

Roll No.

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Total No. of Pages : 02

Total No. of Questions : 10

B.Pharmacy (Sem.-7)
PHARMACEUTICAL BIOTECHNOLOGY
Subject Code : PHM-471
M.Code : 46157

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTIONS 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**Q1. Describe briefly :**

- a) Pharmaceutical biotechnology
- b) Humoral immunity
- c) Antigen and antibody
- d) Continuous system
- e) Streptokinase
- f) Monoclonal antibodies
- g) Humatrope
- h) In-line and on-line controls in fermenter
- i) Fermentation
- j) Biotransformation
- k) Enzyme immobilization

- l) Enzyme kinetics
- m) Streptodoranase
- n) Downstream processing
- o) Protoplast fusion

SECTION-B

- Q2. Describe the applications of biotechnology in pharmaceutical sciences.
- Q3. What is genetic recombination? Describe briefly bacterial conjugation with neat and labelled diagrams.
- Q4. Describe briefly downstream processing of penicillin and streptomycin.
- Q5. Describe biotransformation process and its improvements with special reference to steroids.
- Q6. Describe the applications of proteases and amylases in pharmaceutical sciences.

SECTION-C

- Q7. Describe different techniques used for the immobilization of enzymes with advantages and disadvantages in each case.
- Q8. Describe the production of monoclonal bodies by hybridoma technology.
- Q9. Describe the techniques for the isolation of mutants. Also, highlight the factors influencing the rate of mutation.
- Q10. Describe the batch and fed batch culture system for the production of microbial products with suitable examples.

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.