# 17312

**15116**

**3 Hours / 100 Marks** Seat No. | | | | | | | | |

***Instructions*** : (1) All Questions are *compulsory*.

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicate full marks.

(4) 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 'Pyrolysis'. Give one reaction.

(b) Differentiate between alcohol and phenol (any two points).

(c) Define 'aromaticity'.

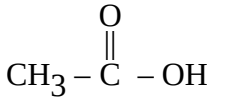
(d) State Raoult's law.

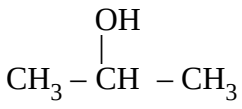
(e) Define :

(i) Isomerism

(ii) Polymerisation

(f) Give IUPAC names of

(i) 

(ii) 

(g) Define homologous series. Give one example.

(h) Draw the structures of any two aromatic compounds.

(i) Give any two uses of acetylene.

(j) Define indicators. Give any two names of indicators.

(k) Give the general formulaes of alkanes and alkenes.

(l) Draw the structural formula of cyclopropane and cyclobutane.

**P.T.O.**

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

(a) Explain any two preparation methods of alkenes, with reactions involved.

(b) Give detail classification of organic compounds.

(c) Explain combustion reaction of alkanes.

(d) Explain the structure of benzene.

(e) Write the reactions of alcohol with $PCl_3$ & $PCl_5$.

(f) Explain methods of choosing indicators for acid-alkali titration.

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

(a) Give the classification of carbon atom with suitable example.

(b) Explain chlorination reaction of methane.

(c) Explain the preparation method of benzene by :

(i) Hydrolysis of sulphuric acid

(ii) Heating an aromatic acid

(d) Give classification of monohydric alcohol with examples.

(e) Define azeotropic mixtures. Draw temperature – composition diagrams for maximum and minimum boiling azeotropes.

(f) Explain Baeyer's strain theory for stability of cycloalkanes.

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

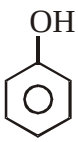
(a) Write nitration and sulphonation reaction of benzene.

(b) Explain, with reactions, how alcohols are prepared from alkenes and alkyl halides.

(c) Complete the following reactions :

(i)  $+ 3\ Cl_2 \xrightarrow{\text{UV light}}$

Benzene

(ii)  $+$ Conc. $HNO_3 \longrightarrow$

Phenol

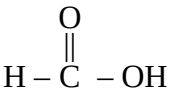
(d) Give physical properties and uses of alkanes.

(e) Give IUPAC rules for naming of alkanes.

(f) Explain Quinonide theory of indicators.

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

(a) Identify the functional group and class of the following compounds :

(i) 

(ii) $CH_3 - NH - CH_3$

(iii) $CH_3 - CH = CH_2$

(iv) $C_2H_5Br$

(b) Write the reactions for the preparation of alkynes from :

(i) Calcium carbide

(ii) Tetrahalides

(c) Explain, how toluene is prepared from benzene.

(d) Give any four uses of aromatic compounds.

(e) Explain oxidation method employed for distinguishing primary, secondary and tertiary alcohol.

(f) Define vapour pressure of liquid. What will be the effect on vapour pressure of liquid when

(i) a volatile solute is dissolved in it ?

(ii) a non-volatile solute is dissolved in it ?

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

(a) Explain Ostwald's theory of indicators.

(b) State any four uses of alcohols.

(c) Give any four physical properties of alcohols.

(d) Explain any two preparation methods of phenol.

(e) Give physical properties and uses of phenols (two each).

(f) What is the action of ozone on alkenes ? How it helps in identifying the position of double bonds in alkenes ?

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