

B.TECH
(SEM-II) THEORY EXAMINATION 2018-19
INTRODUCTION TO BIOTECHNOLOGY

Time: 3 Hours**Total Marks: 100****Note:** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A**

1. **Attempt all questions in brief.** **2 x 10 = 20**
- a. What do you understand by the term biotechnology?
 - b. What is the difference between DNA and Chromosome?
 - c. What is Bioinformatics?
 - d. What is Chromatography?
 - e. Define the term biological database.
 - f. What is the difference between prokaryote and eukaryote?
 - g. What is comparative genomics?
 - h. What is ORF prediction?
 - i. What is PDB?
 - j. Give the names of some enzymes used in biotechnology.

SECTION B

2. **Attempt any three of the following:** **10 x 3 = 30**
- a. What is the Human genome project? Explain in detail.
 - b. What are genetically modified crops? Discuss their uses and Biosafety issues.
 - c. What is Biotechnology? Discuss its application in health, food, and agriculture.
 - d. What is Biofertilizer? Explain their beneficial effects on agriculture.
 - e. What is SNP_s? Explain the comparative genome technique.

SECTION C

3. **Attempt any one part of the following:** **10 x 1 = 10**
- (a) What is biochemical engineering? Explain the role in biotechnology.
 - (b) What is macromolecule? Give the structure and function of lipids.
4. **Attempt any one of the following:** **10 x 1 = 10**
- (a) What is fermentation? Discuss the importance of microbes in fermentation.
 - (b) Explain the primary and second database in detail.
5. **Attempt any one of the following:** **10 x 1 = 10**
- (a) Explain the microbial growth and techniques used for measurement of cell count.
 - (b) Describe the various file formats used for the storage of biological data.
6. **Attempt any one part of the following:** **10 x 1 = 10**
- (a) Discuss the brief about Biosafety issues of the biotechnological product.
 - (b) What is the difference between chemical and enzyme catalysis? Discuss the application of enzymes in biotechnology.
7. **Attempt any one part of the following:** **10 x 1 = 10**
- (a) What is taxonomy? Explain microbial taxonomy in detail.
 - (b) Give the historical overview of bioinformatics along with the current application.