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2022

M.Pharm. (Pharmacology) 1st Semester End Term Examination

CELLULAR AND MOLECULAR PHARMACOLOGY

New Regulation (w.e.f. 2017-18)

Full Marks - 75

Time - Three hours

The figures in the margin indicate full marks
for the questions.

1. Answer the following questions : (5 × 2 = 10)
 - (a) What are the culture Medias used in cell culture?
 - (b) What do you mean be cryopreservation?
 - (c) How polymorphism affect drug metabolism?
 - (d) What is the role of NO as second messenger?
 - (e) What does it mean by autophagy?

2. Write Short notes on the following (5 × 2 = 10)
 - (a) JAK / STAT
 - (b) Micro array technique
 - (c) Proteomics
 - (d) Metabolomics
 - (e) Biosimilars

3. Answer any seven : (7 × 5 = 35)
 - (a) Write down the principle and application of cell viability assay. (5)
 - (b) What is gene expression? What is the importance of siRNA and MicroRNA. (1 + 4 = 5)
 - (c) Explain the pathway of MAPK signalling. (5)
 - (d) What is gene therapy? Mention its clinical applications. (2 + 3 = 5)

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- (e) Describe the basic principle of PCR technique. (5)
- (f) What is ELISA? Explain its principle and types. (1 + 4 = 5)
- (g) Write a note on Immunotherapeutics. (5)
- (h) Describe in brief about the regulation of cell cycle. (5)
- (i) Explain the pathways of apoptosis. (5)

4. Answer any two.

- (a) Classify receptors. Write a detail note on GPCR including the second messengers. (10)
- (b) What is recombinant DNA technology? Explain its process. Explain about various types of vectors. (2 + 3 + 5 = 10)
- (c) What do you mean by cell culture? Write in brief about the process and use of cell culture. Highlight various instruments used in cell culture. (2 + 4 + 4 = 10)