

312336

12526

3 Hours / 70 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) Use of Non-programmable Electronic Pocket Calculator is permissible.
(5) 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) Name two weak acids and two strong base.
 - b) Define the terms –
 - i) molecular weight and
 - ii) equivalent weight
 - c) Name any two oxidizing agents used in wet processing.
 - d) List any four organic compounds used in the textile industry.
 - e) Name two synthetic fibres made from organic compounds.
 - f) State two physical properties of aliphatic compounds on the basis of their solubility.
 - g) State the principle of distillation.

P.T.O.

2. Attempt any THREE of the following : 12

- a) Write the dissociation reaction for HCl and CH₃COOH and compare their strength.
- b) List four common components of a printing paste and their roles.
- c) Describe the role of hydrogen peroxide as an oxidizing agent in the bleaching process of the textile industry. State two advantages of using hydrogen peroxide in this application.
- d) Classify the following reactions into their respective types :
- $\text{CH}_4 + \text{Cl}_2 \longrightarrow \text{CH}_3\text{Cl} + \text{HCl}$
 - $\text{C}_2\text{H}_4 + \text{H}_2 \longrightarrow \text{C}_2\text{H}_6$
 - $\text{CH}_3\text{CH}_2\text{OH} \longrightarrow \text{CH}_2 = \text{CH}_2 + \text{H}_2\text{O}$
 - $\text{C}_2\text{H}_5\text{Br} + \text{OH}^- \longrightarrow \text{C}_2\text{H}_5\text{OH} + \text{Br}^-$

3. Attempt any THREE of the following : 12

- a) Describe the difference between heat of solution and heat of neutralization with examples.
- b) Write the formula and functional groups of the following compounds.
- Ethanol
 - Acetone
 - Formaldehyde
 - Acetic acid
- c) Differentiate between aliphatic and aromatic hydrocarbons based on their –
- structure
 - stability and
 - flame test
- and give one example of each.
- d) State the purpose and procedure of sublimation in purification of organic compound.

4. Attempt any THREE of the following :**12**

- a) State the role of sodium dithionite be used for stripping dye from fabric. Write the principle involved in the process.
- b) Write the IUPAC names of the following :
- i)
$$\begin{array}{c} \text{CH}_3 - \text{CH} - \text{CH}_2 - \text{CH}_2 - \text{CH}_3 \\ | \\ \text{CH}_3 \end{array}$$
- ii) $\text{C}_6\text{H}_5 - \text{CH}_3$
- iii) $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CHO}$
- iv)
$$\begin{array}{c} \text{CH}_3 - \text{CH} - \text{CH}_3 \\ | \\ \text{OH} \end{array}$$
- c) Choose an appropriate extraction method for isolating a natural dye from turmeric.
- d) Explain the principle and working of crystallization.
- e) State importance of melting and boiling point help in identifying the purity of an organic compound.

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

- a) State the various stages in textile wet processing and mention pH at every stage.
- b) Define –
- i) Normality and
- ii) Molarity.
- Calculate the normality of 0.2 M solution of sodium hydroxide.
- c) Describe the basic structure of dye and describe the different types of dyes used in textile industry.

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

- a) Write uses of –
- i) rock salt
 - ii) Sodium carbonate and
 - iii) ammonium chloride each in the Siddha System of medicine.
- b) Describe the principle and working of reverse osmosis. Explain its application in textile effluent treatment plants (ETPs).
- c) Aliphatic and aromatic compounds play important role in textile processing.
- i) Name two common aliphatic compounds and two aromatic compounds used in textile processes.
 - ii) Describe use of these compounds is applied during different stages like dyeing, finishing, or pretreatment.
 - iii) Explain why the chemical structure of these compounds (aliphatic or aromatic) affects their specific function in textile processing.
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