

17221

15162

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Illustrate your answers with neat sketches wherever necessary.
  - (3) Figures to the right indicate full marks.
  - (4) Assume suitable data, if necessary.
  - (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

**1. Attempt any TEN of the following :**

**20**

- (a) Define absolute alcohol.
- (b) Identify and name the following functional groups :
  - (i) – OH
  - (ii) – CHO
- (c) What are alkenes ? State the general formula of alkene.
- (d) State properties of glycerol.
- (e) Define Homologous series.
- (f) State the uses of ethanol.
- (g) Distinguish between Aldehyde and Ketone.
- (h) What are  $\alpha$  amino acids ?
- (i) State the uses of Acetylene.
- (j) Why Chloroform is kept in dark coloured bottle ?
- (k) How oxalic acid is prepared by oxidation of glycols ?
- (l) Explain the term Nucleophile.

**2. Attempt any FOUR of the following :****16**

- (a) Give the classification of Protein.
- (b) State characteristics of Organic Compounds.
- (c) How formaldehyde and acetaldehyde is prepared from methyl alcohol ?
- (d) State Markownikoff's rule with an example.
- (e) How acetic acid is prepared from :
  - (i) Cyanides
  - (ii) Grignard Reagent
- (f) How organic compounds are classified ?

**3. Attempt any FOUR of the following :****16**

- (a) What is the action of Acetaldehyde on Tollen's reagent ?
- (b) Explain preparation of Acetone from :
  - (i) Acetic acid
  - (ii) Isopropyl alcohol
- (c) Prepare ethyl alcohol from :
  - (i) Cracked petroleum
  - (ii) Ethyne
- (d) Distinguish between  $S_N1$  and  $S_N2$  reaction.
- (e) State IUPAC rules of Naming Alkenes.
- (f) Explain preparation of Alkynes by :
  - (i) de-hydrohalogenation
  - (ii) Action of water on metallic carbide.

**4. Attempt any FOUR of the following :****16**

- (a) State the term :
  - (i) Methylated spirit
  - (ii) Power alcohol

- (b) Describe the method of preparing urea formaldehyde resin.
- (c) Prepare glycerol from fat and oil and state two uses of it.
- (d) State IUPAC rules of Naming Alkanes.
- (e) State two preparations and properties of Glycol.
- (f) Give the reaction of oxalic acid with :
  - (i) effect of heat
  - (ii) ethyl alcohol

**5. Attempt any FOUR of the following :**

**16**

- (a) State two chemical properties and two uses of acetone.
- (b) Write Wurtz reaction with example.
- (c) Give the reaction of alkane :
  - (i) halogenation
  - (ii) pyrolysis
- (d) What is the action of acetic acid on :
  - (i) NaOH
  - (ii)  $PCl_5$
- (e) How acetylene reacts with :
  - (i) sulphuric acid
  - (ii) haloacid
- (f) State chemical properties of ethanol.

**6. Attempt any FOUR of the following :**

**16**

- (a) Give the structural formula for :
  - (i) 2 – Ethyl 2 – Butane
  - (ii) NeO – Pentane
  - (iii) 2, 3, dimethyl pentane
  - (iv) 2, 2 dimethyl hexane

- (b) State chemical properties of amino acids.
  - (c) Prepare oxalic acid from sugarcane and sodium oxalate.
  - (d) State and explain carbocation and carboanion.
  - (e) What is the bond fission ? Explain the mechanism of Fission in covalent bond.
  - (f) State the classification of monohalogen derivative.
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