

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 phenylethanamines. | 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 |
| | | OR | |
| | (a) | Define biotransformation of drugs. Give some examples with reactions of phase-I metabolism. | 06 |
| | | OR | |
| | (a) | Describe factors affecting drug metabolism. | 06 |