D.N. (PG) COLLEGE, MEERUT

Program Outcomes, Program Specific Outcomes and Course Outcomes for All Programs Offered by the Institution

Session: 2018-19

DEPARTMENT OF MATHEMATICS

B.Sc. Mathematics

Program outcomes	The UG program in mathematics enables a student to nurture the basic manipulative skills in algebra , calculus , geometry ,differential equations etc. The student can make his career in banking , computing and ICT ,acturial science etc.
Program specific outcome	A student is enabled to define mathematical concepts , calculate quantities ,solve problems , study the unifying structure (i.e .sets , relations , functions , logical structures , develop models , interpret data and communicate mathematical thoughts).

Course Outcomes	
Course	**Outcomes**
Trigonometry and Algebra	To Inculcate Knowledge on Circular Hyperbolic Logarithmic Functions, Summation of Series and Classical Algebraic Structures.
Calculus	To Inculcate Knowledge on Differential Calculus, Integral Calculus and their applications.
Geometry and Vector Calculus	To Inculcate Knowledge on Conic, Plane, Straight Lines, Sphere, Cone, Cylinder, Conicoids. To Inculcate Knowledge on Vector Calculus such as Gradient ,Divergent, Curl, Gauss`s Theorem, Stoke`s Theorem and Green`s Theorem.
Linear Algebra and Matrices	To Inculcate Knowledge on Vector Space, Linear Transformation, Bilinear & Quadratic Form and Matrices.
Differential Equations	To Inculcate Knowledge on Ordinary and Partial Differential Equations and Their Solutions. To Inculcate Knowledge on Laplace and Fourier Transformations and their applications.
Mechanics	To Inculcate Knowledge Motion of a Particle, Motion in Resisting Medium, Constrained Motion, Central Orbits and Kepler's Law. To Inculcate Knowledge on Common Centenary, Centre of Gravity Virtual Work and Forces in three Dimensions.
Real Analysis	To Inculcate Knowledge on Real Number System, Sequence, Series, Continuity, Differentiability and Riemann Integrals.
Numerical Analysis and Programming in C	To Inculcate Knowledge on Interpolation, Numerical Differentiation, Solution of Algebraic and Transcendental Equations, Computer Fundamentals, Operating System and Computer Software.
Linear Programming	To Inculcate Knowledge on Formation and Solutions of Linear Programming Problem, Convexity, Transportation, Assignment and Goal Programming Problem.

M.Sc. Mathematics

Program outcomes	The PG program in mathematics enables a student to master the advance tools of modern day mathematics. The curriculum is a nice blend of pure and applied mathematics. The student learns to explore fundamental ideas of mathematics and its applications for the real life problems.
Program specific outcomes	The PG student of the program can make his career in the fields of teaching

	,research ,data statistician ,economic analyst and in the field of operations research . Modern day technology needs day by day up gradation and a PG in mathematics can do wonders in this field.

Course Outcomes	
Course	**Outcomes**
Algebra	To Inculcate Knowledge on Algebraic Structure such as Normal Subgroup, Rings, Ideals, Field, Polynomial Ring and Field Extension.
Real Analysis	To Inculcate Knowledge on R-S Integral, Sequence and Series of Functions, Power Series and Functions of Several Variable.
Differential Equation	To Inculcate Knowledge on Ordinary Differential Equations and Partial Differential Equation, Laplace Wave and Diffusion Equations, Gauss Hypergeometric Equation, β-γ Functions and Hermite Polynomials.
Metric Space	To Inculcate Knowledge on Some Properties of Metric Space Such as Convergence of Sequences, Continuity and Homomorphism, Completeness and Compactness.
Topology	To Inculcate Knowledge on Some Properties of Topological Space such as Continuity, Homomorphism, Connectedness, Compactness, Countability and Separation Axioms.
Measure and Integration	To Inculcate Knowledge on Infinite Set, Measurable Set, Measurable Functions, Lebesgue Integrals, Function of Bounded Variations and L_p-Space.
Advanced Discrete Mathematics	To Inculcate Knowledge on Logic, Boolean Algebra, Lattices, Graphs and Trees.
Operations Research	To Inculcate Knowledge on Solutions of Linear Programming Problem, Transportation and Assignment Problem, Sequencing Theory, Replacement, Inventory, Network Analysis and Queuing Theory.
Numerical Analysis	To Inculcate Knowledge on Interpolation, Numerical Differentiation and Integration Computation of Errors, Solutions of Algebraic and Ordinary Differential Equations.
Complex Analysis	To Inculcate Knowledge on Analytic Functions, Conformal Mapping, Complex Integration and Entire Functions.
Mathematical Methods	To Inculcate Knowledge on Fourier Series and its applications, Eigen Values and Eigen Function, Fredholm Integral Equation, Volterra`s Integral Equation and Hilbert`s Schmidt Theory.
Mathematical Programming	To Inculcate Knowledge on Convexity, Duality Theory, Sensitivity, Integer Programming, Goal Programming, Parametric Linear Programming, Quadratic Programming and Non-Linear Programming.
Number Theory	To Inculcate Knowledge on Division Algorithm, Theory of Congruence, Number Theoretic Functions, Primitive Roots and Perfect Numbers.
Fluid Dynamics	To Inculcate Knowledge on Kinematics of Fluid, Equation of Motion, General Theory of Stress and Strain, Constitutive Equations, Vortex Motion and Some Incompressible Viscous Fluid Flows.
Functional Analysis	To Inculcate Knowledge on Banach Spaces, Hilbert Spaces and Spectral Theory.
Differential Geomatry	To Inculcate Knowledge on Theory of Curves, Metric, Envelops, Developable Surfaces, Asymptotic Lines and Geodesics.

