



MAHATMA GANDHI MISSION
COLLEGE OF AGRICULTURAL BIOTECHNOLOGY
GANDHELI, AURANGABAD
Affiliated to Vasantnao Naik Marathwada Krishi Vidyapeeth, Parbhani



Established : 2004
ISO 9001:2008
ISO 14001:2004

‘A’ Grade College Awarded by VNMKV, Parbhani
Email: agribiotech@themgmgroup.com; website: www.mgmcabt.com
College Code: 19186

V N M K V

ABOUT MAHATMA GANDHI MISSION

Mahatma Gandhi Mission (MGM) Trust has been established in 1982 at Nanded (Maharashtra). From three decades, it is expanding with its centers at Nanded, Aurangabad, Navi Mumbai and Parbhani in Maharashtra State and at Noida in Uttar Pradesh (Delhi NCR). The aims and objectives of the trust are to contribute towards fulfillment of the task initiated by Mahatma Gandhi and based on his principle that, “Literacy is of no value if it is not able to build up sound character”.

MGM is charitable trust, registered under the Society’s Registration Act, 1860 on 20th December 1982 and also registered under Bombay Public Trusts Act, 1950 on 30th April 1983. MGM has long been a leader and innovator in professional education. Since inception, it has developed into an excellent academic society that is totally committed to human resource development and social welfare through 50 different institutes spread over 5 different cities.

MGM has achieved unprecedented growth and carved for itself a niche in the society for quality education and discipline in the institute. Here, at MGM we provide a wealth of learning experience through the eminent faculty and well equipped laboratories. MGM believes in imparting the best education which is evident through the students’ achievements, as they are employed in the best of the organizations all over the world.

ABOUT COLLEGE OF BIOTECHNOLOGY

MGM College of Agricultural Biotechnology strives to give the updated knowledge to the students by appointing trained faculties providing well equipped laboratories, quality teaching facilities and inviting well known personalities in the related work area of Agricultural Biotechnology. Biotechnology provides an opportunity to convert bio-resources into economic wealth. This has to be done in a manner that there is no adverse impact either on the environment or on human and animal health. The bottom line of our national agricultural biotechnology policy should be the economic well being of farm families, food security of the nation, health security for the consumer, protection of the environment and the security of our national and international trade in farm commodities. Infusion of new technology is necessary to maintain our agricultural enterprises' competitive and remunerative aspect. Modern science of biotechnology is relevant to various areas of agriculture including crops, animals, fisheries, agro-forestry and agro-processing. The MGM College of Agricultural Biotechnology was established on 07.08.2004 which is affiliated to Vasantnao Naik Marathwada Krishi Vidyapeeth, Parbhani. The college has a beautiful campus of 150 acres with well furnished buildings with well equipped laboratories, classrooms, Library, computer laboratory, seminar hall, conference hall, students hostel and canteen etc.

VISION

- To provide a wide range of Agricultural Biotechnological education with a commitment to excellence in teaching and research responsive to regional and national needs.
- To develop a new class Agricultural Biotechnology with art of management, knowledge and competence.
- Strengthening of basic and applied research and human resource capacity building in the frontier areas of Agricultural Biotechnology

MISSION

- To impart scientific and technical knowledge to the students in the field of Agriculture, Biochemistry, Microbiology and Environmental Biotechnology, Bioinformatics, Food Biotechnology, Immunology, Genetics , Genetic Engineering, Enzyme Technology, Molecular Biology and Animal Biotechnology as well as Management of Hi-tech Agriculture.
- To provide comprehensive and effective training to the students in the application of Biotechnological skills in the field of Agriculture and Animal Science for the benefit of the society.
- Conduct of research by the faculty members and students in Agricultural biotechnology for the benefit of the end users
- To transfer the agricultural biotechnological recommendation to the farmers fields.

WHAT IS BIOTECHNOLOGY?

