Your Roll No.....

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School of Pharmaceutical Education and Research
M. Pharm. I Semester Examination (2023-24)

Subject: **Cellular & Molecular Pharmacology** Maximum Marks: 75
Paper Code: **MPL104T** Date: **15-03-2024** Time: **Three hours**

(Write your Roll No. on the top immediately on receipt of this question paper)

*Note: This paper has **two Sections; A** and **B**.*
Attempt all the two sections.
***Section A**: Answer **all** the questions.* ***Section B**: Answer **any 4** out of **6** questions*

Abbreviations Used:
CO-Course Outcome, PO- Program Outcome, BTL- Bloom Taxonomy Level: BT level 1-Remember; BT level 2-Understand; BT level 3- Apply; BT level 4- Analyze; BT level 5- Evaluate; BT level 6- Create.

SECTION-A

Answer the following in brief (Attempt all questions) **5x3= 15 Marks**

Q. No 1	Question	BTL	CO	PO
(a)	What is the difference between a biosimilar and a generic drug?	2	3	1
(b)	What are post-translational modifications? Give example.	3	6	1
(c)	Name methods other than MTT assay for determining cell viability.	3	5	4
(d)	What is metabolomics and write its applications?	2	5	4
(e)	What is microRNA?	2	6	3

SECTION B

Long type Questions (Attempt any 4 out of 6) **4x15= 60 Marks**

	Question	BTL	CO	PO
Q. No 2	What is the difference between apoptosis, necrosis and autophagy? Show with the help of diagram the morphological differences between apoptosis and necrosis.	2	4	1
Q. No 3	What is Pharmacogenomics? Explain with two relevant examples where genetic variation in drug metabolizing enzymes affect the therapeutic response. Also, cite any one example where product labelling has been updated due to genetic variation affecting drug response or toxicity.	4	6	1, 3
Q. No 4	What are the basic requirements for setting up a cell-culture laboratory? What are the precautions to be taken in a cell-culture lab?	1, 2	5	4
Q. No 5	Classify various families of receptors. Write a note on GPCRs and their regulation.	1, 2	2	1
Q. No 6	What is recombinant DNA technology? What are its applications? Discuss about restriction enzymes and various types of vectors.	1, 2	5	4
Q. No 7	Explain the principle, working and applications of Western blotting.	2	5	4