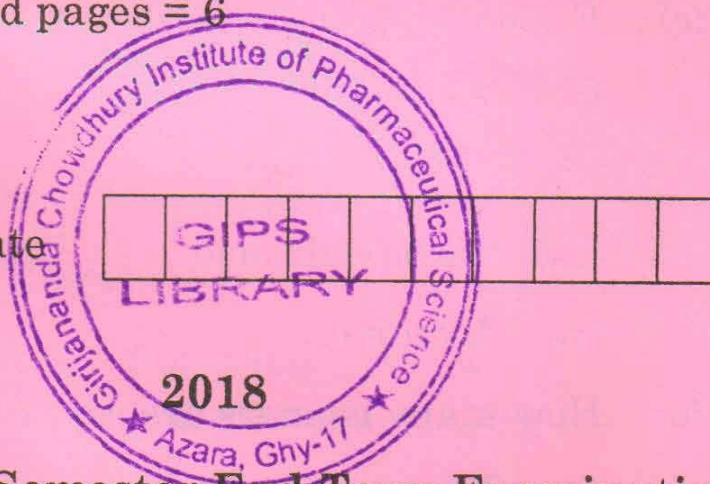


29-05-2018 (New Regulation)

Total No. of printed pages = 6

BP 202T

Roll No. of candidate



B.Pharm 2nd Semester End-Term Examination
PHARMACEUTICAL ORGANIC CHEMISTRY — I
(New Regulation)

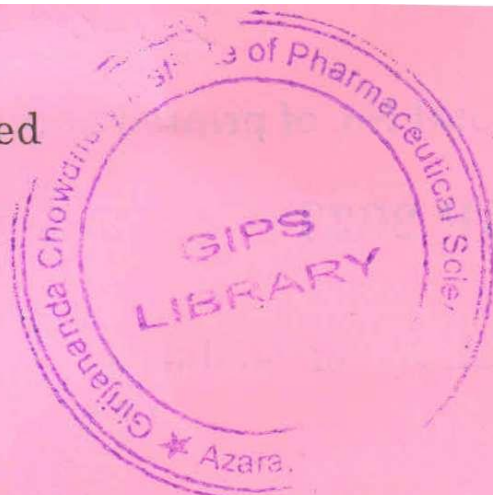
Full Marks – 75

Time – Three hours

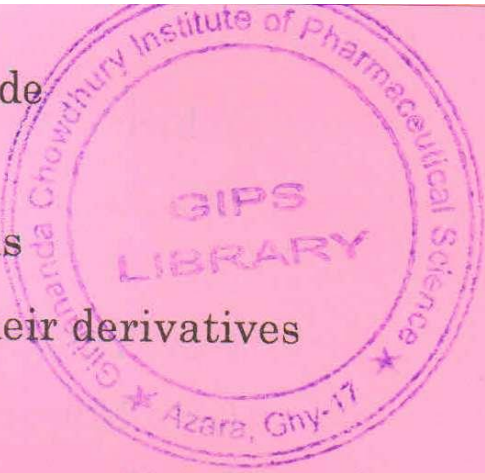
The figures in the margin indicate full marks
for the questions.

1. Multiple choice questions : (20 × 1 = 20)
- (a) As compared to its parent alkane, an alkyl radical contains
- (i) One less carbon
 - (ii) One less hydrogen
 - (iii) One more carbon
 - (iv) One more hydrogen
- (b) Propane (C₃H₈) and butane (C₄H₁₀) in liquid form are used in
- (i) LSG
 - (ii) LPG
 - (iii) ECU
 - (iv) LNG

[Turn over



- (c) Formic acid is also called
- (i) Methanoic acid
 - (ii) Ethanoic acid
 - (iii) Carboxylic acid
 - (iv) Acetone
- (d) How many isomers are contained by Hexane?
- (i) Two (ii) Three
 - (iii) Four (iv) Five
- (e) Which of following is used for artificial ripening of fruits?
- (i) Ethylene (ii) Acetylene
 - (iii) Phenol (iv) Methanol
- (f) As number of carbon atoms increases, number of possible isomers
- (i) also increases
 - (ii) decreases
 - (iii) remains same
 - (iv) becomes zero
- (g) Compounds in which one hydrogen atom of an alkane is substituted by one halogen atom are called
- (i) Haloalkanes
 - (ii) Phenols
 - (iii) Ethers
 - (iv) Alcohols

- 
- (h) Organic compounds include
- (i) alkali metals
 - (ii) alkaline earth metals
 - (iii) hydrocarbons and their derivatives
 - (iv) halogens
- (i) Which of following is widely used in oxy-acetylene welding and cutting metals?
- (i) Ethylene (ii) Acetylene
 - (iii) Phenol (iv) Methanol
- (j) Which of following has two hydrocarbon groups bonded to carbonyl carbon atom?
- (i) Aldehydes
 - (ii) Ketones
 - (iii) Carboxylic acids
 - (iv) Ethers
- (k) Which of following are characterized by presence of hydroxyl group attached to a hydrocarbon chain?
- (i) Haloalkanes
 - (ii) Phenols
 - (iii) Ethers
 - (iv) Alcohols
- (l) Which of the following is called Marsh gas?
- (i) Butane (ii) Pentane
 - (iii) Ethane (iv) Methane

(r) Ethylene react with cold KMnO_4 to form

- (i) Ethylene glycol
- (ii) Acetic acid
- (iii) Ethanol
- (iv) None of the above

(s) Which of the following is called paraffin?

- (i) Alkyne
- (ii) Aldehyde
- (iii) Alkane
- (iv) Alkene

(t) The bond angle of Ammonia molecule is

- (i) 104°
- (ii) 105°
- (iii) 107°
- (iv) 109°

2. Answer the following questions (Any two)
(2 × 10 = 20)

(a) Define isomerism. Classify isomerism citing example. Describe two methods of resolution.

(1 + 7 + 2 = 10)

(b) Differentiate SP_3 , SP_2 and sp hybridization with suitable example. Explain anti Markovnikov orientation of alkene with mechanism.

(6 + 4 = 10)

(c) Describe the mechanism of the following reactions

(3 + 4 + 3 = 10)

- (i) Cannizzaro reaction
- (ii) Aldol condensation
- (iii) Benzoin condensation

3. Answer the following questions (Any seven) :
(7 × 5 = 35)

- (a) What type of chemical reactivity alkyl halide shows? Differentiate SN1 and SN2 reaction with mechanism. (1 + 4 = 5)
- (b) What is Baeyer's test? Describe the pyrolysis of alkane with mechanism. (2 + 3 = 5)
- (c) Write down five methods of preparation of alkenes. (5)
- (d) Write a note on asymmetric synthesis and Walden inversion. (2.5 + 2.5 = 5)
- (e) Draw the structure and write the uses of Lactic acid, Tartaric acid, Citric acid, oxalic acid and acetyl salicylic acid. (5)
- (f) Explain the effect of substituent on basicity of amines. Write two qualitative tests for primary amines. (3 + 2 = 5)
- (g) Describe inductive and electromeric effect with example. What happens when propene react with HBr? Explain the mechanism. (2 + 3 = 5)
- (h) Describe E1 and E2 reaction with mechanism. Explain Saytzeff's rule. (4 + 1 = 5)
- (i) What happens when (5)
- Acetylene passed through a heated iron tube (400°C)
 - Ethyl bromide react with alcoholic KOH
 - Excess of ethanol is treated with conc. H₂SO₄
 - Acetic acid react with ethanol in the presence of H₂SO₄
 - Methane reacts with HNO₃ at 450°C.

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