The wide concept of "biotech" or "biotechnology" encompasses a wide range of procedures for modifying living organisms according to human purposes, going back to domestication of animals, cultivation of the plants, and "improvements" to these through breeding programs that employ artificial selection and hybridization. Modern usage also includes genetic engineering as well as cell and tissue culture technologies. The American Chemical Society defines biotechnology as the application of biological organisms, systems, or processes by various industries to learning about the science of life and the improvement of the value of materials and organisms such as pharmaceuticals, crops, and livestock. As per European Federation of Biotechnology, biotechnology is the integration of natural science and organisms, cells, parts thereof, and molecular analogues for products and services. Biotechnology also writes on the pure biological sciences (animal cell culture, biochemistry, cell biology, embryology, genetics, microbiology, and molecular biology).

APPLICATION OF BIOTECH. IN AGRICULTURE & OTHER FIELDS

There are myriad applications of biotechnology in agriculture such as:

- Generation of transgenic crops, animals, agro-forestry plants, microbes with improved traits.
- DNA-based diagnostics to monitor, control, manage, eradicate pests and pathogens of crops, farm animals and fish.
- Biotech-derived drugs, antibiotics and vaccines for animal husbandry and fisheries.
- Monitoring and Assessment of bio-resource diversity.
- Plant tissue culture for large-scale multiplication of elite/disease-free planting material.
- Embryo culture, transfer and cloning technology for animal breeding.
- Functional Genomics, Proteomics and Bioinformatics.
- Post harvest and food processing.

JOB OPPORTUNITIES

Biotechnologists can get the jobs in the sectors, Central government Research and educational institutes, Agricultural Universities, States department of agriculture, Zillah parishad, Private Sector Seed, pesticide Fungicide, Bio-fertilizer, Banking Sector: Cooperative and Nationalized banks as agricultural officer, Private Agricultural and Agri-Biotechnology Colleges, Plant Tissue culture laboratories, Post harvest and food processing industries, Pharma Industries, Animal biotechnology Industries Institutes, Medical Biotechnology Industries/ Institutes

Career in Private sector after B.Tech in Biotechnology

B.Tech Biotechnology graduates can apply for jobs in various pharmaceutical companies. Some of those companies are Dabur, Hindustan lever, Cipla, Rossari Biotech India Pvt. Ltd and Hindustan antibiotics. They can work in these companies as Marketing Manager, Quality Control officer or Production in-charge. Several other companies also provide jobs for these graduates. Companies like Southern Petrochemical Industries Corporation Ltd and Godrej possess a biotechnology division where a lot of job opportunities are available for these graduates. They can also look up for jobs in IT field. It is better to do any software or networking courses before applying for jobs in this field. They can work as a software developer or a web developer in any software company. They can also join HCL in the networking section.

Government Career after B.Tech in Biotechnology

B.Tech graduates can apply for jobs in several Government Research Institutes. Some of those Institutes are Centre for Cellular and Molecular Biology (CCMB), National Brain Research Centre and National Institute of Oceanography. They can work as a Research Scientist in these Institutes. They can also apply for lecture post in various Government Institutions. One of those Institutions is National Institute of Technology, Calicut. Candidates applying for lecture post in this Institute should have an excellent background in the field of Genetics and Molecular Biology. Several government exams are conducted by different government organisations to recruit these graduates to various government posts. Some of those exams are given below.

- Civil services exam for the posts like IFS, IAS, IPS
- Combined Defense Service exam for Army, Navy and Air force
- SSC Combined Graduate Level Exams

B.Tech Biotechnology graduates can also apply for Bank probationary exams if they wish to pursue their career in banking sector.

Career Abroad after B.Tech in Biotechnology

There are wide opportunities available for B.Tech Biotechnology graduates in foreign countries than India. But they need to gain experience in this field before applying for jobs in foreign countries. They can get jobs in various laboratories, pharmaceutical companies and agriculture oriented companies in foreign countries.

Long term Career roadmap for B.Tech in Biotechnology

Biotechnology field is one of the highly paid fields in India and abroad. B.Tech Biotechnology graduates can find a promising career in this field. Even though their starting salary will be less, they can gain a higher salary according to their experience.

