

# Question Paper

Exam Date & Time: 29-Jan-2024 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BSc. HEALTH SCIENCE DEGREE EXAMINATION - JANUARY 2024

SUBJECT: BHS-201 ORGANIC CHEMISTRY I

(OLD SCHEME - MAKE-UP)

Marks: 50

Duration: 150 mins.

Answer ALL questions.

- 2A) What are the properties of covalent compounds? (Any 4 Points) (2)
- 2B) Give the any two differences between inductive and mesomeric effect. (2)
- 2C) How do you prepare alkane by decarboxylation method? (2)
- 2D) How is dioxane prepared? Mention its use. (2)
- 2E) Explain  $sp^3$  hybridization with an example. (2)
- 2F) How do you obtain absolute ethanol from rectified spirit? (2)
- 2G) How is gammaxene synthesized from benzene? Mention its use. (2)
- 2H) What are ortho and para directing group? Give examples. (2)
- 2I) Write the reaction of glycerol with nitric acid. (2)
- 2J) Explain the stability of carbanions. (2)
- 2K) Write the structural formula for: (2)  
a) 2,5-dipropyl-3-heptene.  
b) 2-chloro-1,3-butadiene.
- 2L) Define Elimination reactions of alkyl halides and discuss Zaitsev's rule for the formation of major and (2) minor products.

- 2M) Define and provide one example for: (2)  
a) racemic mixture  
b) meso compounds
- 2N) Describe the halogenation ( $\text{Cl}_2$ ) reaction of diethyl ether in presence and absence of light. (2)

3. Answer ALL Questions.

- 3A) How is glycerol prepared by saponification process? Mention the uses of glycerol. (3)
- 3B) Explain the nitration reaction of benzene. (3)
- 3C) Explain the addition reactions of acetylene with  $\text{H}_2$ ,  $\text{Cl}_2$  and  $\text{HBr}$ . (3)
- 3D) Write a brief note on Geometric and optical isomerism with suitable examples for each isomerism. (3)

4) Answer ALL questions..

- 4A) Explain the distinguish primary, secondary and tertiary alcohols by oxidation. (5)
- 4B) Describe the step-by-step preparation of Chloroform along with its physical properties and application. (5)

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