DEPARTMENT OF COMMERCE

B.Com	
Programme outcomes	This programme is structured to provide in depth knowledge to students about various core subjects like accounting, law, statistics, economics, auditing etc. The students has adequate knowledge of adapting to the changes in the flexible business world. This programme will help to develop skilled manpower for industry and commerce.
Programme specific outcomes	A B.Com student can explore numerous career options after obtaining the degree. Students either can start their own venture or look for job prospect in the area of accounting, marketing, banking, stock broking, secretarial practices etc. They can become accountant, auditor, tax auditor, manager, statistician, accounts clerk, cashier etc.
Subjects	**Outcomes**
Business Communication	Students are expected to be able to demonstrate a good understanding of effective business letter writing, information collection, developing and delivering effective presentation.
Business Statistics	Students are expected to be able to produce appropriate graphical and numerical descriptive statistics, analysis and interpretation of various data through use of different statistical tools and techniques.
Financial Accounting	Students are expected to able to maintain books of account and produce financial statements of the organizations.
Business Regulatory Framework	To acquaint students with the basic concept, terms & provision of business laws affecting business, trade and commerce.
Business Economics	To develop the understanding of core economic terms, concept & theories to solve the micro & macro economic problems.
Business Environment	To develop the understanding of business environment and its impact on business, trade & commerce.
Company Law	To develop the understanding of basic and broad knowledge of company laws and provisions.
Cost Accounting	Students are expected to be able to maintain costing records, cost statement, reconciliation of cost, accounting with financial accounting profit.
Income Tax	Students are expected to be able to know the various provisions of the Act and time to time amendments.
Fundamentals of Entrepreneurship	To provide the basic idea of entrepreneurship, identity entrepreneurial opportunities, explore entrepreneurial leadership and management style.
Public Finance	To develop the understanding of public finance and policy, tax policy principles and reforms. This subject provides critical approach to examine the principles, processes and outcomes of revenue and expenditure of government.
Corporate Accounting	Students are expected to know the accounting procedures followed by companies in conformity with the provisions of companies act.
Auditing	To develop the understanding of audit concept, its rules, regulation, procedure applicability and report writing.
Principle of Marketing	Students are expected to know the fundamental marketing concepts, theories and principles in areas of marketing policy of market, consumer behavior of product, distribution, promotion and pricing decisions.
Economic Laws	This subject aims to recognize the economic issues in a legal problem and apply the economic way to thinking to analyze it. Assess the efficiency effects of legal rules and policies.
E-Commerce	To develop the understanding of the fundamentals and importance of E-Commerce. Students will learn how e-commerce concepts are applied to different fields like education, banking, tourism, retail and so on.
Management Accounting	Students are expected to know the conceptual framework of management accounting and develop the ability to collect, analyze and communicate

	quantitative and non quantitative information to assist management in effective planning and control decisions.
M.Com.	
Programme Outcomes	This programme structured with the vision "to nurture the young brains to make them better employable and socially responsible citizens by inculcating the right set of knowledge for better tomorrow". It offers a deep dive into various facet of management and organizational development through incorporation of relevant topics such as marketing management, finance, HRM, strategic management, research methodology, accounting and taxation. The programme thus aims to provide students with the opportunity to develop and broaden their management and leadership skills to provide innovative solutions for today's business and societal challenges.
Programme Specific Outcomes	The M.Com course provides an extreme & rigorous base for teaching, research and business administration. It serves the need of industry and academics. Students can either start their own venture or go for jobs in different fields of industry and education.
Subject Outcomes	
Subjects	**Outcomes**
Management Concept and Organizational Behavior	To develop the understanding of conceptual framework of management and organizational behavior, motivational theories, techniques and leadership skills.
Direct Tax Planning and Management	To acquaint the students about practical aspect of computation of income tax, its planning and effective management.
Statistical Analysis	Students are expected to know the tools and techniques of statistics to solve the data related problems.
Financial management	This course enables the students to know about capital budgeting, capital, structure, cost of capital working, capital management and models to maximize the wealth of shareholders.
Goods and Service Tax	To develop the understanding of GST rules and regulation, theoretical and practical implications.
Corporate Financial Accounting	This course provides theoretical and practical exposure to the students about advance accounting issues and practices such as maintenance of books of accounts for the company, preparation of financial statements in conformity with company law.
Corporate Law and Governance	Students are able to analyze and apply various provisions of the Companies Act, the SEBI Act, Competition Act the Prevention of Money Laundering Act as also to develop ability to interpret statutes, deeds and documents.
Operation Research	The students should know the applicability and use of OR in diverse' field for making effective decisions.
Research Methodology	To develop the basic understanding of tools and techniques of research. It offers theoretical understanding of set of methods or best practices to be applied to a specific case to find a specific result.
Strategic Management	This course is designed to enhance decision making abilities of students in situations of uncertainty in a dynamic business environment.
Project-work	Students will acquire the skills to communicate effectively and to present ideas clearly both in written and oral forms. They acquire collaborative skills through working in a team to achieve common goals.
Managerial Economics	The students acquire the knowledge of demand forecasting price fixing, market competitors. It develops managerial perspective to economic fundamentals as aids to decision making under given environmental operation.
Finance Group (Elective)	This course provides expert knowledge to student about security analysis & portfolio management, security laws and capital market. Students can forms models & portfolios for effective asset management.

Human Resource Group (Elective)	This course provides expert knowledge of human resource management, industrial relation and labor laws. Students can develop expert understanding of manpower planning and management trade unionism and labor laws.
Marketing Group (Elective)	This course provides expert knowledge of marketing management and international marketing. Students can develop and apply theories and concept of marketing to resolve local and global diverse market problems.

DEPARTMENT OF PHYSICS

Programme Outcome	Physics has a wide scope in science. It has a vast contribution by proposed theories and assumption to explain and discover phenomenon occurs in nature. The formulated theories and hypothesis are confirmed by experiments using quantitative tools. They also explore and invent new machines (mechanical, electrical, electronics, medical instrumentsetc) to make daily life comfortable.
Programme specific outcome	The electronics is a branch of physics which describe and cover the basic electronic concepts and devices.
Course outcome	
Courses	Outcomes
Mechanics	To gain knowledge about motion of macro bodies,
	To learn about gravitational force.
	To setup of practicals and understand the theories
Heat & Thermodynamics	To learn the principles of heat transfer.
	To know about basic laws of thermodynamics.
	To setup of practicals and understand the theories.
Optics	To learn knowledge of wave theories.
	To learn phenomenon of light interaction with matter (diffraction, interference, reflection, bending)
	To setup of practicals and understand the theories
Atomic physics and spectroscopy	To study atomic energy levels, Zeeman effect.
	To study states in atom
	Spectroscopy study of atom and determination of various parameter like Rydberg constant, electron spin resonance.
	To setup of practicals and understand the theories
Mathematical physics	Mathematics used in physical science such as in vectors, calculus, complex. Differential equation, numerical analysis.
Electronics	To gain knowledge of electronics instruments, basic components,
	To understand the basic circuit knowledge, operation of analog circuit, transistor, operational amplifier, diodes, MOSFET.
	To setup of practicals and understand the theories
Electricity and magnetism	To study Electrical charges properties, motion of charges, magnetism properties, calibration conversion through potentiometer, magnetic field variation. Setup of practicals and understand the theories
Digital & processor	To gain knowledge of digital instrument, logic gates, function of microprocessor, components of microprocessor,

