# M. Tech. Biotechnology Course Curriculum (modified 2018 & 2019)

### 1<sup>st</sup> SEMESTER

| Sr. No. | Code     | Subject                                | L-T-P | Credits |
|---------|----------|--|-------|---------|
| 1       |          | Advances in Molecular Cell Biology     |       | 3       |
| 2       |          | Advances in Molecular Cell Biology Lab | 0-0-2 | 1       |
| 3       |          | Research Methodology and Ethics        | 3-0-0 | 3       |
| 4       |          | Patenting in Biotechnology             | 3-0-0 | 3       |
| 5       |          | Advanced Bioinformatics                |       | 3       |
| 6       |          | Advanced Bioinformatics Lab            |       | 1       |
| 7       |          | High Throughput Technologies           | 3-0-0 | 3       |
| 8       | Elective | DE-1                                   | 3-0-0 | 3       |
| 9       | Elective | DE-II                                  | 3-0-0 | 3       |
|         |          | Total                                  | 25    | 23      |

### 2<sup>nd</sup> SEMESTER

| Sr. No. | Code     | Subject                        | L-T-P | Credits |
|---------|----------|--------------------------------|-------|---------|
| 1       |          | Industrial Biotechnology       | 3-0-0 | 3       |
| 2       |          | Industrial Biotechnology Lab   | 0-0-2 | 1       |
| 3       |          | Immunotechnology               | 3-0-0 | 3       |
| 4       |          | Immunotechnology Lab           | 0-0-2 | 1       |
| 5       |          | Bioenterpreunership Management | 2-0-0 | 2       |
| 6       |          | Functional Genomics            | 3-0-0 | 3       |
| 7       |          | Functional Genomics Lab        | 0-0-2 | 1       |
| 8       |          | Metabolic Engineering          | 3-0-0 | 3       |
| 9       | Elective | DE-III                         | 3-0-0 | 3       |
| 10      | Elective | DE-1V                          | 3-0-0 | 3       |
|         |          | Total                          | 26    | 23      |

# 3<sup>rd</sup> SEMESTER

| Sr. No. | Code | Subject                | L-T-P | Credits |
|---------|------|------------------------|-------|---------|
| 1.      |      | Seminar                | 0-0-4 | 2       |
| 4.      |      | Project- Thesis Part I |       | 12      |
|         |      | Total                  | 04    | 14      |

# 4<sup>th</sup> SEMESTER

| Sr. No. | Code | Subject                 | L-T-P | Credits |
|---------|------|-------------------------|-------|---------|
| 1.      |      | Seminar                 | 0-0-4 | 2       |
| 3.      |      | Project- Thesis Part II |       | 14      |
|         |      | Total                   | 04    | 16      |

**Total Credit Hours: 76** 

# M. Tech. Biotechnology Electives courses;

|   | Code | Credits | Electives in Odd Semester     |
|---|------|---------|-------------------------------|
| 1 |      | 03      | Food Processing & Engineering |
| 2 |      |         | Plant Tissue Culture          |
|   |      |         | Technologies                  |
| 3 |      | 03      | Advances in Computational     |
|   |      |         | System Biology                |
| 4 |      | 03      | Microbial Ecology             |
|   |      |         |                               |

|    | Code | Credits | Electives in Even semester |
|----|------|---------|----------------------------|
| 1  |      | 03      | Vaccine Production         |
| 2  |      | 03      | QC Analysis and            |
|    |      |         | Management                 |
| 3  |      | 03      | Clinical Diagnostics       |
| 4. |      | 03      | Plant Biotechnology        |
| 5. |      | 03      | Advances in Gene           |
|    |      |         | manipulations              |