Highly promising area in this field is Research. These graduates can find a long term job in this area.

INFRASTRUCTURE

MGM, College of Agricultural Biotechnology is having excellent infrastructural facilities like Office, Three digital Classroom, Library, Laboratories with sophisticated Equipments, Furniture, Computers with Internet facility. In addition to this we also equipped with Hostel (Boys and girls), Play Ground, Gymnasium, Medical, Banking, Mess, Canteen, staff quarter etc. The transportation facility provided to the students and staff from MGM Aurangabad Campus to MGM Gandheli Campus.

DEPARTMENTS:

1. Dept. of Plant Biotechnology: In the department of plant biotechnology theory and practical classes of plant Biochemistry Enzymology Molecular Biology Biochemical and molecular plant Virology etc. are conducted. Students practical on estimation of carbohydrates Isolation and purification of enzymes, Advance techniques like ELISA (Enzyme Linked Immuno Sorbant Assay), Restriction digestion of Nucleic Acid, isolation of genomics, DNA and organelle DNA, PCR amplification purification of plant viruses, Chromatography techniques, plant physiology Cell Biology, Tissue Culture, plant Biotechnology, Biodiversity Conservation etc. are conducted to impart practical knowledge of the students.

2. Dept. of Animal Biotechnology: In this department theory and practical classes of different courses i.e. Animal Cell Culture, Animal Genetic Engineering, etc. are conducted. The Practical on media preparation Techniques of establishment of cell culture, isolation of plasmid and genomic DNA and restriction digestion, identification of rumen microbes manufacture and evaluation of pro-biotic cheese and fermented milk preparation, In vitro culture of embryo etc. are also conducted.

3. Dept. of Microbial and Environmental Biotechnology: In this department theory and practical classes on different courses i.e. industrial microbiology, Microbial Biotechnology, Green biotechnology , Molecular Ecology and Evolution, Environmental studies, Human Nutrition Enzyme Biotechnology, fermentation Technology etc. are conducted.

4. Dept. of Bioinformatics: In this department theory and practical classes of different courses in the interdisciplinary areas of Structural Bioinformatics, Computational Genomics and Proteomics to create an intellectual environment for interdisciplinary education. Like, Structural Biology, Molecular Modeling, Computer Aided Drug Design, Pharmacoinformatics, Chemo-informatics, Molecular Cell Biology, Genetic Engineering, Genomics, Proteomics, Bio-computing, Quantum Chemistry, Database and Software development.

ADMISSION PROCESS:

Duration and Intake capacity: 4 Years (VIII Semester); 100 Students

Degree Nomenclature: B.Tech. (Biotechnology)

Eligibility Criteria for Admission:

B.Tech. (Biotechnology)	XII Std.(Science) passed in 10+2 pattern from Maharashtra state board of higher secondary education or an equivalent examination, with PCM or PCMB or PCB* or Inter (Agriculture) and English. *Deficiency course of mathematics prescribed by respective university. Those who have not offered Biology, Mathematics, shall have to complete deficiency courses as prescribed by respective university.
----------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Admission: Online centralized admission process conducted by Maharashtra Council of Agriculture Education & Research (MCAER), Pune. Information regarding admission process, State and University level merit quota and round wise admission status is available on the website maha-agriadmission.in, www.mcaer.org

Intake Capacity

Sr. No	Admission Quota	Available Seats
1	Maharashtra 'M'	19
2	University 'U'	45
3	Management 'Mgt'	16
	Total Seats	80

SEMESTER WISE COURSE LAYOUT:

Degree : B.tech. (Biotechnology)

*12 Credit hours of Agriculture courses exchangeable with **12 Credit hours of Animal Science courses.

Students having PCMB group have to select either Bot. 101 + Zoo.101 or Math.101 + Math. 102 courses to fulfill the Compulsory Credit Hours of Credit Courses i.e 178.

