B.Sc. (Hons) Biomedical Science) program.

Program Outcomes (POs)

Program Outcomes (POs): It represents the knowledge, skills and experiences the students should have at the end of B.Sc. (Hons) Biomedical Science) program.

PO1	Domain Knowledge	The B.Sc. (Hons) Biomedical Science started (in year 2004) as an interdisciplinary course at Institute of Biomedical Sciences, Bundelkhand University Jhansi. The course has been very successful in terms of the career options taken up by the students after graduation over the years. The course was running in annual mode till 2021 and in the semester mode from 2022 onwards, it has been structured to reinforce the basic exposure that students get in the higher secondary school and to gradually build on this knowledge-base. The proposed syllabus has taken advantage of the credit system to gradually make the transition from simple to complex concepts relevant to the interdisciplinary nature of undergraduate and post graduate program in Biomedical Science.
PO2	Practical Analysis	Students are given practical training in a range of techniques that are fundamental in biomedical research including assessment organ-bath, assessment of ligand-receptor interactions, diagnostic applications of enzyme kinetics. The practical component of these courses is complemented by a series of Seminar and workshops which provide an opportunity to explore wider application of advanced biomedical techniques in the literature. This provides essential preparation for those who intending to progress towards honors study further.
PO3	Developments of solution	After successful completion of this course, student should be able to demonstrate knowledge and understanding of receptor pharmacokinetics, pre-clinical methods used in drug screening and development, enzyme-linked diagnostics, Laboratory diagnostics, clinical trial structure and the

		systematic.
PO4	Advance techniques Uses	There are different techniques used to demonstrate and practical work for students to develop knowledge. Therefore different instrument like chromatography, Spectrophotometer, PCR, Gel Electrophoresis are used in Biomedical Sciences.
PO5	Beneficiary of citizen and society	Enable students to become informed and responsible citizens by inculcating the practice of practical, ethical thinking and optimal decision-making to minimize resource wastage. Development of drugs design by enhancement of welfare-oriented policy formulation covered under welfare for society.
PO6	Ethics	Apply the existing ethical guidelines in everyday Biomedical Sciences, research thinking and community development.
PO7	Individual and teamwork	Manage and build high performance teams by understanding the role of incentives, scientific virtue, decent work and pillars of organization efficiency
PO8	Communication	Practice effective oral and written communication to be able to convey advanced Biochemical, molecular techniques and models in a different paper of B.Sc. students.
PO9	Project Management	Predict and analyze the role of different instruments and policies on overall Biomedical science areas performance of using tools.

B.Sc. (Hons) Biomedical Science) program.

Program Specific Outcomes (PSOs)

Program Specific Outcomes (PSOs): PSOs are statements that describe what the students of B.Sc. (Hons) Biomedical Science program should be able to do.

PSO1: The student at the completion of the course will be able to: Understand structure of biomolecules, tools and techniques of biological importance and the structure and function of the cell organelles and the process of cell division.

PSO 2: Knowledge of various immunological mechanisms, their functioning, roles in providing defense against the antigens, related disorders and their treatments.

PSO3: To give students in depth knowledge into special fields of choice like Pharmacy and pharmaceutics, Clinical Biochemistry, Medical microbiology, Pathology, Human Physiology, Drugs industry, laboratory diagnostics and community medicines.

PSO4: To make students familiar with Biomedical Sciences and their relevance with other streame, qualitative and quantitative techniques and applied research in a wide variety of fields within Biomedical Sciences.

PSO5: In Biomedical courses include more complex concepts of mechanisms of achieving regulated functioning of the biological systems, biophysical principles of biological systems, genetics, genome organization, medical biotechnology and biochemistry and some of the recent excitement in biology and the application of bioinformatics in Biomedical Science as part of Discipline specific elective (DSE) courses along with project work.

PSO6: Enumerate the objectives of preformulation studies, Describe physical properties of drugs considered for preformulation of dosage forms and preformulation studies to evaluate chemical properties of drug.

PSO7: Knowledge of various Physiological systems, their functioning, roles in Homeostasis, related disorders and changes caused in different diseases.

M.Sc (Life Science) program.

Program Outcomes (POs)

Program Outcomes (POs): It represents the knowledge, skills and experiences the students should have at the end of M.Sc (Life Science) program.

PO1	Domain Knowledge	The M.Sc (Life Science) program started in year 2017- 18, as an interdisciplinary course at Institute of Biomedical Sciences, Bundelkhand University Jhansi. The course has been very successful in terms of the career options taken up by the students after post graduation over the years. The course is running in semester mode since it beginning, it has been structured to reinforce the basic exposure that students get in the higher secondary school then graduation and to gradually build on this knowledge-base in Life Sciences. The proposed syllabus has taken advantage of the credit system to gradually make the transition from simple to complex concepts relevant to the interdisciplinary nature of undergraduate and post graduate program in Life Science
PO2	Practical Analysis	Students are given practical training in a range of techniques that are fundamental in Life Science research. The practical component of these courses is complemented by a series of Seminar and workshops which provide an opportunity to explore wider application of advanced phytochemicals analytical techniques in the literature. This provides essential preparation for those who intending to progress towards further advance study in the field of Life Sciences.
PO3	Developments of solution	After successful completion of this course, student should be able to demonstrate knowledge and understanding of isolation, extraction & purification of herbal formulation /phytochemicals as drug screening and development, clinical trial structure.
PO4	Advance techniques Uses	There are different techniques used to

		demonstrate & analyse phytochemicals and practical work for students to develop knowledge. Therefore different instrument like chromatography, Spectrophotometer, PCR, Gel Electrophoresis are used in Life Sciences research.
PO5	Beneficiary of citizen and society	Enable students to become informed and responsible citizens by inculcating the practice of practical, ethical thinking and optimal decision-making to minimize resource wastage. Development of drugs design by enhancement of welfare-oriented policy formulation covered under welfare for society.
PO6	Ethics	Apply the existing ethical guidelines in everyday Life Sciences, research thinking and community development.
PO7	Individual and teamwork	Manage and build high performance teams by understanding the role of incentives, scientific virtue, decent work and pillars of organization efficiency
PO8	Communication	Practice effective oral and written communication to be able to convey advanced phytochemicals analytical techniques and models in a different paper of M. Sc Life Sciences students.
PO9	Project Management	Predict and analyze the role of different instruments and policies on overall Life science areas performance of using tools.

M. Sc Life Sciences

Program Specific Outcomes (PSOs)

Program Specific Outcomes (PSOs): PSOs are statements that describe what the students of M. Sc Life Sciences should be able to do.

PSO1: The student at the completion of the course will be able to: Understand structure of biomolecules, tools and techniques of Life Sciences /biological importance and the structure and function of the plant cell organelles and the process of cell division in plant.

PSO 2: To give students in depth knowledge into special fields of choice like medicinal plants and their pharmaceutics uses, Plant Physiology, Herbal Drugs industry.

PSO3: To make students familiar with Life Sciences, its various areas and their relevance with other medicinal & Herbal plant, qualitative and quantitative techniques and applied research in a various areas of Life Sciences.

PSO4: In M. Sc Life Sciences include more complex concepts of mechanisms of achieving regulated functioning of the biological systems, biophysical principles of biological systems, Plant genetics, plant genome organization, biotechnology and plant biochemistry and some of the recent excitement in biology/ Life Sciences and with project work/ field training.

PSO5: Enumerate the objectives of preformulation studies herbal drugs , preformulation studies to evaluate chemical properties of herbal drugs.

PSO6: Knowledge of various plant pathophysiological systems, related disorders and changes caused in different diseases and application in isolation, extraction & purification of herbal formulation.