

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

**Subject Code: BP601TP****Date:14-11-2025****Subject Name: Medicinal Chemistry III****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) Describe SAR of Quinolones with structural examples. **06**  
(b) Give chemistry and classification of Cephalosporins. **05**  
(c) Discuss mode of action and synthesis of Chloramphenicol. **05**
- Q.2** (a) Write a note on SAR of Tetracyclines. **06**  
(b) Give synthesis and uses of Sulfamethoxazole and Acyclovir. **05**  
(c) Define combinatorial chemistry. Describe concept and applications of combinatorial chemistry. **05**
- Q.3** (a) Classify Anti-tubercular agents with suitable examples from each category. **06**  
Give synthesis of Isoniazid.  
(b) Give classification of antifungal agents. **05**  
(c) Discuss chemical degradation of Penicillins. **05**
- Q.4** (a) Answer the following. **06**  
(i) Life cycle of Malarial parasite.  
(ii) Benzimidazoles as Anthelmintic agents.  
(b) Write a note on Macrolide antibiotics. **05**  
(c) Give mode of action, chemistry and therapeutic uses of Aminoglycosides. **05**
- Q.5** (a) Define the term QSAR. Explain in brief on physicochemical parameters used in QSAR. **06**  
(b) Write a note on SAR of Sulfonamides. **05**  
(c) What are Prodrugs? Discuss basic concepts of Prodrug design. Give two examples of Prodrugs with their structures. **05**
- Q.6** (a) Write a note on Antiviral agents. **06**  
(b) Write down synthesis of Mebendazole and Chloroquine. **05**  
(c) Give a brief note on Antiprotozoal agents. **05**
- Q.7** (a) Discuss SAR of Quinolines as Antimalarial agents. **06**  
(b) Write a note on pharmacophore modeling in drug design. **05**  
(c) Give structure and uses of following drugs. **05**  
(i) Chlortetracycline (ii) Nitrofurantoin (iii) Ciprofloxacin  
(iv) Clindamycin (v) Dapsone

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