22362

21819

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 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.

Marks

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

a) Define BOD? Give its significance from processing point of view.

b) Differentiate between scales and sludge (two points).

c) Draw the structure of ammonium sulphate and sodium hydrosulphite.

d) Give any four uses of sulphuric acid in textile wet processing.

e) Define soaps. Give one example.

f) Enlist four chemical properties of oils.

g) Differentiate between qualitative and quantitative analysis (any two points).

Marks

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

a) Explain the term "detergents". Differentiate between soaps and detergents.

b) Define and give one example each:

(i) Primary standard

(ii) Secondary standard

c) Give the significance and importance of accuracy and precision in volumetric analysis of chemicals.

d) Explain the different types of water hardness. List the salts which cause hardness.

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

a) Enlist and explain the various internal treatments given to boiler for enhancing boiler efficiency.

b) Write the procedure of determining the moisture content in solid fuel. Give its significance.

c) Write down two chemical properties of sodium hydroxide and give any two applications in textile processing.

d) Define the term 'co-ordination' number and give two applications of coordination compounds in textiles.

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

a) Explain the Werner's coordination theory.

b) Enlist and explain the precautions to be taken for titrations of given solutions.

c) Describe the procedure to determine the saponification value of given oil. Give the significance of this value.

d) Write down any four chemical properties of sodium hydroxide also enlist any two uses in textile wet processing.

e) Write the procedure of determining the calorific value of fuel by using Bomb's calorimeter.

Marks

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

a) Compare following methods of removing impurities from water:

(i) Ion-exchange method

(ii) Ro method.

b) Describe with proper chart the process of selecting relevant chemicals for the wet processing of 100 % cotton.

c) Coordination compounds differ from covalent compound. Explain. Enlist the factors affecting the stabilities of complex ions and coordination compounds.

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

a) Write the procedure and indicators used determine the purity of given compounds by titrimeter method:

(i) Sodium hydroxide

(ii) Hydrogen per oxide.

b) Write the procedure and principle involved in determination of:

(i) Iodine value

(ii) Hydrogenation value

of oils. Also give its significance.

c) Give the classification of fuels. Enlist and justify the characteristics of a good fuel.
