

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.Ph. - SEMESTER-VIII • EXAMINATION – WINTER -2021**

**Subject Code: 2280003****Date:30/11/2021****Subject Name: Pharmaceutical Chemistry –X (Medicinal Chemistry-III)****Time: 10:30am to 01:30pm****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) Classify the antianginal drugs with chemical structures. **06**  
(b) Explain the SAR of statins. **05**  
(c) Write the mechanism of action, synthesis and use of clofibrate. **05**
- Q.2** (a) Classify the oral antidiabetic agents with only drug names. Write the synthesis of metformin. **06**  
(b) Describe the mechanism of action and chemistry of insulin. **05**  
(c) Classify the drugs used in hyperthyroidism with chemical structures. **05**
- Q.3** (a) Write the chemistry aspects of antihypertensive drugs acting on renin-angiotensin system. **06**  
(b) Explain the SAR of 1,4-dihydropyridines as Ca<sup>2+</sup> channel blockers. **05**  
(c) Write the synthesis of **05**  
    i) Any one ACE inhibitor  
    ii) Any one  $\beta_1$ -blocker
- Q.4** (a) Classify the antiplatelet agents with chemical structures and mechanism of action. **06**  
(b) Define the terms: i) coagulants ii) anticoagulants iii) antiplatelet agents iv) thrombolytics v) plasma expanders **05**  
(c) Write a note on plasma expanders. **05**
- Q.5** (a) Discuss the SAR of adrenocorticoids. **06**  
(b) Discuss the nomenclature of steroidal hormones. **05**  
(c) Write the name, chemical structures and uses of antiestrogens. **05**
- Q.6** (a) Write the name, chemical structures, mechanism of action and uses of potassium sparing diuretics. **06**  
(b) Write the structure activity relationship of thiazide diuretics. **05**  
(c) Define immunomodulators. Write two examples with structure each of immunostimulants and immunosuppressants. **05**
- Q.7** (a) Classify the antiarrhythmic agents with chemical structures. **06**  
(b) Define cardiotonic agents. Write the mechanism of action and four examples with structure of cardiac glycosides. **05**  
(c) Write the synthesis of flecainide and dobutamine. **05**

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