

FACULTY OF PHARMACY

**M. Pharmacy (Pharmacology) I-Semester (PCI) (Main & Backlog) Examination,
January 2020**

Subject: Cellular and Molecular Pharmacology

Time: 3 Hrs

Max. Marks: 75

Note: Answer any Five questions. All questions carry equal marks

1. a) Explain cell cycle and its regulation. 8
b) Explain in detail various cell organelles. 7
2. a) What do you understand by the term tissue necrosis and autophagy. 8
b) Write a note on G-protein coupled receptors. 7
3. a) Explain in detail cAMP, cGMP, IP3 and NO. 10
b) Explain in detail JAK and STAT signaling pathways. 5
4. a) Explain principle and application of micro array technique. 8
b) Give various recent advances in Gene therapy. 7
5. a) Explain recombinant DNA technology. 8
b) Write a note on cloning of diseased gene. 7
6. a) Explain the role of genetic variation in health/pharmacology. 7
b) Write a note on proteomics and metabolomics. 8
7. a) Explain in detail immunotherapeutics with its types. 10
b) Explain various techniques used for isolation of animal cells. 5
8. a) Write a note on flow cytometry and cryopreservation. 10
b) Write a note on Biosimilars. 5
