

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**M. Pharm- SEMESTER-I • EXAMINATION -- WINTER 2016**

**Subject Code: 910103****Date: 02/01/2017****Subject Name: Cellular and Molecular Pharmacology****Time: 10.30 AM – 01.30 PM****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define and explain following **06**  
1. Efficacy 2. Potency  
3. Competitive antagonists 4. Partial agonists
- (b) Write a detail note on Muscarinic receptors. **05**
- (c) Describe various transport mechanisms across the cell membrane. **05**
- Q.2** (a) Write a note on molecular structure and signal transduction by G-Protein coupled receptors **06**
- (b) Write a note on neurotransmission as adrenergic neurons. **05**
- (c) Discuss biosynthesis of Nitric oxide and its role in Hypertension. **05**
- Q.3** (a) Write a note on molecular structure and mechanism of Voltage gated Sodium channel. **06**
- (b) Write a note on pharmacology of drugs acting on GABA<sub>A</sub>-receptors. **05**
- (c) Discuss cellular and molecular pathway of apoptosis. **05**
- Q.4** (a) Write a note on transduction mechanism of Kinase Linked Receptor. **06**
- (b) Discuss role of interferon in immunological disorder. **05**
- (c) Describe theories of drug receptor interaction. **05**
- Q.5** (a) Write in detail about potassium channel openers. **06**
- (b) Write a note on Radio ligand binding studies. **05**
- (c) Describe pharmacology of H<sub>1</sub>- receptor antagonists. **05**
- Q. 6** (a) Write note on clinical conditions influenced by role of 5-Hydroxytryptamine. **06**
- (b) Discuss role of TNF- $\alpha$  in inflammatory disorders. **05**
- (c) Write a note on gene therapy for cancer. **05**
- Q.7** (a) Differentiate necrosis and apoptosis. **06**
- (b) Describe special features of NMDA receptors. **05**
- (c) Write a note on pharmacology of purines. **05**

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