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XI-SCI : Chemistry
Hydrocarbons,

DATE:

TIME: 1 hour 30
minutes

MARKS: 25

SEAT NO:

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Note:-

1. All Questions are compulsory.
2. Numbers on the right indicate full marks.

Section A

Q.1 Select and write the correct answer.

(4)

1. $\text{CH}_3\text{C}=\text{CH} \xrightarrow[\text{(ii) H}_2\text{O, Zn}]{\text{(i) X}} \text{CH}_3-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}-\overset{\text{O}}{\underset{\text{O}}{\text{C}}}\text{H}$ In the above reaction, X is
- A) O_2 B) O_3
C) HNO_3 D) KMnO_4
2. Kharasch effect can be studied in case of
- A) Oct-4-ene B) Hex-3-ene
C) Pent-2-ene D) But-2-ene
3. Which of the following has one isopropyl group?
- A) 2, 2, 3, 3-Tetramethylmethane B) 2, 2-Dimethylpentane
C) 2, 2, 3-Trimethylpentane D) 2-Methylpentane
4. Which of the following is most acidic?
- A) $\text{CH}_3 - \text{C} \equiv \text{CH}$ B) $\text{CH}_3 - \text{C} \equiv \text{C} - \text{CH}_3$
C) $\text{CH}_3 - \text{CH}_2 - \text{C} \equiv \text{CH}$ D) $\text{CH} \equiv \text{CH}$

Q.2 Answer the following.

(3)

1. What are alkenes?
2. Why Propan-1-ol and 2-Methylpropan-1-ol is not prepared by addition method?
3. Why sodamide is used in second step to remove HX from alkenyl halide in place of alcoholic KOH?

Section B

Attempt any Four

- Q.3 Give physical properties of alkanes. **(2)**
- Q.4 Give important physical properties of alkenes **(2)**
- Q.5 Give important physical properties of alkynes. **(2)**
- Q.6 What are alkanes? Give general formula of alkane. **(2)**
- Q.7 Give preparation of alkane by reduction of alkyl halides. **(2)**
- Q.8 Give balanced chemical equation for combustion of methane and butane. **(2)**

Section C

Attempt any Two

- Q.9 Write the balanced chemical reaction for preparation of ethane from : (3)
(1) Ethyl bromide (2) Ethyl magnesium iodide
- Q.10 Give the reactions of alkenes and benzene with following : (3)
(a) dil. alkaline KMnO_4 (b) Br_2 in CCl_4 (c) H_2O in acidic medium
- Q.11 How many monochlorination products are possible for (3)
(1) 2-Methylpropane (2) 2-Methylbutane
Draw their structures and write their IUPAC names.

Section D
Attempt any One

- Q.12 Explain geometrical isomerism in alkenes. (4)
- Q.13 Write IUPAC name of the products obtained by the reaction of cold concentrated sulphuric acid (4)
followed by water with the following compounds.
(1) Propene (2) But-1-ene