

PROGRAMME OBJECTIVES (PO)

PO1: *Disciplinary knowledge:* To be capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that forms a part of an undergraduate and postgraduate programme of study

PO2 : *Communication Skills:* To be able to express thoughts and ideas effectively in writing and orally; Communicate with others using appropriate media; confidently share one's views and express herself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups.

PO3: *Critical thinking:* To be capable of applying analytical thought to a body of knowledge; analyse and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development.

PO4: *Problem solving:* To extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one's learning to real life situations.

PO5: *Analytical reasoning:* To be able to evaluate the reliability and relevance of evidence; identify logical flaws in the arguments of others; analyse and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints.

PO6: *Research-related skills:* To have a sense of inquiry and capability for asking relevant/appropriate questions, problematizing, synthesizing and articulating; To be able to recognize cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyse, interpret and draw conclusions from data and report the results of an experiment or investigation.

PO7: *Cooperation/Team work:* To be able to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team.

PO8: *Scientific reasoning:* To be able to analyse interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences from an

open minded and reasoned perspective.

PO9: *Reflective thinking*: To be able to locate oneself and see the influence of location-regional, national, global-on critical thinking

PO10: *Information/digital literacy*: To be able to use ICT in a variety of learning situations, able to access, evaluate, and use a variety of relevant information sources; and use appropriate software for analysis of data.

PO11: *Self-directed learning*: To be able to work independently, identify appropriate resources required for a project, and manage a project through to completion.

PO12: *Multicultural competence*: To possess knowledge of the values and beliefs of multiple cultures and a global perspective; and to be capable of effectively engaging in a multicultural society and interact respectfully with diverse groups.

PO13: *Moral and ethical awareness/reasoning*: To be able to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work. To be capable of demonstrating the ability to identify ethical issues related to one's work, avoid unethical behaviour such as fabrication, falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property rights; appreciating environmental and sustainability issues; and adopting objective, unbiased and truthful actions in all aspects of work.

PO14: *Leadership readiness/qualities*: To be capable of mapping out the tasks of a team or an organization, and setting direction, formulating an inspiring vision, building a team who can help achieve the vision, motivating and inspiring team members to engage with that vision, and using management skills to guide people to the right destination, in a smooth and efficient way.

PO15: *Lifelong learning*: To be able to acquire knowledge and skills, including "learning how to learn", that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives, and adapting to changing trades and demands of work place through knowledge/skill development/reskilling.

PROGRAMME SPECIFIC OUTCOMES (PSO) UNDER OBE- 2022-2023

B.SC.- MATHEMATICS

PSO 1: Understand the basic concepts of algebra, calculus, analysis, differential equations, linear algebra, integral transforms and Numerical methods.

PSO 2: Apply the knowledge of mathematics in analytical, computational, and problem-solving skills in varied life situations.

PSO 3: Identify the inter-connection of Physics, Mathematics, Chemistry, Electronics and Engineering.

PSO 4: The framing of the syllabus caters to the need of competitive exams like IIT JAM, CUCET to take up post-graduation, central government jobs like India Meteorological Department, banking and related jobs and CSIR NET/KSET exam post M.Sc. for Junior research fellow or lectureship.

B.SC. CHEMISTRY

PSO1: Demonstrate a deep understanding of fundamental chemical principles and apply critical thinking to solve problems in the field of chemistry and its different subfields.

PSO2: Design, conduct, and analyze experiments, and demonstrate their understanding of the scientific methods and process.

PSO3: Develop proficiency in acquiring data using a variety of instruments, analyze, evaluate and interpret the data

PSO4: Demonstrate a strong understanding of ethical considerations in scientific research, including responsible conduct, safety protocols, and proper handling and disposal of chemicals.

M.SC.-CHEMISTRY

PSO1: Develop proficiency in remembering and understanding various concepts and principles in chemistry.

PSO2: Apply their understanding in chemistry to devise solutions for unfamiliar challenges within the field of chemistry and issues that encompass other interconnected disciplines.

