

Name of course : B.A.(H) Economics

Programme Outcomes

- Train students in basic economic theory.
- Equip students with the mathematical and statistical techniques necessary for a proper understanding of the discipline.
- Discuss real world economic issues and problems facing the country and the world.
- Enable students to understand proper policy responses to economic problems.
- Train students to collect primary data and learn sampling techniques.
- Train students to use statistical and econometric methods to arrive at conclusions about the validity of economic theories.
- Train students to learn the art of economic modelling.
- Learn the mathematical and statistical techniques necessary for a proper understanding of the discipline.
- Get an introduction to real world economic issues and problems facing the country and the world.

Name of course : B.Sc(Statistics)

Programme outcome:

- To imbibe strong foundation of statistics in students.
- To familiarize students with basic to high-level statistical concepts.
- To update students with mathematical tools that aid in statistical theory.
- To teach/strengthen students' knowledge of spreadsheets, programming languages and statistical packages.
- To promote application-oriented pedagogy by exposing students to real world data.
- To aid students do projects which prepare them for jobs/market.
- This course exposes the students to the beautiful world of Statistics and how it affects each and every aspect of our daily life.
- The course is designed to equip students with all the major concepts of Statistics along with the tools required to implement them.
- Introduction to computer softwares help them in analysis of data by making optimum usage of time and resources. These softwares give them the necessary support and an edge when progressing to their professional careers.
- Exposure to plethora of real life data helps in honing their analytical skills. Having practical component with every paper invokes their exploratory side and fine-tunes the interpretation abilities. Such a pedagogy goes a long way in giving them the required impetus and confidence for consultancy startups/jobs in near future.
- The structure of the course also motivates/helps the students to pursue careers in related disciplines, especially the data sciences financial statistics and actuarial sciences.

Name of course : B.A. (H) English

Programme outcome:

- The programme educates students in both the artistry and utility of the English language through an artistic/aesthetic study of language through texts and the various historical and contemporary forms of culture. The creative faculties of learners get continuously enhanced.
- The programme also graduates students with capabilities of performing research, scrutiny, and undertake analysis of compositions/art works (book reviews & film reviews for instance), and pursue criticism of literary and cultural texts from various genres in different historical and stylistic perspectives and genres (art criticism, writing feature articles for instance).
- The programme also creates a solid coordination between knowledge and character building. Students encounter a plethora of characters be it typecast or radical, or socio-culturally located, and undertake in-depth critiques on all possible scrutiny into character-selves—something which enables students in having a better control and better furnish or even facilitate themselves with character building and being responsible citizen/humans in the world.
- Study gendered explorations of human relations in classical literature in multiple genres, and to examine a woman writer's standpoint on love, war and the primacy of the gendered self.
- This course is designed to help undergraduate students develop and research composition, argument, and writing skills that will enable them to improve their written abilities for higher studies and academic endeavours.

Name of course : B. A. (H) History

Programme outcome:

- Knowledge of multiple perspectives through which significant developments in the history of the Indian subcontinent from earliest times up to the period after independence.
- The course intends to provide an extensive survey of early Indian history to the students and familiarise them with the tools of studying ancient Indian history.
- The inter-disciplinary approach of the course provides the students a point of beginning from where they can build an understanding of the discipline of history. Spanning a very long period of India's ancient past – from prehistoric times to the end of Vedic cultures in India – the course dwells upon major landmarks of ancient Indian history from the beginning of early human hunter gatherers to food producers.
- This course will equip the students with adequate expertise to analyse the further development of Indian culture which resulted in an advanced Harappan civilization. In course of time students will learn about the processes of cultural development and regional variations
- Discuss the landscape and environmental variations in Indian subcontinent and their impact on the making of India's history.
- Describe main features of prehistoric and proto-historic cultures.
- List the sources and evidence for reconstructing the history of Ancient India
- Analyse the way earlier historians interpreted the history of India and while doing so they can write the alternative ways of looking at the past.
- List the main tools made by prehistoric and proto-historic humans in India along with their find spots.
- Interpret the prehistoric art and mortuary practices.
- Discuss the beginning and the significance of food production.
- Analyse the factors responsible for the origins and decline of Harappan Civilization.
- Discuss various aspects of society, economy, polity and religious practices that are reflected in the Early Vedic and Later Vedic texts.
- Describe the main features of the megalithic cultures of the Central India, Deccan and South India.

