

Question Paper

Exam Date & Time: 04-Dec-2017 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

**MANIPAL COLLEGE OF PHARMACEUTICAL SCIENCES
END SEMESTER THEORY EXAMINATIONS - NOVEMBER 2017**

PROGRAM : MPHARM SEMESTER I

DATE : 04-12-2017

TIME : 2:00PM - 5:00PM

Advanced Pharmaceutical Biotechnology [PBT-MPB104T]

Marks: 50

Duration: 180 mins.

Answer all the questions.

Answer the following (5 marks x 8 = 40 marks)

- 1) Explain the advantages of enzymes from microbial source compared to that of animal and plant sources. (5)
- 2) Explain any two methods of transfection that are commonly used in recombinant DNA technology. (5)
- 3) With suitable examples explain the features of a prokaryotic and a eukaryotic expression vectors. (5)
- 4) Classify chromosomal abnormalities. Write in brief on any one. (5)
- 5) Write the applications of microarray technology. (5)
- 6) Explain the features of anchorage dependent and independent cell cultures. (5)
- 7) Compare the features of embryonic and adult stem cells. (5)
- 8) Discuss the theory of Polymerase Chain Reaction. (5)

Answer the following with specific answers (2 marks x 5 = 10 marks)

- 9) Enlist any four properties of enzymes. (2)
 - A)
 - B) Write about the role of enzyme stability during selection of source of enzyme. (2)
 - C) Write the applications of recombinant erythropoietin and (2)

interferons.

- D) Mention any four applications of flow cytometry. (2)
- E) What are xenobiotics? (2)

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