SEMESTERWISE COURSE LAYOUT FOR B.Tech. (BIOTECHNOLOGY)		
Semester I		
Course No.	Course Title	Credit
BOT-111/ MATH-111	Basic Botany/ Basic Mathematics – I	2+1/3+0
AGRO-111	Crop Production Technology	2+1
BT-111	Cell Biology	2+0
BT-112	Basic Genetics	2+1
BT-113	Introduction to Biotechnology	2+1
CSPD-111	Communication Skills and Personality development	1+1
ENV-111	Environmental Studies and Disaster Management	2+1
FT-111	Food Science and Processing	1+1
HD-111	Human Ethics	1+0
NCC-111/ NSS-111	NCC/NSS	0+1 NC
	Total	15+7 (22) +1 NC=23

Semester II		
Course No.	Course Title	Credit
ZOO-121/ MATH-122	Basic Zoology/ Basic Mathematics-II	2+1/3+0
BT-124	Plant Tissue Culture	2+1
BT-125	Molecular Biology	2+1
BOT-ZOO-121	Biodiversity and its Conservation	2+0
*HORT-121/ **AS-121	Production technologies for Horticultural Crops/ Anatomy and Physiology of Livestock	2+1/ 3+0
MICRO-121	Microbiology	2+1
*PB -121/**AS-122	Principles of Plant Breeding/ Introduction to Animal Breeding	2+1/ 2+1
STAT-121	Basic Statistics	1+1
NCC-122/ NSS-122	NCC/NSS	0+1 NC
Total		15+7(22)+1 NC=23

Semester III		
Course No.	Course Title	Credit
AS -233	Livestock Production and Management	2+1
BT-236	Recombinant DNA Technology	2+1
BOT-232	Plant Physiology	2+1
ICT-231	Information and Communication Technology	1+1
ECON-231	Economics and Marketing	2+1
*ENT.PL.PATH- 231/**AS-234	Fundamentals of Crop Protection/ Livestock Product Technology	2+1/ 2+1
MATH-233	Biomathematics	2+1
*PB-232/ **AS 235	Breeding of Field Crops/ Animal Health Care	2+1
ET-231	Educational Tour	0+1
NCC-233/NSS-233	NCC/NSS	0+1 NC
Total		15+9(24)+1 NC=25

Semester IV		
Course No.	Course Title	Credit
EDBM -241	Entrepreneurship Development and Business Management	1+1
BIOCHEM- 241	General Biochemistry	3+1
BT-247	Introductory Bioinformatics	2+1
BT-248	Plant Genetic Transformation	2+1
BT/ECE-241	Electronics and Instrumentation in Biotechnology	1+1
BT-249	Classical and Molecular Cytogenetics	2+1

MICRO-242	Microbial Genetics	2+1
PHY-241	Biophysics	2+1
NCC-244/NSS-244	NCC/NSS	0+1 NC
Total		15+8 (23) +1 NC=24

Semester V		
Course No.	Course Title	Credit
BIOCHEM-352	Enzymology and Enzyme Technologies	2+1
BT-3510	Immunology	2+1
BT-3511	Molecular Genetics	2+0
BT-3512	Nanobiotechnology	2+0
BT-3513	Animal Biotechnology	3+1
BT-3514	Molecular Marker Technology	2+0
BT-3515	Genomics and Proteomics	3+0
BT-3516	IPR, Biosafety and Bioethics	2+0
ICT-352	Agricultural Informatics	2+1
ET-352	Educational Tour	0+1
Total		20+5=25

Semester VI		
Course No.	Course Title	Credit
BT-3617	Computational Biology	2+1
STAT-362	Biostatistics	2+1
Optional/ Elective Courses (6)	Electives (4): Only one to be chosen (each with six courses)	18
PBTEL-461 to 466 ABTEL-461 to 466 MEBTEL-461 to 466 BIFEL-461 to 466	1. Plant Biotechnology	12+6
	2. Animal Biotechnology	13+5
	3. Microbial and Environmental Biotechnology	14+4
	4. Bioinformatics	11+7
Total		24