PSO3: Ability to identify, design and conduct suitable experiments, interpret data obtained, draw pertinent conclusions and communicate all these findings effectively.

PSO4: Graduates will exhibit advanced critical thinking and problem-solving abilities, enabling them to tackle complex analytical challenges creatively in addressing societal issues and strive to make a positive impact through research contributions.

B.SC- BIOTECHNOLOGY

PSO1: Demonstrate interdisciplinary skills in the areas of biotechnology encompassing Cell

Biology, Genetics, Biochemistry, Molecular Biology, Genetic Engineering, Immunology, Bioinformatics, Plant Biotechnology and Animal Biotechnology.

PSO2: Apply knowledge and laboratory skills for innovative thinking in addressing the current and future challenges with respect to food, health and environmental issues; demonstrate communication skills, scientific writing, data collection, critically analyze and interpret data in the field of Biotechnology.

PSO3: Understand and apply good laboratory and good manufacturing practices in biotechnology industries.

PSO4: Learn and practice professional skills in handling microbes, animals and plants; demonstrate the ability to identify ethical issues related to recombinant DNA technology, genetic engineering, animal handling, intellectual property rights, biosafety and biohazards.

M.SC.-BIOTECHNOLOGY

PSO1: Enable students to acquire a specialized knowledge and understanding of cutting end technology and current sciences through lecture series, Practical sessions and research projects.

PSO2: Acquire knowledge in advanced subjects such as nanobiotechnology, immune-technology, animal and plant biotechnology, omic studies and fermentation technology

PSO3: Independently assess and evaluate research methods and results; ability to develop and renew scientific competence independently; individual practical performance and leadership role in practical sessions, thus enabling team spirit in students.

PSO4: Seminars, conferences, Industrial training & visits incorporated in the curriculum inculcates core professional aspects to learning; demonstrate entrepreneurship abilities, innovative thinking and setting up a start-up.

BSC- BOTANY

PSO1: Understanding and gaining Scientific knowledge in Plant diversity, Plant functions, ecology, biodiversity and conservation strategies.

PSO2: Exhibit Presentation and Practical skills (oral & writing) in Plant sciences.

PSO3: Enable Students to focus towards Research in the field of Plant Sciences and also take up Teaching as a career.

PSO4: Facilitate students to face competitive exams and develop Entrepreneurship skill.

BSC-ZOOLOGY

PSO1: To foster curiosity among the students of Zoology by providing knowledge of various animals ranging from primitive to highly evolved forms and complex forms.

PSO2: To equip students with laboratory skills as well as field-based studies to become a

successful entrepreneur.

PSO3: To highlight biodiversity and its need of conservation and to make aware about ways of conservation and sustainability.

PSO4: To conduct basic and applied research that has societal and environmental value and contribute the knowledge for nation building.

DEPARTMENT OF BCA

PSO1: Critical thinking to identify the requirements of application development and implementation using any programming language or software tools.

PSO2: Develop effective communication skills with leadership qualities and teamwork.

PSO3: Focus on Industry Readiness/Research Culture.

PSO4: Establish Professional & Ethical responsibility.

BSC – COMPUTER SCIENCE

PSO1: Problem Solving & Critical thinking to identify the requirements of application development and to analyse and synthesize data from variety of sources by using a few programming languages or software tools.

PSO2: Ability to work in a team to develop effective communication skills with leadership qualities to analyse interpret and draw conclusions.

PSO3: Focus on professional industry Readiness by latest research culture.

PSO4: Establish Multicultural interaction & Lifelong learning with ethical responsibility.

BSC- MICROBIOLOGY

PSO1: - B.Sc. Ability to learn scientific reasoning skills as they explore the basic concepts such as Microscopy, Staining, sterilization, Microbiological Instrumentation, Taxonomy of Microorganisms, Microbial Physiology, Metabolism etc and applied branches of Microbiology such as Agricultural Microbiology, Food and Dairy, Environmental, Medical and Industrial Microbiology

PSO2: - Understand the biological diversity of microbial forms and be able to describe/explain the processes used by microorganisms for their replication, survival, and interaction with their environment, hosts, and host populations. hands-on training in practical aspects of Microbiology such as Microbial isolation and identification, aseptic methods, culture preservation and maintenance, will develop proficiency in Qualitative and Quantitative estimation of biomolecules, Microbiological analysis of samples such as Soil, water, milk, food and clinical samples etc.

