

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.Ph. - SEMESTER-IV • EXAMINATION – WINTER-2020**

**Subject Code:BP402TP****Date: 10/02/2021****Subject Name: Medicinal Chemistry I****Time: 02:30PM TO 04:30PM****Total Marks: 54****Instructions:**

1. Attempt any **THREE** questions from **Q-1 to Q-6**.
2. **Q.7** is compulsory to attempt.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks.

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|-----|-----|--|----|
| Q.1 | (a) | Explain the SAR of phenylethanolamines.  | 06 |
|     | (b) | Classify the parasympathomimetics with chemical structures.                                    | 05 |
|     | (c) | Write the synthesis, mechanism of action and use of salbutamol.                                | 05 |
| Q.2 | (a) | Define the subject of medicinal chemistry. Write brief history of it.                          | 06 |
|     | (b) | Discuss the impact of lipophilicity and H-bonding with drug's biological activity.             | 05 |
|     | (c) | Write a short note on bioisosterism.   | 05 |
| Q.3 | (a) | Discuss the SAR of muscarinic agonists.  | 06 |
|     | (b) | Write a note on cholinesterase reactivators.   | 05 |
|     | (c) | Write the synthesis of tolazoline and neostigmine.   | 05 |
| Q.4 | (a) | Describe the structure activity relationship of antipsychotic phenothiazines.                  | 06 |
|     | (b) | Classify the sedative-hypnotics with chemical structures.                                      | 05 |
|     | (c) | Write the mechanism of action, IUPAC name and synthesis of diazepam.                           | 05 |
| Q.5 | (a) | Define antiepileptics. Classify them with chemical structures.                                 | 06 |
|     | (b) | Discuss the SAR of 5-phenyl-1,4-benzodiazepin-2-one.   | 05 |
|     | (c) | Define general anaesthetics. Write some examples with structures of inhalational anaesthetics. | 05 |
| Q.6 | (a) | Classify the neuroleptics with chemical structures.  | 06 |
|     | (b) | Write the synthetic steps and use of ethosuximide.   | 05 |
|     | (c) | Describe the stages of anaesthesia produced with diethyl ether.                                | 05 |
| Q.7 | (a) | Explain the SAR of morphine analogues.   | 06 |
|     |     | <b>OR</b>  |    |
|     | (a) | Define biotransformation of drugs. Give some examples with reactions of phase-I metabolism.    | 06 |
|     |     | <b>OR</b>  |    |
|     | (a) | Describe factors affecting drug metabolism.  | 06 |