

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. - SEMESTER-5 • EXAMINATION – SUMMER -2018

Subject Code: 2250004

Date: 21/05/2018

Subject Name: Pharmaceutical Chemistry - VII (Medicinal Chemistry - I)

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.

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|-------------|-----|--|-----------|
| Q.1 | (a) | Classify the antiasthmatic agents with chemical structures. | 06 |
| | (b) | What is autocoids? Write the chemistry, biosynthesis and metabolism of histamine. | 05 |
| | (c) | Define neuromuscular blockers. Classify them with only names. Write the therapeutic uses of them. | 05 |
| Q.2 | (a) | Describe optical and geometric isomerism of drugs. How do they affect the drug's biological activity? | 06 |
| | (b) | Write the synthesis of i) any one H ₁ -antihistamine containing phenothiazine nucleus and ii) any one H ₁ -antihistamine containing piperazine ring. | 05 |
| | (c) | Write a short note on indirectly acting sympathomimetics. | 05 |
| Q.3 | (a) | Define expectorants and mucolytics. Give two examples of expectorants and two examples of mucolytics with chemical structures. | 06 |
| | (b) | Classify the muscarinic agonists with chemical structures. | 05 |
| | (c) | Write the synthesis of i) any one H ⁺ /K ⁺ -ATPase inhibitor and ii) any one β-blocker. | 05 |
| Q.4 | (a) | Define medicinal chemistry. Discuss the history of it. | 06 |
| | (b) | Write the synthesis of neostigmine and salbutamol. | 05 |
| | (c) | Discuss the development of H ₂ -antihistamines. Write the therapeutic uses of H ₂ -antihistamines. | 05 |
| Q.5 | (a) | Write the neurochemistry of acetylcholine. | 06 |
| | (b) | Classify the antiemetics with chemical structures. | 05 |
| | (c) | Explain the SAR of parasympatholytics. | 05 |
| Q. 6 | (a) | Differentiate antacids and antisecretory agents. Write the mechanism of action and examples with structures of proton pump inhibitors. | 06 |
| | (b) | Write a note on prokinetics. | 05 |
| | (c) | What is the measure of drug's lipophilicity? How does it affect the drug's biological activity? | 05 |
| Q.7 | (a) | What is eicosanoids? Describe the biosynthesis of prostaglandins. | 06 |
| | (b) | Discuss various metabolic routes for norepinephrine. | 05 |
| | (c) | Write a short note on analeptics. | 05 |
