Roll No…….. **Total No. of Printed Pages: [01]**
Total No. of Questions: [13]

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.