

Roll No.

(05/16-I)

5262

B. Sc. EXAMINATION

(Sixth Semester)

BIOTECHNOLOGY

Paper XIII

Microbial Bio-technology

Time : Three Hours

Maximum Marks : 40

Note : Attempt *Five* questions in all. Q. No. 1 is compulsory. 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
- (b) Lyophilization
- (c) Recombination
- (d) Lag phase

- (e) Synthetic medium
- (f) Dissolved oxygen
- (g) Biogas
- (h) Bioherbicide. 1×8=8

Unit I

- 2. Discuss various methods for the isolation and preservation of industrially important microorganisms. <https://www.cdluonline.com> 8
- 3. Write notes on any *two* of the following :
 - (a) Growth kinetics
 - (b) Airlift fermenter
 - (c) Sonication. 2×4=8
- 4. (a) Briefly discuss the concept of fermentation and its various types. 4
 - (b) What are the prerequisites for the formulation of culture media. Differentiate between natural and synthetic media. 4

Unit II

5. Describe the process for the fermentative production of the following :
- (a) Citric acid
 - (b) Protease enzyme 2×4=8
6. Write short notes on the following :
- (a) Single cell protein
 - (b) Vitamin
 - (c) Biofertilizer
 - (d) Antibiotics. 4×2=8
7. (a) Discuss various biocontrol agents for the control of diseases studied by you. 4
- (b) Define and discuss microbial polysaccharides. 4