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Total No. of Questions: [13]

Total No. of Printed Pages: [01]

B. Pharmacy (Semester – 5th)
MEDICINAL CHEMISTRY-II
Subject Code: BP501T
Paper ID: [17170123]

Time: 03 Hours

Maximum Marks: 75

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 9 questions of 5 marks each. The student has to attempt any 7 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(2 marks each)

- Q1. Attempt the following:
- a) Name two gastric proton pump inhibitors with chemical structure.
 - b) What is the primary mechanism of action of alkylating agents in cancer treatment?
 - c) What class of drugs do lisinopril and enalapril belong to, and what is their primary mechanism of action?
 - d) Name one class of anti-arrhythmic drug and give an example of a drug from that class.
 - e) List two therapeutic uses of corticosteroids in clinical practice.
 - f) What are the different preparations of insulin used in diabetes management?
 - g) Describe one common side effect associated with the use of local anesthetics.
 - h) What are H₂-antagonists, and how do they differ from H₁-antagonists in terms of action?
 - i) What is the role of methotrexate in cancer treatment, and how does it function as an antimetabolite?
 - j) How do sildenafil and tadalafil work to treat erectile dysfunction?

Section – B

(5 marks each)

- Q2. Define antihistaminic agents and explain the mechanism of action of H₁-antagonists with examples.
- Q3. Discuss the classification of anti-neoplastic agents and describe the mechanism of action of alkylating agents.
- Q4. Explain the role of vasodilators in the treatment of angina pectoris.
- Q5. Compare and contrast the different classes of diuretics, highlighting their mechanisms of action and therapeutic uses.
- Q6. Describe the mechanisms of action of ACE inhibitors in hypertension management.
- Q7. Explain the mechanism of action of class IA and class III anti-arrhythmic drugs, citing examples from each class.
- Q8. Discuss the significance of steroid nomenclature and stereochemistry in the pharmacology of sex hormones.
- Q9. Describe the mechanism of action and therapeutic uses of biguanides in diabetes management.
- Q10. Explain the structure-activity relationship (SAR) of local anesthetics, focusing on benzoic acid derivatives.

Section – C

(10 marks each)

- Q11. Discuss the structure-activity relationship (SAR) of H₁-antagonists, highlighting how structural modifications affect their pharmacological properties.
- Q12. Compare and contrast the mechanisms of action of antimetabolites and antibiotics used in cancer therapy, including their therapeutic indications.
- Q13. Discuss the metabolism and pharmacological effects of corticosteroids, detailing their therapeutic uses and potential side effects.