

Code No.

Symbol Number: _____ Invigilator's Sign: _____ Superintendent's Sign: _____

Symbol No. in Words: _____

Faculty: Medicine and Allied Health Sciences Level: Bachelor

Year/Part: I/II

Program: Bachelor of Pharmacy

Level: Bachelor

F.M.: 50

Subject: Pharmaceutical Chemistry- II (Organic Chemistry I)(BP203)

Time: 3 Hours

P.M.: 20

- i* Answers should be given by filling the Objective Answer Sheet.
ii Rough can be done in the main answer sheet
iii Maximum time of 20 minutes within the total time is given for this group.

Group A (Multiple Choice Questions)**[10×1=10]**

- The rate of nitration of phenol is:
 - Slower than that of benzene
 - Much faster than that of benzene
 - Equal to that of benzene
 - Almost zero
- The carbon atom present in benzene ring is:
 - sp hybridized
 - sp² hybridized
 - sp³ hybridized
 - sp³d hybridized
- The compound formed as a result of oxidation of ethyl benzene by KMnO₄ is
 - Benzyl alcohol
 - Benzophenone
 - Acetophenone
 - Benzoic acid
- The reverse of esterification is known as
 - Acidolysis
 - Trans-esterification
 - Hydrolysis
 - Neutralization
- Which of the following alcohols would be oxidized to propan-2-one?
 - ethanol
 - propan-2-ol
 - 2-methylpropan-2-ol
 - butan-1-ol
- What is the product of the reduction of an acid chloride?
 - Alcohol
 - Amine
 - Aldehyde
 - Ketone
- What is the product of the oxidation of Naphthalene?
 - Naphthol
 - Naphthalene oxide
 - Naphthalene diol
 - Naphthalene carboxylic acid
- Which of the following structures represents a diazonium salt?
 - N₂⁺
 - NH₂
 - NO₂
 - CN
- Which of the following is true regarding the stability of carboxylate anions?
 - Stability increases with the electron-withdrawing group attached to the carboxyl group
 - Stability decreases with the increase in the size of the alkyl group
 - Stability increases with the decrease in the size of the alkyl group
 - Stability is independent of the substituents attached to the carboxyl group
- How many pi-electrons are present in the anthracene molecule?
 - 10
 - 12
 - 14
 - 16

Multiple Choice Questions' Answer Sheet

Code No. <input type="text"/>	Marks Secured: _____	1. (A) (B) (C) (D)	6. (A) (B) (C) (D)
Corrected Fill (A) (B) (C) (D)	In Words: _____	2. (A) (B) (C) (D)	7. (A) (B) (C) (D)
Incorrected Fill (A) (B) (C) (D)	Examiner's Sign: _____ Date: _____	3. (A) (B) (C) (D)	8. (A) (B) (C) (D)
	Scrutinizer's Marks: _____	4. (A) (B) (C) (D)	9. (A) (B) (C) (D)
	In Words: _____	5. (A) (B) (C) (D)	10. (A) (B) (C) (D)
	Scrutinizer's Sign: _____ Date: _____		

MANMOHAN TECHNICAL UNIVERSITY

Office of the Controller of Examinations

Budiganga- 4, Morang, Koshi Province Nepal

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- ✓ *Group A contains Multiple Choice Questions of 5 marks.*
- ✓ *Candidates are required to give their answers in their own words as far as practicable.*
- ✓ *The figures in the margin indicate Full Marks.*
- ✓ *Assume suitable data if necessary.*

Group B (Problem-Based Question)

[1×10=10]

1. In a chemical manufacturing plant, you encounter a mixture of amines and need to separate them efficiently. Describe the basicity of amines and their classification, highlighting the Hinsberg method of separation. How would you apply this knowledge practically to isolate and purify specific amine compounds from the mixture?

Group C (Long Answer Questions: Attempt Any Four)

[4×5=20]

2. Discuss the molecular orbital picture of Benzene and how it contributes to its stability.
[3+2]
3. Explain the stability of carboxylate ions and their relation with the strength of carboxylic acids.
4. Describe the basicity of amines and the effect of substituents on basicity.
5. Explain the electrophilic substitution reactions in Naphthalene and Anthracene.
6. Explain the relative reactivity of primary, secondary and tertiary alcohols.

Group D (Write Short Notes: Any Five)

[5×2=10]

7. Hydrogen Bonding in alcohol
8. Nomenclature of Polynuclear Aromatic Hydrocarbons
9. Reactivity of monosubstituted benzene
10. Diazotization
11. Hoffman's Degradation of amides.
12. Dicarboxylic acid

- The End -