



Department of Biotechnology
M. Tech (Medical Biotechnology) Curriculum

| Course No | SEM - 1 | Type | Credits |
|-----------|-----------------------|------|-----------|
| BT6390 | Advanced Cell Biology | DC | 3 |
| BT5013 | Biochemistry | DC | 3 |
| BT6040 | Bioindustry Lecture | DC | 1 |
| BTXXXX | Departmental Elective | DE | 2 |
| BTXXXX | Departmental Elective | DE | 2 |
| BTXXXX | Departmental Elective | DE | 2 |
| | TOTAL | | 13 |

| Course No | SEM - 2 | Type | Credits |
|-----------|-------------------------|------|-----------|
| BT6183 | Molecular Biotechnology | DC | 2 |
| BT6023 | Immunology | DC | 3 |
| LA5180 | English communication | LA | 1 |
| BTXXXX | Departmental Elective | DE | 2 |
| BTXXXX | Departmental Elective | DE | 2 |
| BTXXXX | Departmental Elective | DE | 2 |
| BTXXXX | Departmental Elective | DE | 1 |
| | TOTAL | | 13 |

| Course No | SEM - 3 | Type | Credits |
|-----------|------------------|----------|-----------|
| BT6035 | Research Project | Thesis-I | 12 |
| | TOTAL | | 12 |

| Course No | SEM - 4 | Type | Credits |
|-----------|------------------|-----------|-----------|
| BT6045 | Research Project | Thesis-II | 12 |
| | TOTAL | | 12 |

Total Number of Credits: 50+1 (1 credit is for the mandatory course CI101 (Clean India))

Elective courses_Biotechnology Department

| Course No | SEM - 1 | Credits |
|-----------|---|---------|
| BT6113 | Structural Bioinformatics | 2 |
| BT6143 | Gene Technology | 2 |
| BT6060 | Protein Misfolding in Neurodegenerative Diseases | 2 |
| BT7280 | Pharmacology and physiology of Receptors | 2 |
| BT6050 | Circadian Clocks: Mechanisms and functions | 2 |
| BT6303 | Proteomics: Techniques and Applications | 2 |
| BT5060 | Genome Organization and Gene Regulation | 2 |
| BT6330 | RNA Biology and Therapeutics | 2 |
| BT6240 | Structural Biology | 2 |
| BT6070 | Molecular mechanisms of aging and age-related disorders | 2 |

| Course No | SEM - 2 | Credits |
|-----------|--|---------|
| BT6150 | Molecular Basis of Cancer | 2 |
| BT6670 | Stem Cell Biology and Regenerative Medicine | 2 |
| BT6133 | Protein Technology | 2 |
| BT6290 | Molecular Machines: DNA-interacting Proteins | 2 |
| BT7053 | Biomolecular NMR | 2 |
| BT6180 | Macromolecular Crystallography | 1 |
| BT5050 | Medical Microbiology and Infectious Diseases | 2 |
| BT6083 | Programming for biomacromolecular data analysis | 2 |
| BT6223 | Pharmaceutical biotechnology | 2 |
| BT6063 | Animal models in medical research | 1 |
| BT4020 | Essential Fatty Acids: Biochemistry, physiology, and Clinical Significance | 1 |
| BT6053 | Advanced Microscopy and Image Processing | 2 |
| BT5020 | Sequencing Technologies and Precision Medicine | 1 |
| BT6010 | Critical analysis and presentation of biological literature | 2 |

Elective courses from other departments

| Course No | Semester 1 | Credit |
|-----------|--|--------|
| BM5050 | Introduction to Brain and Neuroscience | 1 |

| Course No | Semester 2 | Credit |
|-----------|-----------------------|--------|
| BM5110 | Lab on Chip | 1 |
| BM5141 | Advanced Biomaterials | 1 |
| BM6120 | Tissue Engineering | 2 |
| BM6070 | Biomicrofluidics | 2 |
| BM6110 | Nanomedicine | 2 |
| BM 6126 | Regenerative medicine | 1 |

SS: soft skill
LA: Liberal arts
DC: Departmental core
DE: Departmental elective
* Total credits should not exceed 55