

**MGM SCHOOL OF BIOMEDICAL SCIENCES,
NAVI MUMBAI**
(A constituent unit of MGM INSTITUTE OF HEALTH SCIENCES)



M.Sc. Medical Biotechnology

((As per **CHOICE BASED CREDIT SYSTEM** With effect

From the Academic Year 2018–2019)

CURRICULUM FOR M. Sc. MEDICAL BIOTECHNOLOGY

1ST YEAR

| Semester I | | | | | | |
|-------------------|--|---------|----------------|---------------------|---------------|-------|
| Syllabus Ref. No. | Subject | Credits | Teaching hours | Marks | | |
| Theory | | | | Internal Assessment | Semester Exam | Total |
| BT 101 T | Cell Biology | 4 | 4 | 20 | 80 | 100 |
| BT 102 T | Immunology & Immunotechnology | 4 | 4 | 20 | 80 | 100 |
| BT 103 T | Analytical Instrumentation | 4 | 4 | 20 | 80 | 100 |
| BT 104 T | Basic Biochemistry & Biomolecules ▲ (Multidisciplinary/Interdisciplinary) | 4 | 4 | 20 | 80 | 100 |
| Practical | | | | | | |
| BT 101 P | Cell Biology | 2 | 4 | 10 | 40 | 50 |
| BT 102 P | Immunology & Immunotechnology | 2 | 4 | 10 | 40 | 50 |
| BT 103 P | Analytical Instrumentation | 2 | 4 | 10 | 40 | 50 |
| BT 104 P | Basic Biochemistry & Biomolecules ▲ (Multidisciplinary/Interdisciplinary) | 2 | 4 | 10 | 40 | 50 |
| | Total | 24 | 32 | 120 | 480 | 600 |

| Semester II | | | | | | |
|-------------------|---|---------|----------------|---------------------|---------------|-------|
| Syllabus Ref. No. | Subject | Credits | Teaching hours | Marks | | |
| Theory | | | | Internal Assessment | Semester Exam | Total |
| BT 105 T | Molecular Biology & Genomics | 4 | 4 | 20 | 80 | 100 |
| BT 106 T | Recombinant DNA Technology | 4 | 4 | 20 | 80 | 100 |
| BT 107 T | Bioinformatics | 4 | 4 | 20 | 80 | 100 |
| CC 001 T | Research Methodology & Biostatistics (Core Course) | 4 | 4 | 20 | 80 | 100 |
| Practical | | | | | | |
| BT 105 P | Molecular Biology & Genomics | 2 | 4 | 10 | 40 | 50 |
| BT 106 P | Recombinant DNA Technology | 2 | 4 | 10 | 40 | 50 |
| BT 107 P | Bioinformatics | 2 | 4 | 10 | 40 | 50 |
| CC 001 P | Research Methodology & Biostatistics (Core Course) | 2 | 4 | 10 | 40 | 50 |
| | Total | 24 | 32 | 120 | 480 | 600 |

2ND YEAR

| Semester III | | | | | | | |
|---------------------|----------------------------------|--|----------------|-----------------------|----------------------------|----------------------|--------------|
| | Syllabus Ref. No. | Subject | Credits | Teaching hours | Marks | | |
| | Theory | | | | Internal Assessment | Semester Exam | Total |
| | BT 108 T | Plant Biotechnology | 4 | 4 | 20 | 80 | 100 |
| | BT 109 T | Animal Biotechnology | 4 | 4 | 20 | 80 | 100 |
| | | Core Elective course** | 4 | 4 | 20 | 80 | 100 |
| | BT 110 T | Medical Microbiology | | | | | |
| | BT 111 T | Human Genetics | | | | | |
| | BT 112 T | Nanobiotechnology | | | | | |
| | BT 113 | Dissertation/Project Proposal* | 6 | 12 | 50 | - | 50 |
| | | Practical | | | | | |
| | BT 108 P | Plant Biotechnology | 2 | 4 | 10 | 40 | 50 |
| | BT 109 P | Animal Biotechnology | 2 | 4 | 10 | 40 | 50 |
| | BT 110 P BT 111 P BT 112 P | Core Elective practical Medical Microbiology Human Genetics Nanobiotechnology | 1 | 2 | 10 | 40 | 50 |
| | BT 114 | Seminar* | 1 | 2 | 50 | 0 | 50 |
| | | Total | 24 | 36 | 190 | 360 | 550 |

| Semester IV | | | | | | | |
|--------------------|--------------------------|--|----------------|-----------------------|----------------------------|----------------------|--------------|
| | Syllabus Ref. No. | Subject | Credits | Teaching hours | Marks | | |
| | Theory | | | | Internal Assessment | Semester Exam | Total |
| | | General elective ** | 4 | 4 | 100 | 0 | 100 |
| | GE 001 T | Pursuit of Inner Self Excellence (POISE) | | | | | |
| | GE 002 T | Bioethics, Biosafety, IPR & Technology Transfer | | | | | |
| | GE 003 T | Disaster Management and Mitigation Resources | | | | | |
| | GE 004 T | Human rights | | | | | |
| | BT 113 | Dissertation / Project* | 18 | 36 | - | 200 | 200 |
| | | Practical | | | | | |
| | BT 115 P | Educational Tour / Field Work/Industrial Visit/Hospital Visit* | 2 | 0 | 50 | - | 50 |
| | | Total | 24 | 40 | 150 | 200 | 350 |