

UKA TARSADIA UNIVERSITY

M. Pharm. (Pharmacology)(1stSemester)

Subject: 040050102- Cellular and Molecular Pharmacology

Time : 10:00 am to 1:00 pm

Date : **23/12/2013**

Duration: 3 Hours

Max. Marks: 70

Instructions:

1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks allocated to that question.
5. Draw diagrams/figures whenever necessary.

Section 1

- Q-1 A. Classify different types of drug antagonism. Explain competitive Antagonism with suitable examples. [05]

Or

- A. Explain the importance of radioligand binding studies
B. Answer any **TWO** [06]
1. Differentiate between apoptosis and necrosis
 2. Differentiate between partial and inverse agonists
 3. Classify cholinergic and adrenergic receptors with suitable examples of agonists and antagonists

- Q-2 A. Explain the importance of Dose-Response Curve giving suitable examples [06]

Or

- A. Explain how the structure and properties of phospholipids help to maintain the function of cell membranes.
B. Describe the components of intracellular signaling network involved in drug action through receptor activation. [06]

- Q-3 Answer any **TWO** [12]

- A. Explain the adaptive cellular and molecular responses in brain aging and enlist the anti-aging drugs.
B. Explain drug-receptor theory based on applying the Law of Mass Action to the drug-receptor interaction.
C. Describe receptor malfunction related diseases.

Section 2

- Q-4 A. Discuss applications of gene therapy [05]

Or

- A. Write short note on Purines
B. Describe various types, characteristics, location and function of calcium channels giving suitable examples of drugs. [06]

- Q-5 A. Write notes on- Potassium Channel and drugs altering potassium channel activity. [06]

Or

- A. Enlist excitatory amino acid receptors. Describe role of NMDA receptors.

- B. Describe the role of TNF- α in various immunological and inflammatory disorders. [06]

Q-6 Answer any **TWO** [12]

- A. Discuss synthesis and physiological functions of nitric oxide.
B. Discuss synthesis and pathophysiological role of serotonin.
C. Describe physiological and pathological role of Histamine