	To study about modulation, demodulation, flipflop, shift, register.
	To setup of practical's and understand the theories.
Quantum mechanics and relativity	Study of quantization of energy level and Schrodinger equation
	To exploring phenomenon where classical fail fails to explain certain event.
Nuclear physics	To learn about the nuclear energy, nucleus structure, nuclear forces, fusion, fission process
Solid state electronics	Semiconductor physics in depth knowledge.
	Thermal, electrical, magnetic properties of solid, superconductivity
	To setup of practical's and understand the theories

M. Sc. Physics Outcome

Course	Outcome
Mathematical Physics	On successful completion of this course the students should have the knowledge of various Polynomials used in physics, Integral transforms and Complex variables.
Classical Mechanics	On successful completion of this course the students should have the knowledge of Lagrangian and Hamiltonian formulation, two body central force problem and theory of small oscillationS.
Quantum Mechanics I	On successful completion of this course the students should have the knowledge of Quantum Mechanics and its evaluation, different types of representation, approximation method, Commutation relations, Theory of angular momentum and scattering theory.
Electronic devices	On successful completion of this course the students should have the knowledge of the conduction mechanism in semiconductor, construction and characteristics of different types of transistor and feedback amplifiers.
Quantum Mechanics II	On successful completion of this course the students should have the knowledge of the theory of lasers and relativistic wave equations.
Statistical Mechanics	On successful completion of this course the students should have the knowledge of the phase space, different types of statistics in physics, cluster expansion of a classical gas and fluctuation.
Electrodynamics and Plasma Physics	On succesful completion of this course the students should have the knowledge of Laplace and Poisson equations, Linear and Non linear magnetic media,Time varying fields, Plane electromagnetic waves and plasma characteristics.
Atomic and Molecular Physics	On succesful completion of this course the students should have the knowledge of singlet and triplet states of helium, HartreeFock approximation, L-S and J-J coupling, Zeeman effect, Rotational, Vibrational,Raman, Electronic and Photoelectron spectroscopy.
Condensed Matter Physics	On succesful completion of this course the students should have the knowledge of defects in crystals, interaction of X-Rays with matter, Bloch theorem and Ferromagnetism.
Electronics I (Special Paper)	On succesful completion of this course the students should have the knowledge of operational amplifiers, digital logic gates and microprocessors.
Electronics II (Special Paper)	On succesful completion of this course the students should have the knowledge of microwave devices, amplitude modultion, frequency modulation,transmission lines and fiber optical communication.
Nuclear and Particle physics	On succesful completion of this course the students should have the knowledge of nuclear structure and models, particle physics and nuclear forces.
Physics of Nano materials	On succesful completion of this course the students should have the knowledge of synthesis and characterization of nano materials, size dependent properties of materials and quantum confinement.
Electronics III (Special Paper)	On succesful completion of this course the students should have the knowledge of digital modulation techniques and communication, probability distribution and data

	transmision requirements.
Electronics IV (Special Paper)	On succesful completion of this course the students should have the knowledge of fabrication techniques for integrated circuits and their testing.
Computational Methods and Programming	On succesful completion of this course the students should have the knowledge of solution of algebric and transcendental equations, interpolation formulas, Numerical differentiation and integration, Numerical solution of differential equations and Basics of computer programming.

DEPARTMENT OF BOTANY

Programme Outcomes-	• Students will be able to gain knowledge and understanding of the range of plant diversity, structure, function and their environmental relationship. • Students will be able to acquire intellectual skills and be able to think logically ad assimilate knowledge and ideas based on reading books and through multimedia facilities. • Students shall learn to carry out practical work in the field and in the laboratory with minimal risk. • They will learn presentation skills - both verbal and written. • They shall learn to use library resources and learn to manage time. • They will demonstrate engagement in Botanical studies through involvement in research or extension work, participating in the activities under Botanical society, industrial and laboratory visits and monitoring activities specific to Botany. • They will also develop skills for entrepreneurship.
Programme Specific Outcomes	• The students will be able to have hands on expertise in Botanical scientific research. • They will be able to clear competitive exams with Botany as a subject such as various Entrance Exams for PG and Research or any further studies. • Students will be able to qualify IFS, CSIR-NET, GATE, ICMR, Teaching faculty tests, etc. • The programme will focus on career and job opportunities in both government and private sectors

B.Sc. (BOTANY) OUTCOMES

Paper	Outcome
Diversity of Viruses, Bacteria and Fungi	The students will understand the difference between Prokaryotes and Eukaryotes and will learn about the structure of microorganism and their economic importance.
Diversity of Algae, Lichens and Bryophyta	The students will learn about the structure and reproduction of certain selected algae, lichens and bryophytes. They will also understand the importance of plant diversity and their economic value.
Diversity of Pteridophytes and Gymnosperms	Students will learn about structure and life cycle of selected species of Pteridophytes and Gymnosperms. They will also know about internal structure and morphology of the plants.
Diversity of Angiosperms	The students will understand various Angiosperms plant habits, their structure and modifications and will learn about various Angiosperm families & their economic values.
Cytology, Genetics Evolution & Ecology	The basic cell structure and function will be learnt, various concepts of Mendelian Genetics its variations & Applications shall be known to the students. They will familiarize with various concepts of evolution and environmental ecology and its conservation.
Plant Physiology & Biochemistry	The students will understand the various processes going inside the plants and learn

	about their growth and their metabolic activity.
Plant Resource Utilization, Palynology, Plant Pathology Biostatistics	The students will learn about the use of plant resources to produce valuable products. They will understand the plant diseases and their causal agents. They will also understand the fundamental concept of Biostatistics
Molecular Biology & Biotechnology	The Students will understand the basic concept of molecular biology, genetic engineering & plant tissue culture & its applications, they will learn about the basic concept and methodology applied in Biotechnology.
Environmental Botany	The students will values regarding various global environmental issues. They will learn to deal and overcome the environmental stress problems.

