

Total No. of Printed Pages: 03

**SUBJECT CODE NO: - Y-2002**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. (PATTERN-2013) F.Y. (SEM I)**  
**Examination April / May - 2024**  
**Chemistry Paper-II (Organic Chemistry)**

[Time: 1:30 Hours]

[Max. Marks: 50]

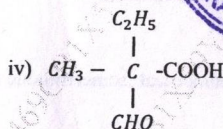
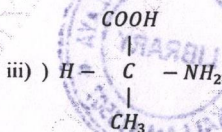
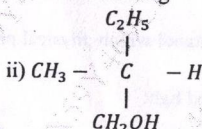
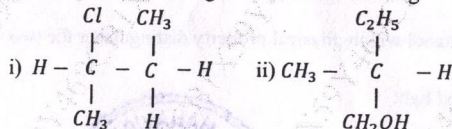
N. B Please check whether you have got the right question paper.

- 1) Attempt all questions.
- 2) All questions are compulsory.

- Q.1** A) Explain the conjugative and steric effect with suitable examples 10  
 B) What is carbanion? Give methods of preparation and stability of carbanion 10

OR

- A) i) What is hydrogen bonding? Discuss different types of hydrogen bonding with Examples 05  
 ii) Discuss Hoffmann Elimination reaction of alkenes 05  
 B) Explain homolytic and heterolytic bond breaking using suitable examples 10
- Q.2** A) Assign R or S configuration to the following 10



- B) i) Discuss polymerisation of alkene with one example 05  
 ii) Explain the Kekulé's structure of benzene 05

OR

Write a short note on. (any four)

20

- A) Threo and erythro diastereomers
- B) Optical activity
- C) Corey House reaction
- D) Oxidation of alkenes with  $\text{KMNO}_4$
- E) Huckel rule
- F) Side chain reactions of aryl halides.

Q.3 Choose and write the correct answer of the following multiple choice questions.

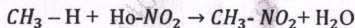
10

- 1) In charge transfer complexes the distance between the donar and acceptor molecule is
  - A) Equal to the normal covalent bond
  - B) Less than normal covalent bond
  - C) Larger than normal covalent bond
  - D) Variable and depends on the specific molecules involved
- 2) Which alkyl free radical is most stable?
  - A) Methyl
  - B) Primary
  - C) Secondary
  - D) Tertiary
- 3) Heterolytic fission of covalent bond between carbon atoms will produce
  - A) Two carbonium ion
  - b) Two molecules
  - C) Free radicals
  - d) Carbonium ion and carbanion
- 4) Consider (R) and (S)-2-butanol which physical property distinguisher the two compounds?
  - A) Rotation of plane polarised light
  - B) Melting point
  - C) Solubility in common solvents
  - D) Infrared spectrum
- 5) Alkenes show geometrical isomerism due to
  - A) Asymmetry
  - B) Rotation around a single bond
  - C) Restricted rotation around a double bond
  - D) Resonance





- 6) Alkanes undergo nitration when treated with fuming  $HNO_3$  in the Vapour phase between 423-748 K



A

Name the product A

- A) Nitroethane      B) Nitromethene  
C) l- nitro propane      D) Nitro methane



- 7) The IUPAC name of  $CH_3 CH = CH - CH_3$  is.

- A) But-1-ene      B) But-2-ene      C)  $\alpha$ -butylene      D)  $\beta$ -butylene

- 8) Markovnikov's addition of HBr is not applicable to

- A) Propene      B) 1- butane      C) 1-pentene      D) 2. Butene

- 9) In sulphonation of benzene the attacking species is

- A)  $SO_2$       B)  $SO_3$       C)  $H^+$       D)  $HSO_4^-$

- 10) carbylamines test involves heating of mixture of

- A) Alcoholic KOH, chloroform and primary amine  
B) Alcoholic KOH, methyl iodide and sodium metal  
C) Alcoholic KOH, methyl alcohol and primary amine  
D) Alcoholic KOH, methyl iodide and primary amine

