Graphic Era
HILL UNIVERSITY
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University under section 2(f) of UGC Act, 1956

Sessional II (Odd) Semester Examination, September 2025

Roll no.....

Name of the Course: B. Pharm
Semester: III
Name of the Paper: Pharmaceutical Organic Chemistry-II
Paper Code: BP-301 T
Time: 1.5-hour Maximum Marks: 30

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

Section-A

Multiple Choice Questions (Attempt All Questions) (10 X 1 = 10 Marks)

1. Which of the following is a saturated fatty acid? **(CO3)**
A) Oleic acid
B) Linoleic acid
C) Stearic acid
D) Linolenic acid

2. The process of converting oils into fats by hydrogenation is known as: **(CO3)**
A) Saponification
B) Esterification
C) Hydrolysis
D) Hydrogenation

3. The rancidity of oils is mainly due to: **(CO3)**
A) Hydrogenation
B) Oxidation of unsaturated fatty acids
C) Hydrolysis of esters
D) Reduction of double bonds

4. The saponification value of an oil is defined as: **(CO3)**
A) Amount of KOH required to neutralize free fatty acids in 1 g of oil
B) Amount of KOH required to saponify 1 g of fat or oil
C) Amount of iodine absorbed by 100 g of fat
D) Melting point of fat

5. Which reagent is used to determine the degree of unsaturation in fats and oils? **(CO3)**
A) Fehling's reagent
B) Iodine
C) Crystal Violet
D) Tollen's reagent

6. Which of the following is a polynuclear aromatic hydrocarbon? **(CO4)**
A) Benzene
B) Naphthalene
C) Ethylene
D) Toluene

7. The molecular formula of anthracene is: **(CO4)**
A) $C_{14}H_{10}$
B) $C_{10}H_8$
C) $C_{16}H_{10}$
D) $C_{12}H_{10}$

8. Naphthalene undergoes electrophilic substitution mainly at which position? **(CO4)**
A) α-position (1,4,5,8)
B) β-position (2,3,6,7)
C) Only at position 3
D) Randomly at all positions

9. Diphenylmethane is structurally obtained by replacing: **(CO4)**
A) Two hydrogens of methane with two benzene rings
B) One hydrogen of methane with two benzene rings
C) One hydrogen of benzene with one methyl group
D) Methyl group with hydroxyl group

10. Crystal violet is a derivative of: **(CO4)**
A) Diphenylmethane
B) Triphenylmethane
C) Anthracene
D) Phenanthrene

Section-B

Short type (attempt any two out of three) **(2×5= 10 Marks)**

1. Describe the structure and aromatic character of naphthalene with the help of resonance structure. **(CO4)**
2. Explain the chemical composition and differences between fats and oils. **(CO3)**
3. Discuss Haworth synthesis of Naphthalene. **(CO4)**

Section-C

Long type (attempt any one out of two) **(1×10= 10 Marks)**

1. Define fats and oils. Discuss in detail their chemical composition, classification, chemical properties, and industrial importance. **(CO3)**

2. Discuss the structure, occurrence, preparation, physical and chemical properties, and uses of naphthalene. **(CO4)**