

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**Pharm.D. – 3<sup>rd</sup> YEAR • EXAMINATION – WINTER -2023**

**Subject Code: 838805****Date: 30/01/2024****Subject Name: Medicinal Chemistry****Time: 10:30 AM to 1:30 PM****Total Marks: 70****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 the prodrugs ? Explain the strategies used to enhance the permeability and to reduce the toxicity through prodrugs. **06**
- (b) Explain the basic model of QSAR given by Hansch and Fujita. **04**
- (c) Explain: Hammett constant, Taft's steric constant. **04**
- Q.2** (a) Write a note on combinatorial chemistry. **06**
- (b) Explain in brief: Wilson and Free model of QSAR along with their merits and demerits. **04**
- (c) Write a note on molecular docking, as a technique of CADD. **04**
- Q.3** (a) Write the classification of anti-cancer drugs. **06**
- (b) Classify sulphonamides and draw their structures. **04**
- (c) Why sulphonamide can cause crystalluria ? Explain the ways to reduce these side-effects. **04**
- Q.4** (a) Give a neat and well labelled diagram of life-cycle of malaria along with the site of action of anti-plasmodial drugs. **06**
- (b) Write a note on nucleoside reverse transcriptase inhibitors. **04**
- (c) Give the synthesis of clotrimazole and chloroquine. **04**
- Q.5** (a) Write a brief note on penicillins. **06**
- (b) Classify cephalosporins in brief. Draw structures as when needed. **04**
- (c) Write a brief note on calcium channel blockers as anti-arrhythmic agents. **04**
- Q.6** (a) Write a note on classes of diuretics. **06**
- (b) Provide a short note HMG CoA reductase inhibitors. **04**
- (c) Give a brief note on warfarin. **04**
- Q.7** (a) Classify anti-diabetic drugs. **06**
- (b) Provide a short note on drugs acting on secretion of thyroid. **04**
- (c) Explain: Dipyridamole worsen the angina-pectoris. **04**

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