M.Sc. (BOTANY) OUTCOMES

Paper	Outcome
Cell & Molecular Biology	By the end of this course students will be able to understand the structure of cells in relation to function, the properties of nucleic acids & their role in cellular processes.
Biology and Diversity of Viruses & Bacteria	The students will learn to differentiate between prokaryotes & eukaryotes, the life cycle and metabolism of microbes and also the immune system & their disorders.
Biology and Diversity of Algae & Bryophytes	Students will have understanding of structure and development of some species of Algae and Bryophytes and their diversity.
Biology & Diversity of Pteridophytes Gymnosperms & Paleobotany	This will provide them knowledge about the diversity of Pteridophytes & Gynmosperms, they will be enabled to study the fossil plants and will be able to practically understand the structure & development of plants.
Fungal Biodiversity and plant pathology	It will inculcate the knowledge about diversity in Fungi & role of microbes in plant diseases.
Angiosperm Taxonomy, Plant Resources & Ultization	It will help the students learn how to classify & identify the plants and understand their economic importance and use.
Genetics Cytogenetic & Plant breading	The students shall have a sound knowledge of Mendelian Genetics and plant Breeding techniques.
Anatomy & Reproduction in Angiosperms	The students will learn about the internal structures and Development of flowering & fruiting plants.
Plant Soil water Relations-Growth & Development	At the end of the course, the student will learn about the various physiological & growth related processes in the plants.
Phytochemistry & Metabolism	This will inculcate the knowledge of cellular functions and biochemical properties of molecules.
Plant Ecology & Phytogeography	The students will understand the geographical factors affecting the plant life cycle and the its ecological relationship with its surroundings.
Elementary Biotechnology	The students shall come to know about technologies involving living organisms, more about genetically modified organisms & techniques involved in gene transformation & modification.
Modern Phyto-techniques & Biostatistics	The students shall learn about various principles & techniques involved in plant study, its applications and will be able to analyse the data obtained statistically.
Biodiversity Conservation & Plant Resources	This will provide a complete study of Biodiversity conservation methods. The students will also come to know the utility of various plant resources.
Recombinant DNA Technology	The student shall have a sound knowledge of recombinant DNA techniques used in Genetic Engineering.
Plant tissue culture	After completion of this course the student will come to know about the techniques involved in tissue culture and its applications.

DEPARTMENT OF ZOOLOGY

Zoology is also known as animal science the branch of biology devoted to the animal kingdom including the structure, embryology, evolution, classification habits and distribution of all animals both living and nonliving (exlinct) & how they interact with the ecosystem. This course emphasizing distribution, morphology, physiology, biochemistry, epidemiology, immunology of cell, tissue and organs. Students will acquire and demonstrabte the various laboratory techniques to make temporary and permanent slides of vertebrate and non vertebrate animals. They (Students) will learn all above techniques in theory as well as in practical periods. Students will communicate scientific concept, experimental work and analytical arguments clearly and concisely.

B.Sc	
Cell Biology & genetics	To explore the knowledge in cell structure & function & hereditary character, genetically transmitted disease.
Animal distribution evalution and developmental Biology-	In this paper the student will studied the distribution of animals under geographical head which describe distribution of animal throughout the world during evolutionary process.
Biotechnology, Immunology techniques	Biological tools & techniques this course students will learn the use of living organism mainly in tiled of agriculture, food science & medicine in immunology to inculcate the knowledge towards physiological functioning of immune system in both ways health & disease
Environmental biology	This paper explore the knowledge of students to get study which in inter disciplining field that immigrate physical, biological and information science to study. The environment and solution of environmental problems.
Lower Nonchordata	It is the basic paper of zoology which is laught since 10^{th} standard. In M.Sc students learn about the basic and peculiar character of different inveslibrate phylum. Among all the animals non chordates make the major portion in number.
Higher Non-chordata	In this paper phylum annlida arthropoda mollusca and echinodermata are included in B.Sc students understand the basic structure and physiology of one animal of every phylum.

M.Sc Previous	
Bio chemistry	This subject deals with structure, functions and interaction of biological macro molecules such problem, carbohydrate lipids, which provide the structure of cells & perform pratein functions and metabolic activity of cell.
Applied and economic Zoology	This subject will provide the basic knowledge about parasitology, structure life cycle, pathogeneciety including diseases causes systems and control of parasites to domeselic animals & human slidy of aquaculline, pisciculture poultry, sericulture, apiculture & Lac-culture.
Higher Non-chordata	In this paper phylum annlida arthropoda mollusca and echinodermata are included in B.Sc students understand the basic structure and physiology of one animal of every phylum.
Cell & Molecular Biology	To inculcate the knowledge about the different structure and functions of cell, cell death, molecular aspect of cell like DNA, RNA, and protein synthesis. The students can learn the molecular aspects of cell and cell organelles.
Environmental biology and taxanomy	This paper explore the knowledge of students to get study which is inter disciplinary field that integrate physical, biological and information science to study. The environment and solution of environmental problems.
Biostatistics & Bioinformatics	This subject will provide the field that develops methods and software tools for understanding biological data combine biology, computer science information engineering, mathematics and statistics to analyze the biological data.
Applied and economic Zoology	This subject will provide the basic knowledge about parasitology, structure

	life cycle, pathogenecity including diseases causes systems and control of parasites to domestic animals & human study of aquaculture systoms, pisciculture poultry, sericulture, apiculture & Lac-culture.
M.Sc Final	
Applied fisheries	This subject will provide the basic knowledge at about fish and fisheries concerned with taxonomical, morphological physiological, embryological, ecological, economical, and other applied aspect of fisheries.
Gen fish Biology	Fishes is the important food source of man. In this paper, students taught about the different types of fishes, their habitat and peculiarities.
Animal Behavior	On successful completion of this subject the student will gain basic knowledge about ethology starting from different animal behavior like learning and memory, reproductive behavior, feeding behaviour, parental care, migratory behaviour & biological rhythm.
Developmental Biology	Enables the students to get the sufficient knowledge of different developmental stages of embryo but also include biochemical, genetic and physiological and morphological aspect of developing embryo.
Environmental biology	This paper explore the knowledge of students to get study which in inter disciplining field that immigrate physical, biological and information science to study. The environment and solution of environmental problems.

