

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: Pharmacology

Date-07-12-2018

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) Explain the basic equipment required for cell culture laboratory. Give its applications (10)
- 2) How does DNA damage occur? Explain the mechanisms of its repair (10)
- 3) With a neat, labelled diagram explain the fluid mosaic model of a human cell (10)
- 4) List and mention the roles of various cyclins and CDKs in regulation of cell cycle. Describe the roles of maturation promoting factor and spindle assembly check point in cell cycle progression. (10)
- 5) Briefly explain the transcription process in eukaryotes (10)

### SECTION - B

**Answer all the questions.**

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

- 6) Describe the intercellular and intracellular signalling pathways with an example each (5)
- 7) Explain the different methods of cryopreservation (5)
- 8) Explain elongation of protein synthesis in translation process in eukaryotes (5)
- 9) Explain adoptive T-cell therapy in cancer management (5)
- 10) Write a note on intrinsic pathway of apoptosis (5)

-----End-----