

Date & Time: 07-Dec-2018 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.

Specialization: Pharmaceutical Biotechnology

Date: 07-12-2018

Advanced Pharmaceutical Biotechnology [PBT-MPB104T]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

- 1) Develop a protocol with proper justification to prepare and isolate a recombinant microorganism with 12.38 Kb insert that codes for a simple linear protein. (10)
- 2) Elaborate on any two methods of physical and chemical gene delivery. Write the advantages, disadvantages and ethical considerations of gene therapy. (10)
- 3) Explain the growth requirements of animal cell cultures. Add a note on steps involved in preparation of a plant tissue culture. (10)
- 4) Describe the concept and applications of tissue engineering. Differentiate embryonic and adult stem cells. (10)
- 5) Enlist any four types of DNA sequencing methods. Explain the principle and application of 'sequencing by synthesis' method. (10)

SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

- 6) Explain the methods employed for preparing transgenic animals. (5)
- 7) Write briefly on personalized medicine. (5)
- 8) Citing suitable examples, differentiate primary and established cell cultures. (5)
- 9) Mention the basic requirements, advantages and applications of PCR. (5)
- 10) Write briefly on 16s rRNA sequencing. (5)

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