

**Roll No.**

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**Total No. of Pages : 02**

**Total No. of Questions : 10**

**B.Pharma (Sem.-7)**  
**PHARMACEUTICAL BIOTECHNOLOGY**

**Subject Code : BPHM-701**

**M.Code : 71753**

**Date of Examination : 12-12-22**

**Time : 3 Hrs.**

**Max. Marks : 80**

**INSTRUCTION TO CANDIDATES :**

1. **SECTION-A** is **COMPULSORY** consisting of **FIFTEEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt **ANY FOUR** questions.
3. **SECTION-C** contains **FOUR** questions carrying **TEN** marks each and students have to attempt **ANY THREE** questions.

## SECTION-A

**1. Define with examples :**

- a) Discuss the scope of biotechnology.
- b) Define immune system.
- c) Difference between batch and fed process.
- d) What is conjugation?
- e) Define fermentor technology.
- f) Enlist the types of mutation.
- g) Describe the selection of organism in biotransformation.
- h) Elaborate the factors affecting immobilizations of enzymes.
- i) Discuss the enzyme protease.
- j) What do you think about the antigens?

- k) Discuss the drug produced by humulin.
- l) Define gene cloning.
- m) Write the applications of enzyme immobilization..
- n) Define hybridoma technology.
- o) Enlist the process of isolation of ethanol.

### SECTION-B

- 2. What do you know about the transformation and transduction process?
- 3. Justify about continuous culture and its applications.
- 4. What the role of adsorption and encapsulation techniques used for immobilization of enzymes. ?
- 5. Elaborate the hybridoma technology.
- 6. Differentiate between cellular and humoral immunity.

### SECTION-C

- 7. Mention about gene cloning process with applications.
- 8. Elaborate in detail about the process of isolation of penicillin.
- 9. What do you think about control of different parameters in fermentation with well labelled diagram?
- 10. Write short notes on following :
  - a) Humatrope
  - b) Factors influencing the rate of mutation

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**