[Total No. of Questions - 18] [Total No. of Printed Pages - 2]
(2124)

1702

B. Pharmacy 5th Semester Examination

Pharmaceutical Biotechnology (NS)

BP-354

Time : 3 Hours **Max. Marks : 70**

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

SECTION - A

Note: Attempt any two questions. All questions carry 10 marks each.

1. Describe the production of Penicillin OR Vitamin B12 through fermentation.
2. Explain the principle and production of monoclonal antibodies by hybridoma technique with schematic diagram.
3. Describe the techniques of enzyme immobilization with suitable examples. (10×2=20)

SECTION - B

Note: Attempt any eight questions. All questions carry 5 marks each.

4. Write a note on therapeutic and pharmaceutical applications of biotechnology.
5. Explain the types of cultures used in fermentation.
6. Briefly describe the methods used in microbial biotransformation process.
7. Discuss the application of monoclonal antibody as enzymes (abzymes) and in vaccine production.

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8. Give a brief account of plasmid vectors used in gene cloning.

9. Discuss the effect of pH and temperature on the kinetics of immobilized enzymes.

10. Describe the design of "Air Lift Fermenter" OR "Stirred Tank Fermenter" with the help of a well labelled diagram.

11. Discuss the role of genetic engineering in production of human insulin for treatment of diabetes.

12. Explain the biotransformation process in reference to steroids.

13. Write a note on micro-organisms used in fermentation.

(5×8=40)

SECTION - C

Note: All questions are compulsory. All questions carry 2 marks each.

14. What are cosmids?

15. What are the advantages of selecting microbial biotransformation reactions over chemical synthesis?

16. Discuss in brief any one method of industrial production of 6-aminopenicillanic acid from penicillin G or penicillin V using enzyme immobilization.

17. Define gene library.

18. Give the criteria for selection of micro-organisms for microbial transformation. (2×5=10)