

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
M. Ph. - SEMESTER– I EXAMINATION – SUMMER-2018

Subject Code: 910103**Date: 05/05/2018****Subject Name: Cellular and Molecular Pharmacology****Time: 02:30PM TO 05:30PM****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) Enlist various transport mechanism across cell membrane. Explain in detail about carrier-mediated transport mechanism. **06**
- (b) Discuss all types of drug antagonism with suitable examples. **05**
- (c) Write a note on Muscarinic receptors – location, types, signal transduction and agonist – antagonists. **05**
- Q.2** (a) Classify adrenergic receptors. Explain signal transduction pathways of adrenergic receptor in heart muscle. **06**
- (b) Discuss various diseases resulting from receptor malfunction. **05**
- (c) Write a note on types and modulators of calcium channels. **05**
- Q.3** (a) Classify dopamine receptors. Explain in brief about their location and signal transduction mechanism. **06**
- (b) Discuss signal transduction mechanisms by G-protein coupled receptor in detail. **05**
- (c) Write a note on various theories of drug–receptor interaction. **05**
- Q.4** (a) Classify the following receptors and describe their signal transduction mechanism citing suitable examples as agonist and antagonist: **06**
(a) Endothelin (b) Serotonin
- (b) Explain the role of Nitric oxide in pathophysiology of various diseases. **05**
- (c) Discuss importance of Radio-ligand binding studies in detail. **05**
- Q.5** (a) Enlist excitatory neurotransmitters. Write in detail about NMDA receptors with suitable agonists and antagonists. **06**
- (b) Discuss therapeutic significance of voltage gated sodium channels. **05**
- (c) Write a note on pathophysiological role of leukotrienes. **05**
- Q.6** (a) Define apoptosis. Discuss signaling pathways that result in apoptosis. **06**
- (b) Explain the role of stress induced genes in aging and write in brief about anti-aging drugs. **05**
- (c) Write a note pathological role of bradykinin. **05**
- Q.7** (a) Define gene therapy. Discuss applications of gene therapy in detail. **06**
- (b) Explain the role of TNF- α in various immunological and inflammatory disorders. **05**
- (c) Write a short note on Purines. **05**