Name of course : B.A. (H) Pol. Science

Programme outcome:

- Course Objectives: This course aims to provide students a basic yet interesting and insightful way of knowing and thinking about the world around them.
- It is centered around three sets of basic questions starting with what makes the world what it is by instructing students how they can conceptualize the world and their place within it.
- The second module focuses on the basic fault lines that drive the world apart and the last one is designed to help students explore how and why they need to think about the 'world' as a whole from alternate vantage points
- After completion of graduation in this course students will be competent to:
- Understand, analyse, evaluate and reflect the complex political behaviour and its relationship with society.
- Know about working of various state, non-state institutions, constitution as well as extra constitutional bodies and its relationship with human rights.
- Deliberate on several on issue and can suggest better wayouts in terms of policy making process.
- Interpret the world in diverse ways and able to provide them new meaning to different events, occasion and happenings.
- Contribute various ideas communicate better with the world and suggest different pathways which can help to make better world for present and for future.

Name of course : B.A. (H) Sanskrit

Programme outcome:

- This course aims to get students acquainted with Classical Sanskrit Poetry.
- It intends to give an understanding of literature, through which students will be able to appreciate the development of Sanskrit literature. The course also seeks to help students to negotiate texts independently.
- It aims to train students in classical Sanskrit in which major works on various disciplines are written.
- It is also aims to train them in important traditional disciplines such as - Vedic studies ; prose, poetry and drama which have inspired and continue to inspire great literary works in almost all Indian languages;
- Students also learn literary criticism or kavya Shastra; vyakarana which covers a large area of linguistics: darshana i.e. philosophy and logic; dharma Shastra which covers many areas of sociology and legal studies
- The Honours course will thus make students better equipped to pursue their post graduate studies and undertake

further research in these disciplines. The programme specific outcomes for B.A. (Program) Sanskrit students include the following:

- This Programme will help students acquire a general understanding of classical Sanskrit literature and Philosophy and religion, history and culture through Sanskrit texts.
- Students will acquire advanced knowledge of Sanskrit.
- Student will demonstrate an increased ability to read and understand Sanskrit texts. They will be able to read Sanskrit texts independently and analyze texts written in classical Sanskrit.

Name of course : B.Sc. (H) Botany

Programme outcome:

- The programme is designed to equip students with essential knowledge and technical skills to study plants and related subjects in a holistic manner.
- The main aim is to train the learners in all areas of plant biology using appropriate combinations of core and elective papers with significant inter- disciplinary components.
- Students would be exposed to cutting- edge technologies that are currently used in the study of plant life forms, their evolution and interactions with other organisms within the ecosystem.
- Students would also become aware of the social and environmental significance of plants and their relevance to the national economy
- Students will be able to understand and explain different specializations of Botany such as systematics, evolution, ecology, developmental biology, physiology, biochemistry, plant interactions with microbes and insects, morphology, anatomy, reproduction, genetics, cell and molecular biology of plants.
- Students will be trained in various analytical techniques of plant biology, use of plants as industrial resources or as support system for human livelihood and will be well versed with the use of transgenic technologies for both basic and applied research in plants.
- Students will be able to identify various life forms of plants, design and execute experiments related to basic studies on evolution, ecology, developmental biology, physiology, biochemistry, plant interactions with microbes and insects, morphology, anatomy, reproduction, genetics, microbiology, molecular biology, recombinant DNA technology, transgenic technology. Students are also familiarized with the use of bioinformatics tools and databases and in the application of statistics to biological data.
- Students will acquire core competency in the subject Botany and in allied subject areas. They will be able to use the evidence based comparative studies approach to explain the evolution of organism and understand the genetic diversity and its significance.
- The students will be able to explain various physiological and metabolic processes unique to plants. They would be able to elaborate on the concepts of gene, genome and the molecular processes of replication, transcription and translation.
- They will be able to understand adaptation, development and behavior of different forms of life. The students will get an understanding of functioning of ecosystem and tracing the energy pyramids through nutrient flow.
- Students will be able to demonstrate the experimental techniques and methods in plant sciences and have innovative research ideas

