

Ref. No.: Ex/MPL104T/2024

Examination: Master in Pharmacy First Year First Semester EXAM 2024

Subject: Cellular and Molecular Pharmacology

Time: 03 hrs

Full Marks: 75

Answer all the questions

Section A (25 marks)

- Q1) Explain how relative quantification of gene expression is done by RT-PCR? (10)
- Q2) How many types of PCR are in practice. (10)
- Q3) Explain the term CT value and its significance. (5)

Section B (25 marks)

- Q4) Write down the structure and functions of cell membrane and membrane protein. (10)
- Q5) Define the term apoptosis? Write the different pathway of apoptosis. (10)
- Or
- What is cell cycle? Write down the different regulators of cell cycle
- Q6) Write shortly about intercellular communication. (5)

Section C (25 marks)

- Q7) Discuss briefly the cellular signaling in nuclear receptors. (7)
- Q8) Elucidate the Ras-Raf-MAPK signaling pathway. (10)
- Q9) Answer **any one** of the following: (8)
- a) Discuss the role of cAMP as secondary messenger in signal transduction.

OR

- b) Elaborate the signal transduction in enzyme linked receptors with tyrosine kinase activity.