DEPARTMENT OF CHEMISTRY

Programme Outcome	Students will demonstrate an understanding of major concepts in all disciplines of chemistry. Students will employ critical thinking and the scientific method to design, carry out, record and analyze the results of chemical experiments and get an awareness of the impact of chemistry on the environment, society, and other cultures outside the scientific community.
Programme Specific Outcome	The ability to explain chemical nomenclature, structure, reactivity, and function in their specific field of chemistry. The design and execution of the experiment should demonstrate an understanding of good laboratory and the proper handling of chemical waste streams and also explain how the applications of Chemistry relates to the real world.

Course	Course Out comes
Analytical chemistry	Students will learn about errors sand evaluation, radiochemical methods, chromatographic techniques, thermal methods of Analysis.
Photochemistry 4-3007	To enable students to know about kinetics of photochemical reactors, photochemistry of alkenes and carbolic compounds.
Spectroscopy	Students will learn about mass spectroscopy, and atomic spectroscopy.
Bio organic Chemistry	Students will learn about to the chemistry of enzymes and enzyme models.
Environmental chemistry	To enable the students about the environmental, biological cycle, pollution and their effect on living being.
Chemistry H-1007	To enable students to learn bonding specially VSEPR theory, CFT theory and mechanism of transition metal complex.
Org chemistry H-1008	To acquaint knowledge on aromaticity, stereochemistry and reaction mechanism.
Phy chemistry H-1009	Enable the students to learn about the law of thermodynamics and quantum mechanics.

Mathematics for chemistry	To enable the students to solve the various mathematical problem used in physical chemistry.
Inorg. Chemistry H-2007	Students to learn about the atomic spectroscopy, magncto chemistry.
Org chemistry H-2008	To enable the students to know about the pericyclic reactions, mechanism of elimination reaction.
Phy chemistry H-2009	Students to acquaint knowledge about chemical kinetics and electro chemistry.
Spectroscopy H-2010	To enable the students to know about the U.V spectroscopy, NMR, spectroscopy, I.R and raman spectroscopy.
Chemistry III B.Sc II	Students will learn about car not cycle & detailed thermodynamics.
Chemistry I B.Sc III	Detailed coordination complex, Acid-base & organo-metallic compounds.
Chemistry II B.Sc III	Knowledge about carbohydrates, fats, proteins and spectroscopy
Chemistry III	Spectroscopy, elementary quantum mechanics
B.Sc III	Photochemistry and collegative properties.

DEPARTMENT OF STATISTICS

Programme Outcome	The course has been decided according to the aspirations of students to make career in the field of Statistics and catering to the needs of various competitive examinations. It is a good blend of theory and practical which makes students understand the subject in a better way.
Programme Specific Outcome	Graduate degree holders are given preference in Banking sector, Insurance sector, Actuarial Sciences, Government Departments and Private Organisations for the post ofData Analyst, Specialist Cadre Officers, Statisticians etc.

B.Sc. (STATISTICS) Outcomes

Statistical Methods	To enhance the basic knowledge of Statistics
Probability Theory	To get an idea of the likelihood of occurrence of different events in life
Probability Distribution and Theory of Attributes	To model random phenomenon enabling statisticians to obtain estimates of the probability of certain events. Theory of attributes deals with qualitative data.
PracticalP -	To learn how to apply theoretical knowledge in real life problems.
Statistical Inference	To draw valid conclusion about hypothetical assumptions with the help of samples drawn as per need
Survey Sampling	To understand the importance of samples because on many occasions it is impossible to work with entire population
Analysis of Variance and Design of Experiments	To split the total variances into a number of components for relative comparison amongst them especially in area of agricultural sciences
PracticalP-	To learn how to apply theoretical knowledge in real life problems.
Non Parametric Methods and Numerical Analysis	To test the hypothesis when functional form of the distributions are not known Numerical Analysis Methods are used for interpolation and extrapolation and also to obtain integral values of a function when form of function is not known
Applied Statistics B- 395	To apply the basic knowledge of Statistics to understand the vital events, forecasting, market analysis and to maintain the quality of industrial productions

Linear Programming and Computational Techniques B -396	To know how to optimize profits and minimise loses. To make the students knowledgeable about computer fundamentals and its applications

Department of English

Programme outcome	Programme of M.A English is designed to make students aware about the culture and literature of different countries through teaching of literature and critical theory of writers of different nationality. At the outset it aimed to develop critical ability as well as communicative competence.
Programme specific outcome-	On successful completion of M.A English students will develop competence in following skills- 1.They will develop communicative competence in English. 2. They will develop critical ability to analyze the cultural, historical practices of society in general and text in particular. 3. Students will understand the discourses prevalent in world.
Paper one ,three , five, six, seven, ten and twelve	Best writers of British literature from 14th century to 20th century have been included to acquaint students with rich historical and cultural knowledge of British literature . On persuasion of these papers students will learn about different genre and their use in life.
Paper Two-2. Literary Theory and Cultural Studies –	Paper aims to provide the background knowledge of development of cultural studies and literary theories . This paper arms students with a critical ensight to understand intersection of capitalism and society.
Paper Four - Research Method and Material in English –	Paper is designed to develop research aptitude among students . Course content will farmiliaze students with the mechanism of research and report writing.
Paper Eight- American Literature –	It will make students familiar with societal , cultural background of American society at the same time it will also develop their vision that how American Literature helped in development of American sensibility which is free from traces of colonization.
Paper Nine English Phonetics and Linguistics	Paper will provide knowledge about the mechanics of speech production and it will also develop communicative skills by providing knowledge of right pronunciation knowledge while linguistics part will provide exposure to different theories and practices of linguistics.
Paper Eleven- English language teaching and English of India-	Paper will make students familiar with the historical context of development of English in India. It will also make student competent in theories of English language teaching so they can be a successful teacher.
Practical Test Modern English Grammar and uses –	Student will be familiarized with modern grammar to develop their language competence.
Paper Thirteen Indian Literature in English –	This paper will introduce the tradition of Indian English literature to students.
paper of general English is offered to students of B.Sc II as on optional paper from the corpus other languages paper like	Hindi, Sanskrit and English, students have to choose anyone out of three papers. It is compulsory for them to choose one paper.
General English	Curriculum of paper focuses on the thrust of language horning, and includes short essays to include moral values. Grammar portion focus on the correct use language as letter drafting fundamental.

