

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

**B. Pharm. – SEMESTER – IV (OLD Syllabus) • EXAMINATION – SUMMER • 2015**

**Subject Code: 240005**

**Date: 05-06-2015**

**Subject Name: Pharmacology-I**

**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) Explain in detail various factors modifying drug action. **06**
  - (b) Describe the relative autonomic tone and effects of ganglionic blockade on various organ functions. **05**
  - (c) Give mechanism of action and pharmacological actions of amide linked local anaesthetic agents. **05**
- Q.2**
- (a) Differentiate between the following **06**
    - i. Somatic and autonomic nervous system
    - ii.  $N_N$  and  $N_M$  subtypes of nicotinic receptor
  - (b) Write in short on the following **05**
    - i. Various factors governing choice of route of drug administration.
    - ii. Limitations of oral route of administration.
  - (c) Describe various adrenergic responses mediated through alpha ( $\alpha$ ) receptors. **05**
- Q.3**
- (a) Describe in short on the following **06**
    - i. Prostaglandins
    - ii. Platelet activating factor
  - (b) Write in short on combined effect of drugs, with suitable examples. **05**
  - (c) Explain in detail the concept of Apparent Volume of distribution and redistribution of drug distribution. **05**
- Q.4**
- (a) Explain the following terminologies with suitable examples: **06**
    - i. Drug dependence
    - ii. Bioavailability
    - iii. Stimulation
    - iv. Therapeutic window phenomenon
    - v. Teratogenicity
    - vi. Receptor regulation
  - (b) Describe the mechanism of action and uses of Anticholinesterases **05**
  - (c) Describe the action-effect sequence of G-Protein coupled receptor in myocardial cells with special reference to muscarinic ( $M_2$ ) and Adrenergic ( $\beta$ ) receptor activation. **05**

- Q. 5** (a) Explain about drug potency, efficacy, selectivity and risk-benefit ratio using Dose Response Curve. **06**
- (b) Describe the role of microsomal enzyme inductions, its consequences and possible use in drug metabolism. **05**
- (c) Describe the pharmacological actions of second generation antihistaminics. **05**
- Q.6** (a) Explain the kinetics of drug elimination. **06**
- (b) Explain the terminologies like agonist, antagonist, inverse agonist, partial agonist using receptor occupation theory and two state receptor models. **05**
- (c) Write a short note on anorectic agents. **05**
- Q.7** (a) Describe the methods and advantages of prolongation of drug action. **06**
- (b) Describe the pharmacological and physiological role of serotonin. **05**
- (c) Write in brief on the following **05**
- i. Comparative features of atropine and hyoscine,
  - ii. Atropine substitutes

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