

MSc Biotechnology

The Master of Science (MSc) in Biotechnology program at Aurora's Degree & PG College under Osmania University aims to provide students with comprehensive knowledge and hands-on experience in the field of biotechnology.

The course objectives are designed to equip students with the necessary skills to excel in research, development, and industrial applications of biotechnology. Some of the primary objectives include:

1. **To Provide a Strong Foundation in Biotechnology Principles:** The program aims to impart fundamental knowledge of molecular biology, genetics, microbiology, bioinformatics, and biochemical engineering.
2. **To Develop Practical Skills:** The curriculum emphasizes laboratory techniques, practical applications, and experimental design, enabling students to develop the technical skills needed in the biotechnology industry and research institutions.
3. **To Foster Research and Innovation:** The course encourages students to engage in research activities and innovative projects, helping them develop critical thinking and problem-solving abilities in the context of biotechnology.
4. **To Promote Understanding of Biotechnology Applications:** The program aims to educate students about the various applications of biotechnology in diverse fields, such as medicine, agriculture, environmental science, and industrial biotechnology.
5. **To Prepare for Industry and Academia:** The course aims to prepare students for a wide range of career opportunities, including roles in academic research, industrial R&D, pharmaceuticals, agriculture, and biotechnology-based companies.
6. **To Enhance Interdisciplinary Learning:** The curriculum integrates knowledge from various disciplines like chemistry, physics, biology, and engineering, ensuring a holistic understanding of biotechnological advancements.
7. **To Develop Ethical and Social Responsibility:** The program emphasizes the importance of ethical practices in biotechnology and its impact on society, environment, and public health.

By the end of the MSc Biotechnology program at Osmania University, students are expected to possess a well-rounded knowledge base and be capable of contributing to the advancement of biotechnology through research, development, and practical applications.

Syllabus

<u>SNO</u>	<u>Semester1</u>	<u>Semester2</u>
1	Cell Biology & Genetics	Molecular Biology – The Genome
2	Biological Chemistry	Molecular Biology – Genes to Proteins
3	Microbiology	Immunology
4	Statistics, Laboratory Management & Safety, Entrepreneurship	Microbial Technology
PRACTICALS		
1	Cell Biology & Genetics	Molecular Biology – The Genome
2	Biological Chemistry	Molecular Biology – Genes to Proteins
3	Microbiology	Immunology
4	Biostatistics	Microbial Technology