17339

15162

3 Hours / 100 Marks Seat No. | | | | | | | | |

Instructions : *(1)* ***All*** *questions are* ***compulsory****.*
(2) Answer ***each*** *next main question on a* ***new*** *page.*
(3) Figures to the ***right*** *indicate* ***full*** *marks.*
(4) Assume suitable data, if ***necessary****.*

Marks

1. Answer **any ten** : **(10×2=20)**

a) Define temporary and permanent hardness of water.

b) Represent chemical structural formula of cellulose.

c) List out the chemical properties of oil.

d) Define i) Dry corrosion ii) Wet corrosion.

e) Name types of impurities are present in water.

f) Name the units of hardness of water.

g) List out the uses of alloys.

h) Define : i) Accuracy ii) Precision.

i) Which are the general types of complexions ?

j) List out various methods of chemical analysis.

k) What are the factors affecting the stabilities of complex ions ?

l) Define i) Priming ii) Foaming.

m) Write S.G. of concentrated hydrochloric acid. What is its approximate normality ?

n) Which are the factors affecting rate of corrosion ?

2. Answer **any two** : **(2×8=16)**

a) i) Describe ion exchange method for water softening. Write reactions involved in the process. **6**
ii) How is ion-exchange resin regenerated ? **2**

b) i) 1) Define polysaccharides. Give two examples.
2) Explain action of alkali as cellulose.

ii) 1) Explain precautions to be taken in diluting concentrated sulphuric acid.
2) State applications of 7 sulphuric acid in textiles.

c) Describe any two chemical properties of starch paste.

P.T.O.

Marks

3. Answer **any two** : **(2×8=16)**

a) Describe i) Soap as a colloidal electrolyte, ii) Foaming property of soap.

b) i) Explain hydrogenation of oil.

ii) Explain principle of camplexometric titration. Give a specific example.

c) i) State the characteristics of good fuel.

ii) Explain applications of fuels in textile industry.

4. Answer **any two** : **(2×8=16)**

a) Describe the factors affecting rate of corrosion.

b) i) Explain 'external current' method to control corrosion.

ii) Distinguish between solid and liquid fuels.

c) i) Explain acid base titration.

ii) Explain with an example, redox titration.

5. Answer **any two** : **(2×8=16)**

a) Describe Waner's co-ordination theory.

b) Explain the applications of sodium hydroxide and sodium carbonate in textile industry.

c) i) Define sequestering agents. Give two examples. **2**

ii) Describe uses of sequestering agents in textiles. **6**

6. Answer **any two** : **(2×8=16)**

a) i) Define 1) B.O.D., 2) C.O.D. **2**

ii) Define 1) scale, 2) sludge. Explain effect of scale and sludge formation in boilers. **6**

b) Describe any two protective coating methods for corrosion.

c) Explain wetting and detergent properties of soap.
