyze the most important infectious diseases.
Course Title	CELL BIOLOGY AND ASSOCIATED DISORDERS
Course Code	CBC422J2
Semester	4th
CO 1	To understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles.
CO 2	Students will understand how these cellular components are used to generate and utilize energy in cells. Students will apply their knowledge of cell biology to selected examples of changes or losses in cell function.
Course Title	BIOMOLECULES: METABOLISM AND CLINICAL RELEVANCE-I
Course Code	CBC422J3
Semester	4th
CO 1	To acquaint the students with basic understanding of the structure and properties of macromolecules those interact to maintain and perpetuate the living systems.
CO 2	Knowledge on the structure and function of different biomolecules would enable the students to consolidate their focus on understanding various metabolicpathways crucial for the sustenance of living systems.
Course Title	IMMUNOLOGY AND IMMUNOPATHOLOGY
Course Code	CBC522J1
Semester	5th
CO 1	To acquaint the students with the cellular components of immunology and the disorders associated with the immune system.
CO 2	The practical course will impart hands on skills in basic techniques of immunology and their utility in the diagnosis of human diseases
Course Title	CELL SIGNALING AND DISORDERS
Course Code	CBC522J2
Semester	5th
CO1	To understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles.
CO2	Students will understand how these cellular components are used to generate and utilize energy in cells.
CO3	Students will apply their knowledge of cell biology to selected examples of changes or losses in cell function.
Course Title	BIOMOLECULES: METABOLISM AND CLINICAL RELEVANCE-II
Course Code	CBC522J3
Semester	5th
CO1	To acquaint the students with basic understanding of the structure and properties of macromolecules that interact to maintain and perpetuate the living systems.
CO2	Knowledge on the structure and function of different biomolecules would enable the students to consolidate their focus on understanding various metabolic pathways crucial for the sustenance of living systems.
Course Title	MOLECULAR DIAGNOSTICS
Course Code	CBC622J1
Semester	6th
CO1	To acquaint the students with the developments in the field of Molecular diagnostics. The student will learn how variations in the genome are used for detection of various diseases and infection pathogens.

CO2	The practical course will impart hands on skills in basic techniques of Molecular diagnostics, Nucleic acid isolation and their utility in the diagnosis of human diseases.
Course Title	**BIOANALYTICAL TECHNIQUES AND INSTRUMENTATION**
Course Code	**CBC622J2**
Semester	**6th**
CO1	To be able to use analytical techniques and understand the working of diagnostic tools.
CO2	To understand the strengths, limitations and creative use of bio-analytical and diagnostic techniques
Course Title	**MOLECULAR BIOLOGY**
Course Code	**622J3**
Semester	**6th**
CO1	To provide the basic understanding of nucleic acids as genetic material, their structural and functional organization.
CO2	The practical course will impart hands on training in basic techniques of DNA isolation, PCR and nucleic acid estimation.

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PROGRAMME OUTCOMES / COURSE OUTCOMES

Student Learning Outcomes for the Anthropology Programme

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

- Intensive fieldwork, laboratory experiments, and research techniques and designs ensure that students acquire direct practical experience.
- The biological, socio-cultural, and archaeological anthropology.
- The Origins, evolution, and diversity of humans.
- Traditional and modern cultural and social systems, The interactions between human beings and their environments.
- The students will be introduced to anthropological perspectives and will learn of linkages with allied disciplines.
- Research skills are also developed, including study design, ethical considerations, and critical analysis, all of which are essential for anthropological inquiry.