Elective Courses in Biotechnology (one to choose), Each Elective: Total Credit Hours=18

Elective I. Plant Biotechnology		
Course No.	Course Title	Credit
PBTEL-461	Plant Tissue Culture and its Applications	2+1
PBTEL-462	Principles and Applications of Plant Genetic Transformation	2+1
PBTEL-463	Applications of Genomics and Proteomics	2+1

PBTEL-464	Molecular Breeding in Field Crops	2+1
PBTEL-465	Molecular Breeding of Horticultural Crops and Forest Trees	2+1
PBTEL-466	Epigenetics and Gene Regulation	2+1
Elective II. Animal Biotechnology		
ABTEL-461	Principles and Procedures of Animal Cell Culture	2+1
ABTEL-462	Animal Genomics	2+1
ABTEL-463	Embryo Transfer Technologies	2+1
ABTEL-464	Transgenic Animal Production	3+0
ABTEL-465	Molecular Diagnostics	2+1
ABTEL-466	Molecular Virology Production	2+1
Elective III. Microbial and Environmental Biotechnology		
MEBTEL-461	Microbial Biotechnology	2+1
MEBTEL-462	Bio-prospecting of Molecules and Genes	3+0
MEBTEL-463	Molecular Ecology and Evolution	3+0
MEBTEL-464	Fundamentals of Molecular Pharming and Biopharmaceuticals	2+1
MEBTEL-465	Food Biotechnology	2+1
MEBTEL-466	Green Biotechnology	2+1
Elective IV. Bioinformatics		
BIFEL-461	Programming for Bioinformatics	2+2
BIFEL-462	Bioinformatics Tools and Biological Databases	2+1
BIFEL-463	Structural Bioinformatics	2+1
BIFEL-464	Pharmacogenomics	2+1
BIFEL-465	Metabolomics and System Biology	2+1
BIFEL-466	Computational Methods for Data Analysis	1+1

Semester VII		
Course No.	Course Title	Credit
Plant Biotechnology		
READY-PB-471	Micro-propagation of field, horticultural and Medicinal plants	0+20
READY-PB-472	DNA Fingerprinting and hybridity testing	0+20
Animal Biotechnology		
READY-AB-471	Dissemination of <i>Elite</i> germplasm of any species by frozenSemen technology	0+20
READY-AB-472	Molecular diagnostics for diseased/disordered animals	0+20
Microbial and Environmental Biotechnology		
READY-MEB-471	Production of Probiotics/ Fermented Milk Products	0+20
READY-MEB-472	Mushroom Production and Processing Technology	0+20
READY-MEB-473	Liquid Biofertilizer Production Technology	0+20
Bioinformatics		
READY-BIF-471	Biological database creation and its management	0+20
READY-BIF-472	Bioinformatics: Gene to genome	0+20
READY-BIF-473	Drug designing and pharmacogenomics	0+20
READY-BIF-474	AgriSciences utility tool designing	0+20
Total		0+20=20

*To opt only one module as per the chosen elective

Semester VIII		
Course No.	Course Title	Credit
READY-482	Student READY- Project Formulation, Execution and Presentation	0+10
READY-483	Student READY- Entrepreneurial Development in Biotechnology (- On-campus/Off Campus)	0+10
Total		0+20 =20

Deficiency/Remedial Courses:

Students joining degree programme with +2 in medical streams will take Math. 101 and Math. 102 as remedial courses, while the students joining B.Tech. Biotechnology with +2 in Non-Medical stream will take Bot. 101 and Zoo. 101 as remedial courses. These courses will cover syllabus for +1 & +2 classes. There will be a total of six credit hours in each of the deficiency/remedial courses package.

RESERVATION & SCHOLARSHIP

Reservation is available to for candidates belonging to student of category SC,ST, NT, SBC and OBC. The detail information is available on the MCAER website www.mcaer.org, maha-agriadmission.in

Scholarship for SC,ST, NT, SBC and OBC students and EBC for open category student as per government rules.

