



**DA-003-001526**

Seat No. \_\_\_\_\_

**B. Sc. (Sem. V) (CBCS) Examination**

**March – 2022**

**MB-502 : Bioprocess Technology**

*(Old Course)*

**Faculty Code : 003**

**Subject Code : 001526**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

**Instructions :** (1) All questions are compulsory  
(2) Figures at right indicates total marks of the questions

- 1** Answer the following questions : (1 Mark for each) **20**
- (1) What is meaning of fermentation?
  - (2) How many range of fermentation process? Which?
  - (3) What is trophophase?
  - (4) What is enrichment liquide culture?
  - (5) What is screening?
  - (6) Give an example of preservation of industrial important microorganism (only one)
  - (7) What is protoplast?
  - (8) Give an example of carbohydtare sources used in fermentation process?
  - (9) Give me an example of chelators?
  - (10) To write equation batch sterilization process?
  - (11) What is aseptic operation?
  - (12) Give full form of GILSP and HPLC
  - (13) Why agitator required in fermentation process?
  - (14) Give an example of chemical methods for cell disruption?
  - (15) Why chrometography importance in fermentation?
  - (16) Which micro organism is used for production of penicillin?

- (17) Give an example of antifoam agents?
- (18) Give an example of transformation process?
- (19) What is batch culture?
- (20) Give an example of recombinant process?
- 2** (A) Answer the following questions : (Any **Three**) **6**
- (1) What is fermentation?
  - (2) Define- Rheology
  - (3) What is secondary screening with example
  - (4) What is production media?
  - (5) What is Solvent recovery in fermentation?
  - (6) What is downstream process?
- (B) Answer the following questions : (Any **Three**) **9**
- (1) Explain briefly Primary screening?
  - (2) What are the characteristics of ideal fermenter?
  - (3) Explain briefly-media optimization?
  - (4) Explain sedimentation method for cell separation
  - (5) Explain briefly-immobilization
  - (6) Give Drawback of batch fermentation
- (C) Answer the following questions : (Any **Two**) **10**
- (1) Write short note on various method on strain improvement
  - (2) Write details about economic aspects of Fermentation industry
  - (3) Explain in detail about Continuous fermentation
  - (4) Explain production of riboflavin
  - (5) Write a note about technique of cell disruption
- 3** (A) Answer any **three** questions : **6**
- (1) What is sprager?
  - (2) Define protoplast
  - (3) Define antifoam agents with example
  - (4) What is supercritical fluid extractions?
  - (5) Give biochemical reaction for ethanol production
  - (6) Name two organism producing riboflavin

(B) Answer any **three** questions : **9**

- (1) What is role of inducer and inhibitor in fermentation?
- (2) Explain-extraction of streptomycin
- (3) Explain-crude medium components used as carbon source
- (4) Explain cyclone column fermenter
- (5) Names chemical methods used for estimation of fermentation product
- (6) Give six uses of amylase

(C) Answer any **two** questions : **10**

- (1) Explain in detail about types of bioreactor
  - (2) Explain in detail about production of citric acid fermentation
  - (3) Explain any two method for product recovery
  - (4) Explain concept and application of bioinformatics in fermentation industry
  - (5) Explain about raw materials for nitrogen sources
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