

Examination: Master in Pharmacy First Year First Semester EXAM 2025

Subject: **Cellular and Molecular Pharmacology**

Ref. No.: **Ex/MPL104T/2025**

Time: 03 hrs

Full Marks: 75

Answer all the questions

Section A (25 marks)

Q1) Explain how Codeine can become a deadly drug of choice for an ultrafast CYP2D6 metaboliser. (10)

Q2) Explain with the help of chromosome carry over from parents, how Ultra, Moderate, Slow CYP metabolizers are formed. (10)

Q3) Discuss about the actual problems in application of Pharmacogenomics in Precision Medication. (5)

Section B (25 marks)

Q4) Write down the role of membrane proteins in maintaining of the cellular stability and functions. (10)

Q5) Define the term apoptosis and necrosis? Differentiate between them. Illustrate the mitochondrial pathway of apoptosis. (10)

Or

With appropriate diagram describe cell cycle? Write down the different regulators of cell Cycle.

Q6) Write shortly about intracellular connection and function. (5)

Section C (25 marks)

Q7) Discuss briefly the cellular signaling in enzyme linked receptors. (15)

Q8) Elucidate the MAPK signaling pathway. (5)

Q9) Answer **any one** of the following: (8)

a) Discuss the signal transduction in nuclear receptors.

OR

b) Elaborate the signal transduction in GPCRs.