

GUJARAT TECHNOLOGICAL UNIVERSITY**M. Pharm. - SEMESTER– I • EXAMINATION – WINTER-2015****Subject Code:910103****Date:27/05/2016****Subject Name: Cellular and Molecular Pharmacology****Time: 10:30 AM to 1:30 PM****Total Marks: 80****Instructions:**

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

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| Q.1 | (a) | Classify the receptors for the following giving emphasis on signal transduction mechanisms and suitable examples of its agonist and antagonist.
i)Adrenergic ii)Serotonin | 06 |
| | (b) | Describe structural characteristics of GPCR. | 05 |
| | (c) | Describe the types and functions of potassium channels. | 05 |
| Q.2 | (a) | Describe synthesis of histamine. Discuss its physiological and pathological role. | 06 |
| | (b) | Describe the role of GABA in CNS physiology. Elaborate the drugs acting via GABA pathway with their clinical application. | 05 |
| | (c) | Explain the role of nitric oxide in various physiological functions. | 05 |
| Q.3 | (a) | Describe various types, characteristics, location and function of calcium channels giving suitable examples of drugs. | 06 |
| | (b) | Explain the importance of Radio-ligand binding studies. | 05 |
| | (c) | Classify dopamine receptors. Discuss in brief about their location and signal transduction mechanism. | 05 |
| Q.4 | (a) | Enlist various transport mechanism across cell membrane. Explain in detail facilitated, diffusion and carrier mediated transport. | 06 |
| | (b) | What is drug antagonism? Explain all types of drug antagonism citing suitable examples. | 05 |
| | (c) | Write a short note on endothelin. | 05 |
| Q.5 | (a) | Describe the principle mechanisms involved in a number of disease state directly linked to receptor malfunction. | 06 |
| | (b) | Explain role of Interferons and Adhesion molecules in various immunological and inflammatory disorders. | 05 |
| | (c) | Enlist excitatory neurotransmitters. Write a note on NMDA receptors. | 05 |
| Q. 6 | (a) | Explain the importance of Dose-Response Curve giving suitable examples. | 06 |
| | (b) | Explain neuromuscular junction at molecular level. | 05 |
| | (c) | Write a short note on Cytokines. | 05 |
| Q.7 | (a) | What is gene therapy? Write its therapeutic uses in detail. | 06 |
| | (b) | Describe in detail the two main signaling pathways in apoptosis. | 05 |
| | (c) | Write a short note on PAF. | 05 |
