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MPHARM
(SEM I) THEORY EXAMINATION 2021-22
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.	Differentiate biologics and biosimilars.
b.	Illustrate various applications of proteomics.
c.	Categorize various types of cell characterization techniques.
d.	Discuss various apoptotic pathways.
e.	Describe gene expression.
f.	Enlist different signaling pathways.
g.	Describe cryopreservation.
h.	Describe cAMP.
i.	What are the different types of genetic variations in GPCRs?
j.	Explain metabolomics.

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

a.	Describe the principle of DNA electrophoresis. Elaborate the applications of rDNA technology.
b.	Elaborate with a schematic diagram the process of MAPK signaling.
c.	What are the Principles and applications of gene mapping?

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

a.	What are the Principles and applications of cell viability assays?
b.	Describe cell cycle and its regulators.
c.	Write a comprehensive note on human genome project.
d.	What are the various components of gene? Describe gene expression.
e.	Elaborate with a schematic diagram the process of subculturing.
f.	What are the applications of immunotherapeutics. Write down a short note on humanization of antibody therapy.
g.	Prepare a schematic diagram for explaining the principle of flow cytometer.