

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER – 4 EXAMINATION – WINTER-2025

Subject Code: BP404TP**Date: 15-12-2025****Subject Name: Pharmacology I****Time: 02:30 PM TO 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.

- Q.1** (a) Explain following terms: **06**
i. Drug addiction iii. Pharmacodynamic v. Idiosyncrasy
ii. Tachyphylaxis iv. Drug dependency vi. Drug abuse
- (b) Describe the different stages of general anesthesia. **05**
(c) What is Dale's vasomotor reversal principle? **05**
- Q.2** (a) Explain the signal transduction pathway of G-protein coupled receptor. **06**
(b) Describe kinetics of elimination. **05**
(c) Discuss pharmacology of opioid analgesics. **05**
- Q.3** (a) Classify parasympatholytic drugs. Explain mechanism of action, pharmacological action and side effects of atropine. **06**
(b) Describe following terms: **05**
i. Dose response relationship ii. Therapeutic index
(c) Write a detail note on source of the drugs with suitable example. **05**
- Q.4** (a) Explain importance of following neurotransmitters **06**
i. GABA
ii. Glutamate
iii. Serotonin
(b) Discuss enzyme induction and enzyme inhibition with suitable example. **05**
(c) Classify beta-blocker drugs. Discuss the pharmacological actions and side effects of Propanolol. **05**
- Q.5** (a) Classify antiepileptic drugs. Explain the mechanism of action and adverse effects of phenytoin. **06**
(b) Define ADR. Explain the types of adverse drug reactions with suitable examples. **05**
(c) Classify drugs acting on glaucoma. Discuss role of α -agonist and β -blockers in the treatment of glaucoma. **05**
- Q.6** (a) Define biotransformation of drug. Discuss different phases of biotransformation. **06**
(b) Explain factors affecting on absorption of drugs. **05**
(c) Classify sedative and hypnotic agents. Discuss Pharmacology of Benzodiazepines. **05**
- Q.7** (a) Classify local anesthetic agents. Explain mechanism of action and adverse effect of local anesthetic agents. **06**
(b) Explain the different steps of the drug discovery and development process. **05**
(c) Classify anti- Parkinson's drugs. Justify, "The combination of levodopa and carbidopa is a rational fixed dose combination". **05**