

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.PHARM – SEMESTER –7 EXAMINATION – WINTER-2025**

**Subject Code: 2270003****Date: 17-11-2025****Subject Name: Pharmaceutical Chemistry – IX (Medicinal Chemistry - III)****Time: 10:30 AM TO 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) What are sulfonamides? Give their uses and adverse effects. Write synthesis of sulphamethoxazole **06**
- (b) Give the synthesis of – 1) ciprofloxacin and 2) Cyclophosphamide **05**
- (c) Describe in brief  $\beta$ -Lactamase inhibitors. **05**
- Q.2** (a) What are aminoglycosides? Give their uses and mechanism of action and SAR study. **06**
- (b) Give synthesis, therapeutic uses & mechanism action of chloramphenicol. **05**
- (c) Explain the SAR of Tetracycline. **05**
- Q.3** (a) Give the life cycle of a malarial parasite. Write SAR of 4-Aminoquinoline? **06**
- (b) Classify antifungal agents and give their mechanism of action **05**
- (c) Write short notes on Antiamoebic agents. **05**
- Q.4** (a) Write a detailed note on anthelmintic agents. Give synthesis of albendazole. **06**
- (b) Write the degradation of penicillin with structures. **05**
- (c) Discuss in brief Antiviral agents. Give its mechanism of action with an example. **05**
- Q.5** (a) Draw the structure and give the uses of 1) Chlorambucil 2) Norfloxacin 3) Isoniazid 4) Thiotepa 5) Cephalosporin 6) Fluorouracil **06**
- (b) What are Antineoplastic drugs? Classify them with examples. **05**
- (c) Write short notes on the adverse effects of Anticancer drugs. **05**
- Q.6** (a) Explain Hansch's linear free energy relationship model of QSAR. **06**
- (b) Write a detailed note on MDR-TB and XDR-TB. **05**
- (c) Discuss in brief lead optimization **05**
- Q.7** (a) Write a detailed note on computer-aided drug design. **06**
- (b) Give an informative note on molecular modeling and its applications. **05**
- (c) Write short notes on combinatorial chemistry. **05**

\*\*\*\*\*