Name of course : : B.Sc. (H) Chemistry

Programme outcome:

- The Learning Outcomes-based Curriculum Framework (LOCF) for the B.Sc. (Hons.) degree in Chemistry provides a broad structural framework that can accommodate the current curricular needs as well as gives sufficient flexibility to include changes in content that assume importance as the frontiers of science grow.
- The inherent flexibility in framework allows design of course basket in tune with individual preferences. The basic uniformity in core course design ensures smooth movement across universities in the country.
- The B.Sc.(Hons) programme in Chemistry is designed to develop in students in depth knowledge of the core concepts and principles that are central to the understanding of this core science discipline.
- Undergraduates pursuing this programme of study go through laboratory work that specifically develops their quantitative and qualitative skills, provides opportunities for critical thinking and team work, and exposes them to techniques useful for applied areas of scientific study.

Name of course : B.Sc. (H) Mathematics.

Programme Outcomes

- Students will be enabled to communicate mathematics effectively by written, computational and graphic means.
- Students will be enabled to create mathematical ideas from basic axioms.
- Students will identify applications of mathematics in other disciplines and in the real-world, leading to enhancement of career prospects in a plethora of fields and research.
- Students will be capable to use ICT tools in solving problems or gaining knowledge and to use appropriate softwares and programming skills to solve problems in mathematics.
- Students will acquire knowledge and skills through self learning that helps in personal development and skill development for changing demands of work place.
- Students will be equipped with knowledge of basic concepts and ideas in mathematics and its subfields and will be able to apply the applications of the subject to other disciplines.

Name of course : B.Sc. (H) Physics

Programme outcome:

- The learning outcomes-based curriculum framework for a degree in B.Sc. (Honours) Physics is intended to provide a comprehensive foundation to the subject, and to help students develop the ability to successfully continue with further studies and research in the subject.
- The framework is designed to equip students with valuable cognitive abilities and skills so that they are successful in meeting diverse needs of professional careers in a developing and knowledge-based society.
- The curriculum framework takes into account the need to maintain globally competitive standards of achievement in terms of the knowledge and skills in Physics, as well develop scientific orientation, enquiring spirit, problem solving skills and values which foster rational and critical thinking.
- Due to the large diversity in India, a central university like the University of Delhi gets students from very different academic backgrounds, regions and language zones. While maintaining high standards, the learning outcome-based curriculum provides enough flexibility to teachers and colleges to respond to diverse needs of students. The learning outcome-based curriculum framework for undergraduate courses in Physics also allows for flexibility and innovation in the programme design to adopt latest teaching and assessment methods and include introduction to new areas of knowledge in the fastevolving subject domains.
- The process of learning is defined by the following steps which form the basis of final assessment of the achievement at the end of the program.
- (i) Development of an understanding and knowledge of basic Physics. This involves exposure to basics facts of nature discovered by Physics through observations and experiments. The other core component of this development is introduction to physics concepts and principles, their theoretical relationships in laws of Physics, and deepening of their understanding via appropriate problems.
- (ii) The ability to use this knowledge to analyze new situations and learn skills and tools like laboratory techniques, computational methods, and mathematics to find solutions, interpret results and make meaningful predictions.
- (iii) The ability to synthesize the acquired knowledge and experience for an improved comprehension of the physical problems and to create new skills and tools for their possible solutions.
- The B.Sc. (Hons.) Physics programme builds on the basic Physics taught at the +2 level in all the schools in the country. Ideally, the +2 senior secondary school education should achieve a sound grounding in understanding the basic Physics with sufficient content of topics from modern Physics and contemporary areas of exciting developments in physical sciences.
- The curricula and syllabi should be framed and implemented in such a way that the basic connection between theory and experiment and its importance in understanding Physics is made clear to students. This is very critical in developing a scientific temperament and the urge to learn and innovate in Physics and other sciences. Unfortunately, our school system in most parts of the country lacks the facilities to achieve the above goal, and it is incumbent upon the college/university system to fill the gaps in the scientific knowledge and understanding of the country's youth who complete school curricula and enter university education.
- Physics is an experimental and theoretical science that studies systematically the laws of nature operating at length scales from the sub-atomic domains to the entire universe.
- The scope of Physics as a subject is very broad. The core areas of study within the disciplinary/subject area of

