

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

Cellular and Molecular Pharmacology [PHA-MPL104T]

Marks: 50

Duration: 180 mins.

Answer all the questions.

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

- 1) Explain the significance of siRNA and miRNA. (5)
- 2) Describe cryopreservation. Give its applications (5)
- 3) Discuss the principle underlying flow cytometry. Enumerate its uses (5)
- 4) Outline the basic equipment used for cell culture laboratory (5)
- 5) Explain the intrinsic pathway of apoptosis with diagram (5)
- 6) Describe the design and screening of plasmid as cloning vector (5)
- 7) Explain cell cycle with its check points (5)
- 8) Discuss the immunotherapeutic approaches to treat cancer (5)

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

- 9) What advantage does the green fluorescent protein have over other antibodies? (2)
 - A)
 - B) How is the synthesis of DNA strand occurring in 5' to 3' and vice-versa? (2)
 - C) How is p53 involved in inducing apoptosis? (2)
 - D) What is gene therapy? Give the criteria to select a delivery system for gene therapy (2)

E) Enlist the essential components of PCR. Mention its application (2)

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