M PHARM
(SEM-I) THEORY EXAMINATION 2020-21
CELLULAR AND MOLECULAR PHARMACOLOGY

Time: 3 Hours *Total Marks: 75*

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **10 x 2 = 20**

a.	What are the functions of a cell?
b.	What is metabolomics?
c.	Explain JAK-STAT pathway
d.	Suggest the types of cell culture.
e.	Suggest the applications of Immunotherapeutics
f.	What is humanisation antibody therapy
g.	Suggest the various types of vectors
h.	How does polymorphism affect drug metabolism
i.	Suggest the importance of siRNA and micro RNA
j.	What are the applications of flow cytometry?

SECTION B

2. Attempt any *two* parts of the following: **2 x 10 = 20**

a.	Discuss signal transduction mechanisms by G Protein - coupled receptor (GPCR). Write a brief note on tyrosine kinase receptors.
b.	Elaborate the principles and applications of genomic and proteomic tools DNA electrophoresis and PCR
c.	Explain the various types of gene transfer techniques. Highlight the clinical applications and recent advances in gene therapy.

SECTION C

3. Attempt any *five* parts of the following: **7 x 5 = 35**

a.	Explain the various major applications of proteomics sciences in health care sector.
b.	What is necrosis? How it differs from apoptosis
c.	Explain impact of oxidative stress as one of the mechanisms of neuronal death
d.	Explain the intrinsic and extrinsic pathways of apoptosis
e.	Write short notes on ELISA and western blotting.
f.	Explain the various techniques of cell culture. Highlight the principles and applications of cell viability assays
g.	Explain biosimilars.