

17312

11920

3 Hours / 100 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 answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
 - (8) Use of Steam tables, logarithmic, Mollier's chart is permitted.

Marks

- 1. Attempt any TEN of the following: **20****
- a) Define organic compounds and write any two examples of it.
 - b) Write the structure of the following compounds.
 - (i) Methane
 - (ii) Ethane
 - c) Write any two uses of Alkanes.
 - d) Write the structure of "Cyclohexane."
 - e) Write the names and structures of any two aromatic compounds.
 - f) Write any two uses of aromatic compounds.

P.T.O.

- g) Write any four physical properties of aromatic compounds.
- h) Differentiate between aliphatic and aromatic compounds (any 2)
- i) Write the structure of following alcohols
 - (i) Methanol
 - (ii) Ethanol
- j) State Raoult's Law.
- k) Write the name and structure of following functional groups of organic compound.
 - (i) Ether
 - (ii) Ester
 - (iii) Nitro
 - (iv) Halogen
- l) Define solution and write its example.

2. Attempt any FOUR of the following:

16

- a) Explain classification of organic compound based on structure.
- b) Explain the following terms of organic compounds
 - (i) Solubility
 - (ii) Melting point
- c) Explain nitration reaction of alkanes with suitable example.
- d) Describe polymerization reaction of ethylene in detail.
- e) Write the reaction of alkyl halides on benzene and explain it.
- f) Write the reaction of sodium or potassium on alcohols and explain it.

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

- a) Identify the functional groups of following compounds.
- $C_2H_5NH_2$
 - CH_3COOH
 - $CH_3CH_2CH_2OH$
 - CH_3Cl
- b) Write the method of preparation of alkenes by dehydration of alcohols.
- c) Explain sulfonation reaction of benzene in detail.
- d) Give the names and write the structures of any '4' aromatic hydroxy compounds.
- e) Explain preparation of alcohols from alkenes.
- f) Differentiate between ideal solution and non-ideal solution.

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

- a) Write the IUPAC names of the following compounds.
- $CH_3 - CH_2 - CH_2 - OH$
 - $$\begin{array}{c} Cl \\ | \\ CH_3 - C - CH_2 - CH_3 \\ | \\ Cl \end{array}$$
- b) Write the structural formula of following compounds -
- Butane
 - Ethylene
 - Acetylene
 - Pentane
- c) Explain preparation of benzene from phenol.
- d) Write classification of Alcohols.
- e) Write the names of different type of indicators.
- f) Explain Ostwald's theory of acid-base indicators.

- 5. Attempt any FOUR of the following:** **16**
- a) Differentiate between open chain compounds and closed chain compounds.
 - b) Explain halogenation reaction of benzene using chlorine.
 - c) Write reaction of alcohol with phosphorous-tri-chloride and phosphorous-penta-chloride.
 - d) Explain quinonoid theory used in indicators.
 - e) Explain combustion reaction of alkanes.
 - f) Write nitration reaction of benzene.
- 6. Attempt any FOUR of the following:** **16**
- a) Explain addition of hydrogen reaction with alkenes.
 - b) Write any 'four' physical properties of alcohols.
 - c) Write any 'four' physical properties of alkanes.
 - d) Explain mercuration reaction of benzene.
 - e) Describe Baeyer's strain theory in detail.
 - f) Write any 'four' uses of alcohols.
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