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COURSES OFFERED UNDER NEP	
Course Title	INTRODUCTION TO ANTHROPOLOGY
Course Code	ANT122J
Semester	1st
CO 1	The students will gain an understanding of the academic field of anthropology, and its different branches.
CO 2	The students will be introduced to anthropological perspectives and will learn of linkages with allied disciplines.
CO 3	Through the practical components, students will develop the ability to compose field reports and book reviews.
Course Title	BIOLOGICAL ANTHROPOLOGY
Course Code	ANT222J
Semester	2nd
CO 1	Students will acquire knowledge regarding DNA, human genetics, primates, and genetics.
CO 2	Students will be able to gain a foundational understanding of human genetics, encompassing key concepts of population genetics and heredity.
CO 3	Students will gain the knowledge of human morphology necessary for a more exact comprehension of human evolution.
Course Title	SOCIAL ANTHROPOLOGY
Course Code	ANT322J
Semester	3rd
CO 1	Students will learn about the fundamental institutions i.e., Family, Marriage and Kinship.
CO2	Students will learn about characteristics and types of Religion.
CO3	Students will gain a practical understanding of Ethnographic Research.
Course Title	ARCHAELOGICAL ANTHROPOLOGY
Course Code	ANT422J1
Semester	4th
CO 1	Students will develop a comprehensive understanding of the foundational concepts in archaeological anthropology, including the geological timescale, quaternary ecology, dating methods, and the typology of tools.
CO2	Students will learn about the evolution of culture from lower palaeolithic to the emergence of civilizations, including their chronology, material culture, subsistence patterns, and significant sites.
Course Title	HUMAN ORIGIN AND EVOLUTION
Course Code	ANT422J2
Semester	4th
CO 1	Students will learn about the evolutionary and historical processes that have shaped primates and human ancestors and lead to the Social-Cultural, behavioural and biological diversity seen in the present.
CO 2	Students will gain knowledge of the trends of primate evolution with detailed focus on the human evolution via fossils.
Course Title	HUMAN GROWTH AND DEVELOPMNT
Course Code	ANT422J3
Semester	4th
CO 1	Students will get knowledge on physical development and growth.

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CO 2	At a practical level, students will learn how to measure and study various parts of the human body and body composition.
Course Title	**THEORIES IN SOCIAL ANTHROPOLGY**
Course Code	**ANT522J1**
Semester	**5th**
CO 1	Develop a critical knowledge of theories in socio-cultural anthropology.
CO 2	Cultivate a positive mindset towards appreciating diversity and an inquisitive attitude towards studying culture.
CO3	Applying and inducting theories from a data set.
Course Title	**HUMAN ECOLOGY AND DEMOGRAPHY**
Course Code	**ANT522J2**
Semester	**5th**
CO1	Students will develop a critical knowledge of anthropological perspectives on ecology.
CO2	Students will cultivate a positive mindset towards appreciating the diverse ways humans construe and relate their environment.
CO3	Students will get a first-hand experience on how people adapt to their environment.
Course Title	**GENDER AND SOCIETY**
Course Code	**ANT522J3**
Semester	**5th**
CO1	Students will gain an understanding of concepts of sex, gender, and patriarchy.
CO2	The course will develop gender sensitisation among students.
CO3	This will help to create gender neutral spaces and change in the patriarchal institutions of the society.
Course Title	**ANTHROPOLOGY IN INDIA**
Course Code	**ANT622J1**
Semester	**6th**
CO1	The students will learn about the concepts of tribes, their classification and distribution.
CO2	They will also learn about peasantry and how it is related to tribes.
Course Title	**HUMAN ECOLOGY AND DEMOGRAPHY**
Course Code	**ANT622J2**
Semester	**6th**
CO1	Students will gain an understanding of tribes, and their economic, social, and political tribal features.
CO2	Students will be introduced to study of villages and peasantry, and will be able to analyse tradition and change.
Course Title	**PREHISTORY AND PROTOHISTORY OF INDIA**
Course Code	**ANT622J3**
Semester	**6th**
CO1	The students will be able to understand salient features, chronology, material culture, and subsistence patterns of Palaeolithic, Mesolithic, and Neolithic cultures in India.
CO2	The students will gain knowledge of Neolithic transition, early farming communities, and the emergence of Indian civilizations, including the Indus Valley Civilization, Chalcolithic cultures, and post-Harappan cultures.