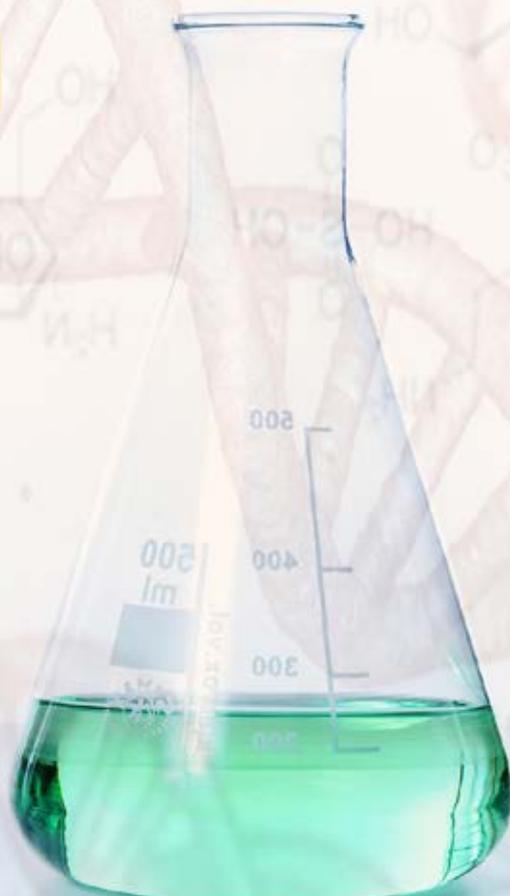




MGMUNIVERSITY
AURANGABAD



INSTITUTE OF BIOSCIENCES & TECHNOLOGY

PROFESSIONAL PG-DEGREE PROGRAM

M.SC. (PLANT BREEDING & MOLECULAR GENETICS)

Professional Degree Awarded	M.Sc. Masters of Science
Duration of the Degree Program	Two Years Research Program
Semester	Four (4)
Intake	20
Tuition Fee	Rs. 90,000/-

PROGRAM OVERVIEW

The program focuses on plant molecular genetics and its potential applications to crop improvement. It aims to empower the students with technical skill-set and capacities to build a bright career in:

- Research & Development (Academic & Industrial Sectors), Bio business companies, Breweries, Seed industries, and plant diagnostic centre.
- This is achieved through a combination of interdisciplinary curricula as well as intensive laboratory work.
- The program seeks advance education and research in Plant Breeding & Molecular Genetics and explore sustainable solutions for agriculture, environment and energy sectors.

PROGRAM DESCRIPTION

- The program will enable you to learn about the science behind Plant Breeding & Molecular Genetics while also looking at how to succeed in a career in the bio industry.
- You will learn how new start-up Plant Breeding & Molecular Genetics companies are created, as well as about exploring the market potential of products and processes, creating business plans and raising wealth from venture capitalists.

- Our group enterprise projects, which involve close collaboration with entrepreneurs, provide a great opportunity for you to stand out from other graduates.

SPECIAL FEATURES

- Investigating the vast diversity of chemicals produced by plants and microbes.
- Understanding the molecular dialogue between plants and microbes, establishing how they communicate with each other and how they have evolved in relation to one another.
- Developing a stream of highly-skilled scientists into the plant breeding industry is something which has been one of our core activities over the course.
- The Program is designed to build a strong foundation comprising of theoretical knowledge as well as specialized practical training
- Designed to develop an inclination for entrepreneurship
- Provides exposure to next-generation technologies
- Offers the basic and advanced academic, research, and industry-based curriculum consisting core, advanced, optional, and specific courses for the holistic development of students in life science
- Prepares the students for campus recruitment
- As a final year student, you will have an opportunity to undertake a project in the labs of our world-class bioscience researchers. To support our research, we have extensive research facilities equipped with high-quality technology.

PROGRAM STRUCTURE

- Four-year program with 68 choice-based credits to equate the professional degree
- Specialized experimental training with special attention to each individual through the 'Exploration Workshop'
- Special Open Elective course for students per semester
- Specialized labs with highly automated instruments
- Interactive learning with e-classrooms
- A complete package with an idea about various fields associated with Food Technology and life sciences

PROGRAM CONTENTS

The new course curriculum provides ample opportunities to the students to specialize in different areas like Concepts & Principles of Genetics, Principles & Practice of Plant Breeding methods, Breeding Crop Plants-I, Principles of Population Genetics, Biotechnology Approaches for Quality Traits, Introduction to Cytogenetics, Advances in Quantitative Genetics, Radiobiology & Mutation Breeding, Breeding Crop Plants-II, Biotechnological tools For Crop Improvement, Plant Breeding for Environmental Stress Resistance , Plant Cell Culture & Plant Transformation, Molecular Biology of the Gene Plant Breeding & molecular Genetics in last year Research program etc.