the B.Sc. (Hons.) Physics programme are: Classical and Quantum Mechanics, Electricity and Magnetism, Thermal and Statistical Physics, Wave theory and Optics, Physics of the Materials, Digital Electronics, and specialized methods of Mathematical Physics and their applications in different branches of the subject. Along with the theoretical course work students also learn physics laboratory methods for different branches of physics, specialized measurement techniques, analysis of observational data, including error estimation, and scientific report writing.

- The latest addition to Physics pedagogy incorporated in the LOCF framework is computational physics, which involves adaptation of Physics problems for algorithmic solutions, and modelling and simulation of physical phenomenon.
- The elective modules of the framework offer students choice to gain knowledge and expertise in more specialized domains of Physics like Nuclear and Particle physics, Nanophysics, Astronomy and Astrophysics, etc. and interdisciplinary subject areas like Biophysics, Geophysics, Environmental Physics, Medical Physics, etc.
- The physics-based knowledge and skills learnt by students also equip them to be successful in careers other than research and teaching in Physics.

Name of course : B.Sc. (H) Zoology

Programme outcome:

- The BSc. Zoology programme is designed to help the students to
- Gain basic knowledge of various disciplines of Zoology and General biology meant for a graduate and for higher studies.
- Inculcate interest in nature and its living creatures.
- Make them understand the unity of life with the rich diversity of organisms and their ecological environment and their significances.
- Acquire basic skills in the observation and study of nature, biological techniques, experimental skills and scientific investigation.
- Increase their awareness for the conservation of the biosphere
- Students enrolled in B.Sc. (Hons.) degree program in Zoology will study and acquire complete knowledge of disciplinary as well as allied biological sciences. At the end of graduation, they should possess expertise which will provide them competitive advantage in pursuing higher studies from India or abroad and seek jobs in academia, research or industries.
- Students should be able to identify, classify and differentiate diverse chordates and non-chordates based on their morphological, anatomical and systemic organization. They will also be able to describe economic, ecological and medical significance of various animals in human life. This will create a curiosity and awareness among them to explore the animal diversity and take up wild life photography or wild life exploration as a career option. The procedural knowledge about identifying and classifying animals will provide students professional advantages in teaching, research and taxonomist jobs in various government organizations; including Zoological Survey of India and National Parks/Sanctuaries.
- Acquired practical skills in biotechnology, biostatistics, bioinformatics and molecular biology can be used to pursue career as a scientist in drug development industry in India or abroad. Our students will be acquiring basic experimental skills in various techniques in the fields of genetics; molecular biology; biotechnology; qualitative and quantitative microscopy; enzymology and analytical biochemistry. These methodologies will provide an extra edge to our students, who wish to undertake higher studies.
- In-depth knowledge and understanding about comparative anatomy and developmental biology of various biological systems; and learning about the organization, functions, strength and weaknesses of various systems will let students critically analyse the way evolution has shaped these traits in the human body. Students undertaking skill enhancement courses like aquaculture, sericulture and apiculture will inculcate skills involved in rearing fish, bees and silk moth which would help them in starting their own ventures and generating self employment making them successful entrepreneurs.
- Acquired skills in diagnostic testings, haematology, histopathology, staining procedures etc. used in clinical and research laboratories will provide them opportunity to work in diagnostic or research laboratory. Deep understanding of different physiological systems and methods available to measure vital physiological parameters and to comprehend the mechanism behind occurrence of different life threatening disease via laboratory examination, assessment of basic physiological functions by interpreting physiological charts will help to find their career options.

