

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. Pharm. – SEMESTER – I • EXAMINATION – SUMMER • 2014

Subject Code: 910103

Date: 23-05-2014

Subject Name: Cellular and Molecular Pharmacology

Time: 02:30 pm - 05:30 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) | Enlist various transport mechanism across cell membrane. Explain in detail facilitated, diffusion and carrier mediated transport. | 06 |
| | (b) | Explain the molecular mechanism of apoptosis. | 05 |
| | (c) | Write a note on pathophysiological role of leukotrienes. | 05 |
| Q.2 | (a) | Classify various mechanisms of drug antagonism. Discuss receptor occupancy based drug antagonism in details. | 06 |
| | (b) | Describe various diseases resulting from receptor malfunction. | 05 |
| | (c) | Enlist excitatory neurotransmitters. Write a note on NMDA receptors. | 05 |
| Q.3 | (a) | Discuss the role of Nitric Oxide in various physiological functions. Describe its role in pharmacotherapy of erectile dysfunction and hypertension. | 06 |
| | (b) | Classify 5-HT receptors and describe various drugs acting through these receptors. | 05 |
| | (c) | Write a short note on gene therapy. | 05 |
| Q.4 | (a) | What are prostanoids? Explain the role of prostanoids in inflammation? | 06 |
| | (b) | Give a brief note on Muscarinic receptors – location, types, signal transduction and agonist – antagonists. | 05 |
| | (c) | Classify dopamine receptors. Discuss in brief about their location and signal transduction mechanism. | 05 |
| Q.5 | (a) | Write a short note on aging and anti-aging neuromechanisms. | 06 |
| | (b) | Write a short note on PAF. | 05 |
| | (c) | Explain the importance of Radio-ligand binding studies. | 05 |
| Q. 6 | (a) | Write a note on calcium channels and their modulators. | 06 |
| | (b) | Describe structure of GABA receptor and enlist various drugs acting on GABA receptors. | 05 |
| | (c) | Write a short note on histamine receptors. | 05 |
| Q.7 | (a) | Discuss signal transduction mechanism by GPCR. | 06 |
| | (b) | Explain the role of cytokines in various immunological and inflammatory disorders. | 05 |
| | (c) | Write a note on nuclear receptors. | 05 |