TEACHING AND LEARNING

- Education is by theory, practical, tutorials, seminars and supervised research projects. On this program you'll be taught by our proficient academician, well known scientist, industrialist from lecturers through to professors.
- The syllabus is based on bloom's taxonomy. Students will learn through practical oriented coursework.
- Well-equipped digital lecture hall Computer lab, Seminar hall, Workshop, problem-based learning etc.

LEARNING FACILITIES

Our modern teaching labs are equipped for a range of biological and biomedical techniques. Below are a few of them:

- Polymerase chain reaction (PCR); DNA sequencing; gel electrophoresis;
- Also include molecular marker techniques such as AFLP, RAPD, AFLP, and PCR amplified DNA sequences.
- Our computing facilities include access to over 200 PCs in dedicated clusters and e-learning tools including online lecture notes, discussion boards, lecture podcasts and quizzes.

RESEARCH FACILITIES

- In response to specific problems identified by Member States, research and development activities presently focus on removing certain production constraints to rice and banana through the application of induced mutations and related biotechnologies. Molecular genetic assays are used for developing molecular tags for marker-aided selection while in vitro techniques are also used for accelerating the crop improvement process, for germplasm conservation as well as for safe cross-border transport of disease-free plants.
- It provides an interdisciplinary forum for high quality research on ground-breaking discoveries and predictions in plant science and a dedicated home for research that applies techniques such as AFLP, RAPD, AFLP, and PCR amplified DNA sequences and machine-learning to plant biology.
- In the Research Skills unit, you have the opportunity to carry out techniques that are widely used in current biological science research. Final year topics reflect the current hotspots of bioscience endeavour and the research interests of our staff, and are constantly being updated. You will undertake an independent in-depth research project that may involve supervised practical work in a laboratory, or you may choose to work on e-learning, educational, data analysis, bioinformatics or enterprise topics.

COURSEWORK AND ASSESSMENT

The relative weightage to the various examinations, Course work, Group project, lab report, oral examination, poster presentation, research project, case study, study tour, Unit test, Quiz, Home Assignment, Seminar and record maintained during a semester shall be considered for evaluation. Assessment will be held at the end of each semester.

DISABILITY SUPPORT

Practical support and advice for current students and applicants is available from the Disability Advisory and Support Service. Email: admin@mgmibt.com

Placements and Career opportunities

- Our graduates may choose to work in industry, academia or to work for a biotechnology company. Career options include work as a microbiologist in the food industry, a geneticist in the field of medical research, or one of many other possibilities, such as in the pharmaceutical or agricultural sector.
- You are not limited to the biotechnology industries, however, and may go into a variety of careers. Find out more about how we help our students prepare for the workplace and the careers our post graduates go into within and outside the lab.

ALUMNI

Our students were placed in different companies like Serum Institute, Pfizer, Wockhardt, Mahyco, Bejosheetal, Ajit seed, Serum, Lupin, Biocon, Aptuit Informatics, Bigtec, Biolmages India, Innoplexus, Genotype, Helix Infosystem, Mascon life Science, NovoInformatics, Krushidhan, OcimumBiosolution, Infosys, Wipro, Dr. Reddy's Lab, GlaxoSmithkline, Novozyme, FDC, Harman, Panacea Biotech, Reliance Life Sciences, Bioera, Ankur seeds, Nath Seeds, Sygene International, Monsanto India, DuPont, Nuziveedu

Seeds, Jindal Seeds, Advanta Limited, Rallies India, Metahelix, Springer, Krushidhan, Dr.Reddys, Biocon, National Institute of Virology, National Chemical Lab, Government agriculture department and university, Government and private colleges etc.

INDUSTRY COLLABORATION

At the MGMUIBT we know the value of working together. We break down barriers and get involved; we collaborate across disciplines, cultures to solve state, national and global problems; and we transform people's lives by making positive change across the India and world.

Partner with us today, and discover what a difference we could make to your-our-future. We engage with big companies to small scale companies like Mahyco, wockhardt, Metahelix, Jindal seeds, Ulman Lab, Matrix Life sciences, Probus, CFTRI, NIN, CIFE.



Contact us

Admission: <https://mgmu.ac.in/admissions/>

Email: admin@mgmibt.com and director@mgmibt.com; Website: www.mgmibt.com

University website: <https://mgmu.ac.in/>; Mobile: 9921154640

MGM University, established by the widely revered Mahatma Gandhi Mission Trust, is a self-financed State University. It has the 2(f) status of the University Grants Commission of India (UGC) and is approved by the Government of Maharashtra.

MGM Institute of Biosciences & Technology is a constituent college of **MGM University** from 2019. The institute has excellent infrastructure, and students can access all the facilities, in the areas of sports and culture, in the environs of the green, safe, and eco-friendly, **MGM Campus**.