



## II Sessional (Even) Semester Examination, 2025

Roll no. ....

Name of the Course and semester: B.Pharm IIInd Semester

Name of the Paper: Pharmaceutical Organic Chemistry I

Paper Code: BP202T

Time: 1.5-hour

Maximum Marks: 30

**Note:**

- (i) This question paper contains three sections.
- (ii) All the questions are compulsory.

### Section-A

#### Q1. Multiple Choice Questions – Attempt all questions

(10 X 1 = 10 Marks)

- a. In SN1 reaction mechanism CO3
  - A. Transition State occur
  - B. Carboanion form
  - C. Carbonium Ion form
  - D. Carbon remains neutral
  
- b. Which of the following has anaesthetic properties CO3
  - A. Chloroform
  - B. Trichloroethylene
  - C. Ethyl Chloride
  - D. All of the above
  
- c. The bond angle in sp<sup>3</sup> hybridized alkyl halide CO3
  - A. 109.5°
  - B. 105.5°
  - C. 102.5°
  - D. 120°
  
- d. Order of reactivity of alkyl halide via SN2 mechanism CO3
  - A. Primary > Secondary > Tertiary
  - B. Tertiary > Primary > Secondary
  - C. Tertiary > Secondary > Primary
  - D. Primary > Tertiary > Secondary
  
- e. Which is the fatty alcohol CO3
  - A. Iso-propyl Alcohol
  - B. Stearyl Alcohol
  - C. Benzyl Alcohol
  - D. Ethyl Alcohol

- f. Electromeric effect do not happen in CO4  
 A. Alkane  
 B. Alkene  
 C. Alkyne  
 D. Aromatic ring
- g. Which statement is true for carbonyl group CO4  
 A. Electrophilic Carbon reacts with base and Nucleophile  
 B. Nucleophilic Oxygen reacts base and Nucleophile  
 C. Electrophilic Carbon reacts with acid and Electrophile  
 D. Nucleophilic Oxygen reacts with acid and Nucleophile
- h. Which test identified carbonyl group of aldehyde and ketone CO4  
 A. Tollen's Test  
 B. Fehling's Test  
 C. Schiff's Test  
 D. 2,4-DNP Test
- i. When two aldehydes; both without alpha hydrogen react to form alcohol know as CO4  
 A. Aldol Condensation  
 B. Cannizaro Condensation  
 C. Crossed Cannizaro Condensation  
 D. Benzoin Condensation
- j. Use of this compound CO4  
 A. Antiseptic  
 B. Dyes  
 C. Sedative  
 D. Preservative

**Section B**

- Q. 2 Short Questions: Attempt any two questions (2X 5 = 10 Marks)**
- a. Differentiate between SN1 and SN2. What factors affect these reactions? CO3
- b. What are the chemical properties of alkyl halides? CO3
- c. What are the uses and structure of Paraldehyde, Chloral Hydrate, Vanillin, Benzaldehyde and Cinnamaldehyde? CO4

**Section C**

- Q. 3 Long questions: Attempt any one question (1X10 = 10 Marks)**
- a. How alcohols are qualitatively tested? Give Structure and uses of five important alcoholic compounds. CO3
- b. Explain condensation reactions between aldehydes, ketones and their combination? CO4



### Sessional II (Even) Semester Examination, May 2025

Roll no.....

Name of the Course and semester: B.Pharma 4 Semester

Name of the Paper: Medicinal Chemistry I

Paper Code: BP402T

Time: 1.5-hour

Maximum Marks: 30

**Note:**

- (i) This question paper contains three sections
- (ii) All the sections are compulsory

**Section-A**

**MULTIPLE CHOICE QUESTION**

**10X 1 = 10 MARKS**

Where is acetylcholine primarily synthesized?

**CO-3**

- 1 A) Mitochondria B) Nerve terminal

- C) Nucleus D) Endoplasmic reticulum

2 Which enzyme breaks down acetylcholine into choline and acetate? **CO-3**

- A) Acetylcholinesterase B) Choline acetyltransferase

- C) Monoamine oxidase D) Catechol-O-methyltransferase

3 Which receptor subtype is primarily involved in the parasympathetic nervous system? **CO-3**

- A) Nicotinic B) Muscarinic

- C) Both D) Neither

4 Which of the following compounds is a direct-acting cholinergic agonist that stimulates both muscarinic and nicotinic receptors? **CO-3**

- A) Bethanechol B) Methacholine

- C) Carbachol D) Pilocarpine

5 Dicyclomine hydrochloride acts as;

**CO-3**

- A) Central dopamine agonist  
B) Beta-blocker

- B) Muscarinic receptor antagonist  
D) H<sub>2</sub> receptor antagonist

- 6 Which of the following drugs is classified as a hydantoin derivative used as an anticonvulsant? CO-4  
A. Valproic acidB. Carbamazepine  
C. PhenytoinD. Ethosuximide
- 7 Which of the following is a typical antipsychotic belonging to the phenothiazine class? CO-4  
A. HaloperidolB. Chlorpromazine  
C. ClozapineD. Risperidone
- 8 What is the IUPAC name of Phenytoin?
- 9 Which of the following drugs is a GABA analogue used in partial seizures? CO-4  
A. Tiagabine. B. Gabapentin  
C. TopiramateD. Zonisamide
- 10 The tropine moiety in atropine contains which of the following ring systems? CO-4  
A. PiperidineB. Tropane  
C. PyrrolidineD. Morpholine

### SectionB

**Short Questions: Attempt any two**

**2x5= 10**

1. What are Parasympathomimetic agents? CO-3
2. Write the structure and uses of following drugs; Acetylcholine, Carbachol, Neostigmine, Phenobarbital and Phenytoin. CO-3&4
3. Write the synthesis and uses of Phenytoin. CO-4

### SectionC

**Long Questions: Attempt any one**

**1x10 = 10**

1. Explain the Biosynthesis, SAR, and Uses of Acetylcholine CO-3
2. Classify sedative hypnotic drugs. Give the chemical feature of each class. CO-4