DEPARTMENT OF PHYSICAL EDUCATION & SPORTS

Program Outcome	Curriculum of Physical Education and Sports (Qualifying course) is a compulsory paper for undergraduate level students. This paper is required for all students of B. Sc. and B.Com. to instill the spirit of completeness. Students to make them physically activity to developed healthy mind and body**.**
Program Specific Outcome:	Students have to complete theory and practical exam in each graduation course year. Theory and practical have been in given same weights in exams. ➢ Students learn rules and regulations, skills, techniques and ground measurement of sports. ➢ Students become aware about the career opportunity available in sports. ➢ To make students aware about regular signatory body doping rules. ➢ To help students to learn competitiveness, team spirit and lead a healthy life. ➢ Beside sports activity students are also trained for yoga. This is very helpful in mental and physical health.

DEPARTMENT OF COMPUTER SCIENCE

B.Sc (Computer Science)

Programme specific Outcome	Ability to apply the knowledge gained from computer science course in particular to identify, formulate and solve real life complex engineering problems faced in industries and/or during research work with due consideration for the public health and safety, in the context of cultural, societal, and environmental situations. Ability to provide socially acceptable technical application of modern and appropriate techniques for sustainable development relevant to professional engineering practice. Ability to apply the knowledge of ethical and management principles required to work in a team as well as to lead a team.
Department of Computer Science	
Programme Outcome	An ability to apply knowledge of computing and mathematics. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution. An ability to design, implements, and evaluate a computer-based system, process, component, or program to meet desired needs. An ability to function effectively on teams to accomplish a common goal. An understanding of professional, ethical, legal, security and social issues and responsibilities. An ability to communicate effectively with a wide range of audiences. An ability to analyze the local and global impact of computing on individuals, organizations, and society. Recognition of the need for and an ability to engage in continuing professional development. An ability to apply mathematical foundations, algorithmic principles, and computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices. An ability to apply design and development principles in the construction of software system of varying complexity.

Course	Course Out comes
English Language & Profession Communication I	To inculcate knowledge of English and professional communication.
Applied Mathematics I	On successful completion of this subject the students should have knowledge of matrices, differential calculus, multiple integrals and vector calculus.
Applied Physics I	On successful completion of this subject the students should have knowledge one digital circuits and various components in physics. To understand polarization, spiral theory of etc.
Computer fundamental,MS Window and MS Office Tools	To inculcate knowledge of computer fundamentals and understand the basic concept and the usage of internet, mail creation, resume preparation, develop excel sheets, develop ppts, etc.
English language professional Communication II	To inculcate knowledge of English and professional communication and Personality development.
Applied Mathematics-II	To inculcate knowledge on mathematics using Laplace transform, Fourier series, etc.
Basic Electronics	On successful completion of this subject the students should have knowledge of basic electronics.
Programming in C	On successful completion of this subject the students have the programming ability in C language.
Discrete Structures	To inculcate knowledge of sets, function and relation. To understand propositional logic, combinatorics & Graphs.
Switching theory & logic design	To understand logic circuits, gate delay, fault delection memories.
. Date structure using C	Enable the students to understand the abstract data types stack,queue,dequeue,and list.To be able to implement the Stack,queue,and dequeue.
Computer OrientedNumerical Techniques	To inculcate knowledge of algebra & transcendental equation interpolation
Computer Organization	To understand register transfer language, control design, processer design, input/output organization and memory organization.
OOP through C++	To inculcate knowledge of Object Oriented Programming Concept and programming in C++.
Database Management System	To inculcate knowledge on DBMS concept & introduction to SQL.
System software	Enable the students to get sufficient knowledge on various system resources to understand language processor, assembler and compiler.
Web designing with Java programming	To inculcate knowledge on Java Programming concepts. To understand the concepts in web design.
System analysis and design	To inculcate knowledge of system requirements, functional and technical requirements. To understand the scope of object oriented requirements specification and analysis and e
Computer Networks	To inculcate knowledge on networking concepts and technologies like wireless , broadband and Bluetooth.

DEPARTMENT OF B.Ed.

Programme Outcome	The programme titled B.Ed is intended to breed the following benefits to students. • Provide basic knowledge regarding teaching-learning process. • Basic knowledge regarding education system. • To inculcate knowledge to understand the problems of students. • Acquire the knowledge of education in different periods like ancient.
Programme Specific-	• Understand basic concept and ideas of educational theory. • Build understanding and perspective on the nature of the learner, diversity and learning. • Develop understanding about teaching, pedagogy, school management

	and community involvement. • Build skills and abilities of communication, reflection, art, aesthetics, self expression and ICT.

Department of Economics	
Programme Outcome	To provide students a well-founded education in Economics
	To provide structured curriculum which support the academic development of students.
	To provide and adapt curriculum that prepares our graduates and post graduates for employment and further study as economists.
	To provide the student with the opportunity to pursue courses that emphasize quantitative and theoretical aspects of Economics.
	To provide students with the opportunity to focus on applied and policy issue in Economics.
	To provide programmes that allow the students to chose from a wide range of economic specialization.
	To provide a well-resourced learning environment for Economics.
Programme Specific Outcome	**U.G. : B.Sc.-Economics (MES combination)**
	Understand basic concepts of economics.
	Analyze economic behavior in practice.
	Understand the economic way of thinking.
	Analyze historical and current events from an economic perspective.
	Write and discuss economical issues at national levels.
	Develop an ability to suggest solutions for various economic problems.
	Prepare for the competitive examinations.
	P.G. : M.A. (Economics)
	To prepare students for entry to Industry, Business school and doctoral programmes in Economics; for working with banking, consultancy, interest groups, non-profit organizations and policy think tanks; and for positions in local, state and federal legistative and bureaucratic offices.
	To prepare students to become accomplished citizens and professionals capable of critical thinking and independent analysis.
	Students learning will be advanced at the post graduate level with a rigorous educational programme that integrates theory, econometrics, mathematical economics and economic thought with application in a wide variety of fields within economics
	It will be very fruitful for the economic development of the country.
	Through this a student can have depth knowledge about economic theory regarding the way in which economy is influenced by economic policies.
	Provides a deep insight of finance and management sectors and civilizes the soft skill of a student which makes him/her fit to face any challenge in public or private sector.
	Helpful for students seeking job opportunities in teaching and other professions that ask for this degree in economics.

