17339

21314

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****.*

(6) Mobile Phone, Pager and any other Electronic Communication devices are ***not permissible*** *in Examination Hall.*

MARKS

1. Attempt **any ten** : **(10×2=20)**
   a) Define p.p.m. How is it related to mg/lit ?
   b) Give the classification of fuels.
   c) Define : i) alloy ii) metal cladding
   d) Define calorific value of fuel. State its unit.
   e) Compare sodium carbonate and sodium hydroxide for their alkalinity.
   f) Define 'secondary standard'. Give an example.
   g) List the factors affecting the stability of complex ions.
   h) State factors affecting rate of corrosion.
   i) Represent structure of cellulose. Name the basic repeat unit.
   j) Define co-ordination number.
   k) How is xanthate formed ?
   l) State S.G. of concentrated hydrochloric acid. What is its approximate normality ?
   m) State the properties of starch paste.
   n) How is hardness of water expressed ?

2. Answer **any four** : **(4×4=16)**
   a) State characteristics of good fuel.
   b) Distinguish between temporary hardness and permanent hardness of water.
   c) What are carbohydrates ? How are they classified ?
   d) Explain with reaction the process of hydrogenation of oil.
   e) State the applications of sodium carbonate in textiles.
   f) Explain uses of important sequestering agents in textiles.

MARKS

3. Answer **any four** : **(4×4=16)**
   a) Explain use of hydrochloric acid in field of textiles.
   b) Describe one volumetric method of estimation.
   c) Explain causes of corrosion.
   d) Explain the disadvantages of hard water.
   e) Distinguish between soap and detergents.
   f) Explain Werner's co-ordination theory.

4. Answer **any four** : **(4×4=16)**
   a) Describe a method of determining saponification value of oil.
   b) Explain applications of fuel in textile industry.
   c) Distinguish between dry corrosion and wet corrosion.
   d) Explain with an example, meaning of :
      i) complex ion ii) chelate
   e) Explain the terms
      i) accuracy ii) precision
   f) Explain soap solution as a colloidal electrolyte.

5. Answer **any four** : **(4×4=16)**
   a) Explain the terms :
      i) Sacrificial anode ii) Cementation.
   b) What are the water quality parameters ?
   c) Describe action of oxidising agent on cellulose.
   d) i) Explain : 'concentrated sulphuric acid, acts as a dehydrating agent.
      ii) State applications of sulphuric acid in textiles.
   e) Explain with an example, principle of complexometric titration.
   f) Describe any one method of water softening.

6. Answer **any four** : **(4×4=16)**
   a) Explain the role of soap and detergents in textile wet processing.
   b) Explain with an example redox titration.
   c) Describe control of corrosion by selection and design.
   d) Name the impurities in water. Explain their effect on textile wet processing.
   e) Explain the action of enzymes on starch.
   f) Describe process of 'tinning'. Where is the methods used.
