17339

21415

3 Hours/100 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****.*

MARKS

1. Attempt **any ten** of the following : **(2×10=20)**
   a) Define pH.
   b) Define Alkalinity.
   c) Define BOD.
   d) Define COD.
   e) Explain the structure of cellulose.
   f) Explain the reaction of enzymes with starch.
   g) List out characteristics of good level.
   h) Define calorific value and write its unit.
   i) Define corrosion.
   j) Define soap and detergent.
   k) Define oils and fats.
   l) Explain chelate.

2. Attempt **any four** of the following : **(4×4=16)**
   a) Explain reverse Osmosis in detail.
   b) Give the classification of carbohydrates.
   c) Describe the method of determine the saponification value of oil.
   d) Explain the factors affecting rate of corrosion.
   e) Define titration. Explain types of titration.
   f) Write a short note on – Analytical techniques for testing and analysis of textile materials.

P.T.O.

MARKS

3. Attempt **any four** of the following : **(4×4=16)**
   a) Explain scale and sludge formation in boilers.
   b) Explain the reaction of cellulose after action of acid.
   c) Explain the chemical properties of oil in :
      i) Water hydrolysis ii) Alkali hydrolysis.
   d) Distinguish between dry corrosion and wet corrosion.
   e) Explain volumetric methods of estimation of testing of chemicals.
   f) List out used of important sequestering agents in textiles.

4. Attempt **any four** of the following : **(4×4=16)**
   a) Describe priming and foaming.
   b) Define congealing, gelatinizing, gelatinizing temperature, viscosity in starch paste.
   c) Explain the classification of fuel.
   d) Explain the chemical properties of sulphuric acid and hydrochloric acid.
   e) Explain the methods to prevent the corrosion by protective coatings.
   f) Explain cathodic protection process by sacrificial anode and external current method.

5. Attempt **any four** of the following : **(4×4=16)**
   a) Distinguish between permanent and temporary hardness.
   b) State the applications of fuel in textile industry.
   c) List out the uses of sodium hydroxide and sodium carbonate.
   d) State the chemical properties and uses of NaOH and Na_2CO_3.
   e) Explain the control of corrosion by selection and design.
   f) Explain hydrogenation of oil.

6. Attempt **any four** of the following : **(4×4=16)**
   a) Differentiate between Galvanising-Tinning.
   b) Explain surface tension and interfacial tension lowering of property of soap.
   c) Explain in brief qualitative and quantitative analysis with example.
   d) Explain Werner's co-ordination theory.
   e) Explain general types of complex ions.
   f) Explain the factors affecting the stabilities of complex ions and co-ordination compounds.