B.Sc. (Economics)—Course Outcome

Course	Code	Outcome
B.Sc. Ist Year		
Micro Economics	A-145	To understand micro economics concepts behaviour of economic agents-consumer, producer and factor owner, price fluctuations in the market and understand the concepts of consumer behaviour, production, market cost analysis, factor pricing and Welfare Economics.
Indian Economy	A-146	To equip the students with the theoretical, empirical and policy issues relating to the society, policy and economy of India.
B.Sc. IInd Year		
Macro Economics	B-245	It equips the students to understand system, facts and the latest theoretical developments in Macro Economics and the functioning of a complicated modern economic system.
Public Finance & International Trade	B-246	To understand the role of state in fostering the economic activities via budget and fiscal policies. It enables the students to understand the various issues between central and state government and to arrive at an understanding of theories of international trade and to examine the impact of trade policies on the dynamic gains.
B.Sc. IIIrd Year		
Economics of Growth	B-345	It is devoted to the theories of growth and other important issues in the context of growth- linkages and relevance of planning.
Ouantitative Methods	B-346	To equip the students with primary statistical and mathematical tools for analyzing economic problems.

DEPARTMENT OF M.A. (Economics)

Ist Semester

Course	Outcomes
Micro Economics-I: Theory of Product Pricing	This paper analyses the economic behaviour of individuals, firms and markets. Its main objective is of equipping the students in a rigorous and comprehensive manner with the various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets and equilibrium of firm in modern markets characterized by few sellers.
Macro Economics-I	Macroeconomics or aggregative economics analyses and establishes the functional relationship between large aggregate. It equips the students to understand systematic facts and latest theoretical development for empirical analysis.
Statistical Methods for Economic Analysis	To train the students to use the techniques of statistical analysis which are commonly applied to understand and analyse economics problems.

History of Economic Thought	To understand the origin of Economics as economic ideas have been instrumental in shaping the economic and political policies of different countries and to enable the students to understand how contemporary economics came to be what it is.
IInd Semester	
Micro Economics-II : Theory of Distribution and Welfare Economics	It deals with the micro and macro theories of distribution, welfare economics, general equilibrium in closed and open system and analysis of economic behaviour under uncertainty.
Macro Economics-II	To make student well conversant with monetary and banking operations that facilitate the process of globalization.
Economics of Growth	It is devoted to the theories of growth and the other important issues in the context of growth linkages, role of international trade, importance of domestic macro-economic policies, investment criteria and relevance of planning .
Indian Economic Thought	It incorporates the thoughts of various renowned Indian personalities of the ancient era to the modern one to understand socio-economic paradigm shift and its complexities. It includes the economic ideas of : (i) Kautilya (ii) Mahatma Gandhi, (iii) J.K. Metha, (iv) V.K.R.V. Rao, (v) Amartya Sen
IIIrd Semester	
Public Finance	To understand the role of state in fostering the economic activities via budget and fiscal policies and to enable the students to understand the various issues between Central and State Government.
Economic of Development Planning	To understand the many approaches to economic development because of sustained interest of developing countries in uplifting their economic conditions by restructuring their economies.
Indian Economic Policy	To sharpen the analytical faculty of the student, by highlighting an integrated approach to the functioning aspects of the Indian Economy, keeping in view the scope for alternative approaches.
Industrial Economics	To provide knowledge to the students on the basic issues such as productivity, efficiency, capacity utilization and debates involved in the industrial development of India.
IV Semester	
International Economic	It provides a deep understanding about the broad principles and theories which tend to govern the free flow of trade in goods, services and capital.
Indian Public Finance	It combines a thorough understanding of fiscal institutions with a careful analysis of the issues which underline budgetary policies in general and Indian experience in particular.
Financial Institutions and Markets	To make the students well conversant with the theory and practice of different financial institutions and markets to understand and analyze the inter connection between the monetary forces and real forces at both the national and international levels.
Labour Economics	This paper exposes students to theoretical as well as empirical issues relating to the labour market with special reference to India.

Program Outcome, Program Specific Outcome and Course Outcome

Program	Program Outcome	Program Specific Outcome	Course Outcome
B.Sc Biology Group (BZC) Maths Group (PCM) (SEM) (SPM	The students will be prepared for career in industry, banks, and offices and for further academic study. They will develop various communication and presentation skills which will help them in expressing ideas and views clearly and effectively realizing that pursuit of knowledge is a lifelong activity. They will realize how developments in any science subject and interdisciplinary approach helps in providing better solutions and new ideas for sustainable development.	The students will be able to create, select and apply appropriate techniques, resources and modern technology in multidisciplinary environment. They will acquire the knowledge with facts and figures related to various subjects in pure sciences. and will understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevance in the day-to-day life. It will help them have career oriented approach and attain knowledge regarding prospects in various fields.	They will gain knowledge regarding usage of subject and practical knowledge to design experiments, analyse and interpret data so as to reach to a valid conclusions and also the skills in handling scientific instruments, planning and performing in laboratory. They will also develop interest in various topics of the subject and will develop flair for writing scientific articles. The course will help them to qualify competitive exams such as Civils, Banking, PG entrance, Professional course, teaching, etc.
B.Sc. Computer Science	The students will learn to accomplish their goals and demonstrate professional behaviour. They will be able to serve as Computer Engineer, Web/Hardware Designer,Systems Engineer, IT Sales and MarketingOfficer, Computer Scientist,etc.	The students will able to serve as the Programmers or Software Engineers with the sound knowledge of practical and theoretical concepts for developing software. Serve as the Computer Experts with enhanced skills in handling computer data	The students will be able to improve their computer literacy, their basic understanding of operative systems and a working knowledge of software commonly used in academic and professional environments. They will be able to organize and present different type of works in academic and professional environments. They will learn how to organize information efficiently in the forms of outlines, charts, etc. by using appropriate software. They will develop various IT skills. Solve the problems with programming networking database and Web design in the Information Technology set up.
B.Com	This will help students to apply knowledge and application of accountancy, business law, economic principles, and taxation for solving complex commercial problems.	The program will provide them with adequate knowledge and skill to provide consultancy services in taxaton,to attract those who are already in service in the Tax related job areas and to make them more competent in their respective jobs. It will help to communicate	The students will have advanced knowledge in the field of business and management and will acquire the basic skills required for carrying out business activities, research, stock market operations, accounting practices, etc. The program also provides them with adequate knowledge and skill to provide

