

Exam Date & Time: 31-Mar-2021 (01:30 PM - 04:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

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

Cellular and Molecular Pharmacology [PHA-MPL104T]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

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

- 1) Describe the signaling pathways that regulate apoptosis (10)
- 2) With a neat, labelled diagram describe the signal transduction operating through JAK/ STAT signaling pathway (10)
- 3) Explain the role of pharmacogenomics in gene mapping and cloning (10)
- 4) Write the principle underlying flow cytometry. Mention its uses (10)
- 5) Discuss the glucose uptake assays. Give its applications (10)

SECTION - B

Answer all the questions.

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

- 6) Describe zolgensma as an approved gene therapy to treat spinal muscular atrophy (5)
- 7) Explain the steps involved in recombinant DNA technology. Discuss plasmids and cosmids as cloning vectors. (5)
- 8) Describe the steps of transcription process in prokaryotes (5)
- 9) Discuss the role of cGMP in signaling pathways (5)
- 10) How does nutrition affect the genetic make-up? (5)

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