- Students undertaking wild life management courses would gain expertise in identifying key factors of wild life management and be aware about different techniques of estimating, remote sensing and Global positioning of wild life. This course will motivate students to pursue a career in the field of wildlife conservation and management

Name of course : B.Sc. Prog Life Science

Programme outcome:

- B. Sc. (Program) Life Sciences is structured to offer a broad outline within which a holistic biology program could be developed.
- It is expected to upgrade the understanding levels of students and to maintain the requisite standard of Life Sciences/Biology Programs across the country.
- It allows the review of the learning outcomes, qualification descriptors, and course-level learning outcomes periodically. Further, it offers innovation and flexibility in designing the syllabi and methods to be adopted facilitating learning assessment.
- Further objective is to enhance the subject knowledge, encouraging the students to be critical thinkers and have a problem-solving approach. Overall, this modified course has been designed to upgrade skills related to biological science giving the students' a competitive edge in securing a career in industry, academia, pharmaceutical research, and as an entrepreneur.
- In B.Sc. (Program) Life Sciences will study and acquire complete knowledge of disciplinary and allied biological sciences. At the end of graduation, they would have expertise which will provide them competitive advantage in pursuing higher studies from India and abroad or seek jobs in academia, research or industries. Students should be able to identify, classify and differentiate in types of chordates and non-chordates based on their morphological, anatomical and systemic organization.
- This will create a curiosity and awareness among them to explore the animal diversity and take up wildlife photography or wildlife exploration as a career option. The procedural knowledge about identifying and classifying animals will help students professional advantages in teaching, research and taxonomist jobs in various Government organizations, such as Zoological Survey of India or National Sanctuaries.
- Acquired practical skills in biochemistry and biotechnology can be used in pursuing career as a scientist in pharmaceutical industry in India or abroad. Students will be gaining basic experimental skills in genetics, biotechnology, qualitative and quantitative microscopy, and also enzymology that will give them an edge to pursue higher studies.
- The skill enhancement courses will hone skills in rearing fish, bees and silk moth for generating self-employment. Students can acquire expertise to join clinical and research laboratories for diagnostic assays, hematology, histopathology, staining procedures etc. They will be able to examine and assess some basic physiological functions and interpret physiological charts

Name of course : B.Sc. Physical Sciences (Electronics).

Programme outcome:

- To understand the concept of voltage and current sources, Network theorems, Mesh and Node Analysis.
- To develop an understanding of the basic operation and characteristics of different type of diodes and familiarity with its working and applications.
- Become familiar with Half-wave, Full-wave center tapped and bridge rectifiers.
- To be able to calculate ripple factor and efficiency.
- To be able to recognize and explain the characteristics of a PNP or NPN transistor.
- Become familiar with the load-line analysis of the BJT configurations and understand the hybrid model (h-parameters) of the BJT transistors.
- To be able to perform small signal analysis of Amplifier and understand its classification.
- To be able to perform analysis of two stage R-C coupled Amplifier.
- To understand the concept of positive and negative feedback along with applications of each type of feedback and the working of Oscillators.