		effectively on commercial aspects with the society at large.	consultancy services in finance and marketing. Students can confidently prepare for CA, CS, Banking, Civils, etc.
B.Ed.	Students will understand basic concepts and ideas of educational theory. They will develop understanding about teaching, pedagogy, school management and community involvement. Build skills and abilities of communication, reflection, art, aesthetics, culture, self-expression and ICT.	Students will be able to build knowledge understanding and sensitivity of different perspectives in the area of education of children with special needs. Will develop an understanding of the concept of assessment and practises. Develop an understanding of education as an agenda for the nation state and its policy visions and efforts in evolving a national system of education. They will learn to reflect upon the application of Educational Technology in the field of education.	It will help them develop an understanding of various concepts of eductaion and their application in different domains of art, such as visual art, theatre, art and craft. Recognise, understand and appreciate ICT as an effective learning tool for learners and as a support to teachers. They will be able to demonstrate use of audio-visual and computer – based media. Develop an understanding of teacher as a communicator and communication as a factor in the institutional development. They will experience and understand the real world of teaching with the help of systematic supervisory support and feedback. Develop the ability to write a journal that would facilitate and reflect on teaching experience.
Sports and Physical Education	It will encourage the students to learn values of physical activity and its contributions to a healthful lifestyle.	The student will to participate and work as a team by participating in various sports events. They will learn the value of exercise and their health benefits, They will also understand the role of physiology and metabolism of the body and impact of a healthy lifestyle.	The student will learn the skills necessary to participate in a variety of physical activities and their implications and benefits.
M.Sc. Botany Zoology Physics Chemistry Maths	The student will be able to identify, formulate and analyse complex problems reaching to conclusions using principles of mathematical, biological, physical and chemical sciences.	A research oriented learning that develops analytical and integrative problem-solving approaches.	The students will gain specialized knowledge and practical training to address contemporary problems in academics and industry. They will be able to generate a flair for research and career building. They will be able to qualify competitive axams such as NET, GATE, JRF/SRF, Civils, teaching, etc
M.Com.	The students will get a thorough understanding of a range of subjects such as business	It will inculcate training & practical approach by using modern technology amongst the students in the field of	The course will provide specialization to the students in the field of Accountancy, Management, E-Commerce and also developing skills

	organization, financial accounting, corporate law, economic theory and business communication	Accounting & Finance. It will enhance their knowledge of subject and improve their presentation skills.	to do a thorough analysis of financial statements and use them as basis for financial decision making. They will be able to qualify exams for entrance such as NET, CA, CS, etc.
M.A. Economics	Students will be able to explore research in economics, explain the concepts of Inflation, bank rate, etc.	They will gain employment opportunities in private and government organization. They will be able to discuss the economic principles and policies of the government. The students will become teachers, economist, industrialist, entrepreneurs, administrator, and politician, opt for higher studies in the disciplines like Economics, development studies, business administration, social work, public relation and journalism or formulate their own business plan.	Students will be able to know the significance and basic concepts of Microeconomics and Macroeconomics Get hands-on training Operate Windows, MS-Word, MS-Excel and PowerPoint. Apply statistical tools. Calculate correlation, rank correlation, regression and multiple regression and do business and economic forecasting. Identify the current economic problems. Calculate National income Per-capita income, GDP, GNP, NNP, NDP and inflation rate. Know how to invest in shares, Mutual funds, Banks and NBFIs. Know the international trade relations between the countries of the world through international institutions and agreements. Gain research experience.
MA English	Students will be able to read and use English in the context of acquisition of soft (life) skills and express in writing their views. They will learn pronouncing English words and sentences t and he skill of making grammatically correct sentences.	It will help them practice the skill of writing in English and that of public speaking They will be able to communicate clearly, effectively and handle their day to day affairs well with their knowledge of language skills.	Students will use linguistics in translation and the teaching of English besides understanding the history of the English language and the structure of modern English. They will make constructive contributions to the society through socially relevant research findings and learn to write english literature. The programme will hone the skills of students on specific areas like advertising, public relations, journalism and media studies, creative media production and media management

CC1- Contemporary India and Education	Provide knowledge that development of education is influenced by sociopolitical forces of the time.
CC2- Philosophical & sociological perspectives of Education	Develop an understanding of contribution of Indian and western philosophers along with role of Education undesirable social change and socio-economic development.
CC3- Growing up as a Learner	Acquire the basic principles of psychology of learners.
CC4- Teacher, Teaching and Technology	To acquire theoretical basis of educational technology and to develop awareness about recent developments in the areas of educational technology.
CC5- Creating an inclusive school	Understand the global and national commitments towards the education of children with diverse needs.
CC6- Gender , school and society	Provide knowledge regarding gender issues in school, curriculum and textual materials.
CC7- knowledge, Language and Curriculum	Understand the formulation of new curriculum.
P1&2- Pedagogy courses	Provide knowledge about the required skill and their interlinks for mastering in different subjects such as pedagogy of Hindi, English, Physical Science, Biological Science, Mathematics, Social Science and Commerce.
PC3- Assessment for Learning	Provide exposure to different kinds of assessment that aid student learning.
PC4- Environment Education	Develop the sense of awareness about the environmental pollution and its causes and remedies in student-teachers.
EPC1- Strengthening language Proficiency	Provide strengthening the ability to read, pronunciate, write and communicate correctly.
EPC2- Art & Aesthetics	Make students believe in the dignity of Labour.
EPC3- Reading & Reflecting on texts	Develop study habits in student-teachers.
EPC4- Understanding of ITC	Provide basic familiarity with computers and other ICT materials.
EPC5- Scouting Guiding	Helpful to develop the characteristics of good citizenship.
EPC6- Working with community	Helpful to develop social-sensitivity among student-teachers.

(Dr. B.S. Yadav)

Principal