SPECIAL ACHIEVEMENTS

Gold medal: Ms. Manjiri Vijay Sonone got Gold Medal of Vasanttrao Naik Marathwada Krishi Vidyapeeth Parbhani for first rank in Agricultural Biotechnology for the year 2015.

Gold medal :Ms. Suwarna Gample has completed B.Sc. (Agri. Biotech.) degree during academic year 2008-09, ranked Ist in V.N.Marathwada Krishi Vidyapeeth, Parbhani. She received a gold medal. She was qualified for all India competitive examinations conducted by Indian Council of Agricultural Research (ICAR) and Jawaharlal Nehru University (JNU), New Delhi and ranked 19 and 15 respectively and admitted in G.B. Pant Agriculture University, Pantnagar, Uttarakhand.(UK) during the year 2011-12. She is admitted for Ph.D. programme in National Chemical Laboratory (NCL), Pune and qualified for senior research fellowship (SRF).

Competitive PG Entrance Exam

Sr. No.	Name of the student	Year	Name of Competitive PG Entrance exam.		
			MCAER,	ICAR, New	JNU, New Delhi
1.	Mr. Vishal Patil	2014-15	I Rank	Qualified	Qualified
2.	Miss. Pooja Chavan	2014-15	II Rank	Qualified	Qualified
3.	Miss. Abuj Bhagyashri	2014-15	IV Rank	Qualified	Qualified

Students qualified for All India Competitive Exam for admission to P.G.

Year	ICAR	JNU	State CET	Private Institute CET	M.B.A.
2008-2016	54	64	47	80	30

Students qualified for Banking Sector and Ph.D.

Year	Banking Services	Ph.D In India	Ph.D. in Abroad
2004-2010	48	13	07

Sports and Cultural Achievements

Sr.No	Activity	Year	Gold	Silver	Bronze
1	Sports	2012-2017	5	7	1
2	Cultural	2014-2017	9	5	1

SPECIAL FEATURE OF THE COLLEGE

- Beautiful campus and College instructional farm
- Spacious and well furnished college building
- Highly qualified and experienced teaching staff
- Well equipped laboratories with sophisticated equipments
- Library is well stacked with books, journals etc. and Internet facility for the student and staff
- Dairy and milk processing unit
- Demonstration units like Vermi-compost , sericulture, crop cafeteria, poly house, green house, shade net, fruit park etc.
- Sports and cultural facility available for students

NATIONAL SERVICE SCHEME

National Service Scheme, under the Ministry of Youth Affairs & Sports Govt. of India, popularly known as NSS was launched in Gandhiji's Birth Centenary Year 1969. Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani allotted a NSS Unit (50 students) to MGM College of Agricultural Biotechnology, Gandheli, Aurangabad in 2007-08. Till 2016-17 more than 300 NSS volunteers completed two years NSS programme. During this period our NSS unit organizes 10 special camps at various adopted villages and also organised various social activities like Blood donation camps, Farmers rally, participation in Pulse polio Abhiyaan, Police mitra abhiyaan, and disaster management training, Swachhata Abhiyaan, *Shramdaan*-Road cleaning and drainage cleaning, participated Godavari cleaning campaign and also created awareness by paying drama and street plays regarding various social issues.

LOCATION:

MGM Main Campus N6, Cidco, Aurangabad ⇨ Gajanan Maharaj Mandir ⇨ Sutgirni Chowk ⇨ Shivajinagar ⇨ Deolai Chowk(Beed bypass) ⇨ Deolai Goan ⇨ Sai Tekadi ⇨ Beganaik Tanada ⇨ MGM CABT, Gandheli Campus

CONTACT US

Dr. B. N. Chavan,

Principal

MGM College of Agricultural Biotechnology, Gandheli, Aurangabad 431007,
Maharashtra., India

email: agribiotech@themgmgroup.com

Phone: 9270101415, 9270101416

Web: www.mgmcabt.com

Admission I/C

Dr. Ashwinikumar B. Kshirsagar,

Associate Professor

Phone – 9422174705, 9270101416
