

Roll No.

(07/20-I)

5262

B. Sc. EXAMINATION

(Sixth Semester)

BIOTECHNOLOGY

XIII Paper

Microbial Biotechnology

Time : Three Hours

Maximum Marks : 40

Note : Five questions are to be attempted in all. Q. No. 1 is compulsory. The candidates are required to attempt *four* other questions selecting at least *two* questions from each Unit. All questions carry equal marks.

1. Write very short notes on the following :

- (a) Enrichment culture technique
- (b) Lyophilization
- (c) Recombination

- (d) Importance of Lag phase
- (e) Synthetic medium
- (f) Dissolved oxygen
- (g) Biogas
- (h) Bioherbicides. 8×1=8

Unit I

2. Write short notes on any *two* of the following :
 - (a) Growth kinetics
 - (b) Airlift fermenter
 - (c) Sonication. 2×4=8
3. Discuss in detail various methods for the isolation and preservation of industrially important microbes. 8
4. (a) Briefly discuss various types of fermentations. 4
 - (b) Enumerate the prerequisites for the formulation of microbial culture media. Differentiate between natural and synthetic media. 4

Unit II

5. Describe the bioprocess for the production of the following :
 - (a) Beer
 - (b) Protease enzyme. 2×4=8
6. Write short notes on any *two* of the following :
 - (a) Single cell protein
 - (b) Biofertilizers
 - (c) Antibiotics. 2×4=8
7. (a) Discuss at least *two* biocontrol agents for the control of diseases studied by you. 4
 - (b) Discuss in detail microbial polysaccharides and polyesters. 4