- To become familiar with construction, working and characteristics of JFET and UJT.
- A systematic and coherent understanding of basic Electronics including the concepts, theories and relevant experimental techniques in the domains of Network Analysis, Analog Electronics, Digital Electronics, Integrated Circuits, Communication Electronics, Microprocessor, Microcontroller and of the specialized field like Semiconductor Devices, Electronic Instrumentation, Digital Signal Processing, Verilog and FPGA Design, Photonic Devices, Power Electronics, Antenna Theory, wireless Network, etc. in their choice of Discipline Specific Elective course. Demonstrate the ability to use skills in Electronics and its related areas of technology for formulating and solving problems and identifying and applying appropriate physical principles and methodologies to solve a wide range of problems associated with Electronics and its interface with other subjects studied in the course. ➤
- Recognize the importance of modeling simulation and computing, and the role of approximation and mathematical approaches to describing the Electronic world.
- Plan and execute experiments or investigations related to Electronics and its interface with other subjects studied in the course analyze and interpret data/information collected using appropriate methods, including the use of appropriate software such as programming languages and purpose-written packages, and report accurately the findings of the experiment/investigations while relating the conclusions/findings to relevant theories. Demonstrate relevant generic skills and global competencies such as (i) problem-solving skills that are required to solve different types of Electronics related problems with well-defined solutions, and tackle open ended problems that belong to the disciplinary area boundaries; (ii) investigative skills, including skills of independent investigation of problems; (iii) communication skills involving the ability to listen carefully, to read texts and research papers analytically and to present complex information in a concise manner to different groups/audiences of technical or popular nature.
- Demonstrate professional behavior such as (i) being objective, unbiased and truthful in all aspects of work and avoiding unethical, irrational behavior such as fabricating, falsifying or misrepresenting data or committing plagiarism; (ii) the ability to identify the potential ethical issues in work-related situations; (iii) be committed to the free development of scientific knowledge and appreciate its universal appeal for the entire humanity; (iv) appreciation of intellectual property, environmental and sustainability issues; and (v) promoting safe learning and working environment. Demonstrate professional behavior such as (i) being objective, unbiased and truthful in all aspects of work and avoiding unethical, irrational behavior such as fabricating, falsifying or misrepresenting data or committing plagiarism; (ii) the ability to identify the potential ethical issues in work-related situations; (iii) be committed to the free development of scientific knowledge and appreciate its universal appeal for the entire humanity; (iv) appreciation of intellectual property, environmental and sustainability issues; and (v) promoting safe learning and working environment.

Name of the course: B.Sc(Physical science with chemistry)

Programme outcome:

- An integral part of chemistry curriculum is problem solving. The student will be equipped to solve problems of numerical, synthetic and analytical nature that are best approached with critical thinking.
- Students are aware of the importance of working with safety and consciousness in laboratory and actively seeks information about health and environmental safety of chemicals that are used in the laboratories and follows protocols for their safe disposal.
- The student is inquisitive about processes and phenomena happening during experiments in laboratories and seeks answers through the research path.
- The Programme contains information about biochemically significant features of the chemistry of carbohydrates, proteins, enzymes, nucleic acids and lipids, using suitable examples. This includes classification, reaction chemistry and biological importance of these biomolecules.
- This course extends the knowledge gained from synthetic organic chemistry to chemistry of biomolecules. Key emphasis is placed on understanding the structural principles that govern reactivity/physical /biological properties of biomolecules as opposed to learning structural detail.
- The programme covers both conventional petroleum-based fuels, and alternative & renewable fuels, including gaseous fuels. The students will learn the chemistry that underpins petroleum fuel technology, will understand the refining processes used to produce fuels and lubricants and will know how differences in chemical composition affect properties of fuels and their usage in different applications.

Name of the course: B.Com (Hons.)**Programme outcome:**

- B.Com (Hons.) Programme aims to equip students with the knowledge, skills and attitude to meet the challenges of the modern-day business organizations. The curriculum of B.Com. (Hons.) degree provides a carefully selected subject combination of Accounting, Economics, Finance, Management, Tax, Marketing and Law etc.
- The programme aims to nurture the students in intellectual, personal, interpersonal and social skills with a focus on Holistic Education and development to make informed and ethical decisions and equips graduates with the skills required to lead management position.
- This programme brings out reflective and scientific thinking in the students which makes them inquisitive and curious to get deep insights of the business world and tackle the complex situations with much knowledge and wisdom.

Name of course : B.Com(P)**Programme outcome:**

- This course provides conceptual knowledge of financial accounting and the techniques for preparing accounts in different types of business organizations
- Understand the theoretical framework of accounting and to prepare financial statements
- Explain and determine depreciation and value of inventory
- Learn accounting for hire purchase transactions, leases, branches and departments
- Understand the concepts of partnership firm and prepare accounts for dissolution of a partnership firm Develop the skill of preparation of trading and profit and loss account and balance sheet using computerized accounting.