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Roll No.

32595

B.Sc. EXAMINATION, 2025

(Sixth Semester)

(Regular & Re-appear)

Biotechnology Paper-XIII, Microbial Technology

Time : 3 Hours]

[Maximum Marks : 40

Before answering the question-paper, candidates must ensure that they have been supplied with correct and complete question-paper. No complaint, in this regard will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting *two* questions from each Unit. Q. No. **1** is compulsory. All questions carry equal marks.

1. Explain the following : **2×4=8**

- (a) Strain preservation
- (b) Bioinsecticides

- (c) Agitation and Aeration
- (d) Biodegradation of Xenobiotics

Unit I

2. Write notes on the following : 4×2=8
 - (a) Stirred tank bioreactor
 - (b) Fluidized bed bioreactor
3. Explain the steps involved in downstream processing of microbial products. 8
4. (a) Discuss about the natural and synthetic microbial media. 8
 - (b) How will you use recombinant DNA technology to improve the microbial strains ? Explain with at least one example. 8

Unit III

5. Explain the different steps involved in the production of Beer. 8

6. Write short notes on the following : 8
 - (a) Microbial production of Polyhydroxyalkanoates
 - (b) Genetically engineered microbes
7. (a) How will you produce protease and alpha amylase enzymes ? 8
 - (b) Explain the production of single cell proteins along with their advantages. 8

