

# 22241

**12425**

**03 Hours / 70 Marks**

Seat No. 

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- Instructions* –
- (1) All Questions are *Compulsory*.
  - (2) Answer each next main Question on a new page.
  - (3) Illustrate your answer with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
  - (5) Assume suitable data, if necessary.
  - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

- 1. Attempt any FIVE of the following: **10****
- a) Define the term ‘Organic Compounds’.
  - b) Draw the structure of propyne.
  - c) Name the type of organic reaction.
  - d) State the general formula of representing alkane and alkene.
  - e) State any two industrial uses of alcohol.
  - f) Distinguish between Aldehyde and Ketone.
  - g) Draw the structure of first four Carboxylic acids in Homologous series.

P.T.O.

2. Attempt any THREE of the following: 12
- a) Explain the term homologous series with suitable examples.
  - b) State four characteristics of organic compounds.
  - c) Explain Wurtz synthesis with chemical reaction.
  - d) Describe the method of ethanol preparation from ethylene.
3. Attempt any THREE of the following: 12
- a) Classify organic compounds on the basis of their functional group.
  - b) Describe the method of preparing ethane by Kolbe method.
  - c) Define the following:
    - i) Alcohol
    - ii) Absolute alcohol
    - iii) Power alcohol
    - iv) Methylated spirit.
  - d) Explain Rosenmund reaction with suitable example.
4. Attempt any THREE of the following: 12
- a) Describe the action of water on calcium carbide. Give balanced equation.
  - b) Describe the method of preparing acetone from isopropyl alcohol.
  - c) Two inorganic reagent is given below. Identify the product if these reagent react with Carboxylic acid. Give supporting chemical reactions for same:
    - i)  $\text{PCl}_3$
    - ii)  $\text{SOCl}_2$ .
  - d) How will you prepare acetic acid from Grignard reagent.
  - e) Describe quick Vinegar process.

**5. Attempt any TWO of the following:****12**

- a) i) Explain mechanism of  $\text{SN}^2$  reaction draw energy profile diagram for the same.
- ii) Classify organic compound based on their structure.
- b) Describe following:
  - i) Substitution reaction
  - ii) Addition reaction.
- c) Explain physical and chemical properties of alkene.

**6. Attempt any TWO of the following:****12**

- a) Predict the product of the following reaction. Identify name of reactant and product:
    - i) Dehydration of alcohols.
    - ii) Dehydrogenation of Alkyl halide.
  - b) Describe the method of preparing ethanol –
    - i) Reduction of Acetaldehyde
    - ii) Draw the structure of –
      - 1) Ethylene glycol
      - 2) Glycerol.
  - c) Explain physical and chemical properties of Aldehyde and Ketone.
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