312336

24225

3 Hours / 70 Marks Seat No. | | | | | | | | |

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) 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.

Marks

1. Attempt any FIVE of the following: **10**

a) Define acid and base by Arrhenius concept.

b) Define –

i) Osmosis

ii) Osmotic pressure.

c) State the term heat of reaction with chemical reaction.

d) Mention the types of organic compounds on the basis of their functional group.

e) State the general formula of alkene and alkyne.

f) Draw the structure of –

i) 2-methyl butane

ii) 2-pentene.

g) Define –

i) Melting point

ii) Boiling point.

P.T.O.

Marks

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

a) Explain Lewis concept of acids and bases with suitable chemical reaction.

b) Describe the terms with one example of each –

i) Normality

ii) Gram per litre.

c) Explain the term oxidizing and reducing agent. Give two applications of each –

i) $KMnO_4$ – Potassium permanganate

ii) H_2O_2 - Hydrogen peroxide.

d) Describe the classification of organic compounds based on their functional group.

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

a) State the uses of sodium dithionate in textile wet processing.

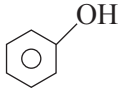
b) Explain four applications of organic compounds in textile industry.

c) Write the chemical name of the following structure –

i) CH_3-CH_2-CH_2-COOH

ii) CH_3-CH_2-OH

iii) CH_3-CH_2-CH $=CH_2$.

iv) 

d) Define crystallization. Explain with suitable example.

Marks

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

a) Elaborate the use of heat of reaction concept in textile wet processing with suitable example.

b) Define aliphatic hydrocarbon. Write four physical properties of aliphatic hydrocarbon.

c) Define distillation. Explain distillation process with neat labelled diagram.

d) Describe the method used to determine the boiling point of a liquid.

e) Explain the process of extraction theory with its principle.

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

a) Explain importance of pH in each of the following –

i) Scouring

ii) Bleaching

iii) Dyeing.

b) Describe the term ‘‘reverse osmosis.’’ Write two applications of reverse osmosis in textile industry.

c) Describe the following reactions with suitable examples –

i) Addition reaction

ii) Elimination reaction.

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

a) i) Define pH and pOH. Derive relation between them.

ii) Explain the importance of pH in textile wet processing.

b) Define the term viscosity. Explain the importance of thickener viscosity on printing process.

c) i) Differentiate aliphatic and aromatic compounds with respect to Flame test and Solubility.

ii) Name and write Structural formula of two aromatic and two aliphatic compounds.