PSO3: - develop strong oral and written communication skills through the effective presentations, seminars, group discussions and project reports. Internships, Industrial and field visits enable them to understand the practicalities of industrial requirements

PSO4: - Equipped with scientific methodology, design and execution of project-based experiments. Students will develop the ability to think critically and to read and analyze scientific literature. Ability to practice a wide range of careers, including biological and medical research as well as careers in public and global health, scientific writing, environmental organizations, food, pharmaceuticals and biotechnology industries.

BSC- ZOOLOGY

PSO1: Acquire knowledge of various animals ranging from primitive to highly evolved forms which provides them opportunity in the field of biodiversity and conservation.

PSO2: Field based studies and laboratory skills developed aids them become a successful entrepreneur.

PSO3: Study of concepts of applied biological sciences, economic zoology, rDNA technology and immunology enable them with wide career opportunities.

PSO4: Conduct basic and applied research that has societal and environmental value and contribute the knowledge for nation building.

BSC- BIOCHEMISTRY

PSO1: Remember and understand the fundamental biochemistry concepts and elucidate the functions of essential biomolecules.

PSO2: Gain proficiency to explain, interpret, and appreciate the chemical basis of complex biochemical processes.

PSO3: Able to demonstrate the knowledge of biochemistry in designing experiments, conducting laboratory research, and effectively applying biochemical techniques to address real-world challenges.

PSO4: Acquire advanced analytical and critical-thinking skills to analyze experimental data, draw conclusions, and evaluate the validity of scientific literature in biochemistry.

MSC-BIOCHEMISTRY

PSO1: Post graduate students of Biochemistry display an understanding of structure and the mechanism of acquire knowledge on metabolism of macromolecules and the regulation and disorders of metabolic pathways.

PSO2: Gain proficiency in laboratory techniques in both biochemistry, molecular biology, immunology and be able to apply the scientific method to the processes of experimentation and Hypothesis testing.

PSO3: Learn to work as a team as well as independently to retrieve information, carry out Research investigations and result interpretations.

PSO4: Develop the ability to understand and practice the ethics surrounding scientific Research, realize the impact of science in society and understand the issues of environmental contexts and sustainable development.

BACHELORS OF BUSINESS ADMINISTRATION

PSO 1: Understand and analyse the theoretical knowledge with the practical aspects of organizational setting and techniques of management in the corporate world.

PSO 2: Demonstrate the ability to develop models or frameworks to reflect critically on specific business contexts.

PSO 3: Determine the conceptual and analytical abilities required for effective decision making.

PSO 4: Acquire the ability to work in groups, understand the social cues and contexts in social interaction and develop ethical practices and values for better corporate governance.

DEPARTMENT OF COMMERCE

PSO 1: Apply the knowledge of Finance, Accounting and Management concepts and practices in business situations.

PSO 2: Foster analytical and critical thinking abilities for data-based decision making to work independently by identifying various resources.

PSO 3: Ability to develop value-based leaderships skills and communicate effectively in personal and professional setup.

PSO 4: Equip to conduct intensive research to develop competence and employability skills in the context of digital era.

BSC/BA- PSYCHOLOGY

PSO1: To build strong theoretical foundation and skill sets in the science of human mind and behavior which would enable the students to apply their knowledge in varied areas of psychology.

PSO2: To introduce students to the basic aspects in experimentation and testing in psychology so that students are able to conduct simple tests and experiments, write brief reports based on the findings from the tests and experiments.

PSO3: Identify, classify and diagnose different psychological disorders and examine and apply the different treatment programs for various psychological disorders.

PSO4: To demonstrate the basic statistical techniques and fundamentals of research methodology.

BA- HISTORY

PSO 1: Analyze relationship between past and present and to provide the students with an insight to some current problems and to give an understanding of various issues relating to history.

PSO 2: To develop practical skills helpful in the study and activities related to the historical events and also to develop an understanding of the process of conducting a research project in the field of history.

PSO 3: Understand present existing social, political, religious, and economic conditions of the people and to help develop a positive attitude to challenges arising in lives and help adapt oneself to the changes taking place in all walks of life.

PSO 4: To imbibe awareness to the students to help out challenges with the problems faced by individuals or community and get employment opportunities in the disciplines like History, Archaeology and Tourism industry and be able to write competitive examinations conducted by UPSC and other service Commissions

BA- POLITICAL SCIENCE

PSO1: Demonstrate Discipline-Specific Knowledge. Based on a fundamental understanding of political institutions, processes, and actors, students will use concepts and theories to argue effectively about politics while developing awareness about ethical problems, social rights, values and responsibility to the self and to others.

PSO2: Think Critically. Understand and follow changes in patterns of political behaviour, ideas and structures. Develop the ability to make logical inferences about social and political issues on the basis of comparative and historical knowledge and systematically apply sound logic and valid evidence to the analysis of political science as a discipline.

PSO3: Communicate Effectively. Identify the written works that are analytically sound, clear, and persuasive. Students are able to take individual and team responsibility, function effectively and respectively as an individual and a member or a leader of a team; and have the skills to work effectively in multi-disciplinary teams.

PSO4: Attain Civic Literacy. Construct reasoned conclusions about the practical and normative implications of governing decisions at both policy and implementation level made in contemporary and historical contexts.

BA- ECONOMICS

PSO1: Develop proficiency in academic, professional, soft skills and employability required for higher education and placements.

PSO2: Analyze and understand economic theories and functioning of basic microeconomic and macroeconomic systems along with demonstrating fundamental knowledge in collection, organization, tabulation and analysis of empirical data.

PSO3: Demonstrate proficiency in team building and leadership skills, communication, creative and critical thinking skills and innovative problem-solving skill through recognizing

the importance of social, environmental and humanitarian issues faced by humanity at the local, national and international level.

PSO4: Recognize and appraise different views that have reasonably existed about economic problems and alternative economic systems and present those views in possible formats.

BA- SOCIOLOGY

PSO1: Better understanding of real-life situation: Develop the ability to apply sociological concepts and theories to the real world and ultimately their everyday lives.

PSO2: Analytical thinking /research competence: Equips students to execute field surveys thereby preparation of dissertation paper. students to students have to collect primary data for census as well as his / her research topic and analyses the data to draw conclusion so qualitative and quantitative analytical skill are enhanced.

PSO3: Ethical and social responsibility: Rigorously analyze institutions, folkways, mores, culture, social control, social inequality, society and culture of India to instill among the students of sociology a sense of ethical and social responsibility.

PSO4: Personal and professional competence: Critically evaluate theoretical knowledge with understanding of contemporary social reality and analyze social policies and legal provision.

BA-JOURNALISM

PSO 1: Equip students to create and design emerging media products, including blogs, digital audio and video, social media, and digital photography.

PSO 2: Enable to excel in the field of print and electronic production and demonstrate skills as a communication learner and understand the importance of media laws and ethics and its application in professional life.

PSO 3: Acquire the ability to play multiple roles in the field of media studies.

PSO4: Enable to become a lifelong learner and constantly be updated with current knowledge and skills.

Department of PHYSICS

PSO1: Disciplinary knowledge: Ability to apply knowledge acquired in the classroom and laboratories to specific problems in theoretical and experimental physics

PSO2: Communication skills: Building capacity to converse in technical and precise words to express their thoughts and ideas.

PSO3: Critical thinking: Observational knowledge in fixing the units, tabulation of measured

values to get the result, hands on experience in handling different instruments.

PSO4: Problem solving: The overall knowledge and skills gained is applied to solve abstract and complex problems.

MLAC