

17339

11920

3 Hours / 100 Marks

Seat No.

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- 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) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
 - (7) Abbreviation used, convey usual meaning.

Marks

1. **Answer any TEN of the following:** **20**
- a) Name the common impurities in water.
 - b) Define P^H .
 - c) Write the quality parameters of drinking water.
 - d) Give the classification of carbohydrates.
 - e) Write the applications of fuel in terctile industry.
 - f) Define :
 - (i) Oil
 - (ii) Fat
 - g) Define calorific value. Write its unit.
 - h) Define ‘Cementation’.

P.T.O.

- i) Write the applications of metal cladding.
- j) Name the different types of titration.
- k) Explain Chelates.
- l) Write the applications of sulphuric acid.

2. Answer any FOUR of the following: 16

- a) Distinguish between temporary and permanent hardness of water.
- b) Describe gelatinisation of starch.
- c) Explain surface tension and interfacial tension lowering.
- d) Distinguish between galvanising and tinning.
- e) Explain differences between
 - (i) accuracy and precision
 - (ii) Primary standard and secondary standard.
- f) Explain co-ordination compounds, giving example.

3. Answer any FOUR of the following: 16

- a) Explain BOD and COD.
- b) Explain :
 - (i) Water hydrolysis and
 - (ii) Alkali hydrolysis of oils.
- c) Classify fuels, giving examples.
- d) Explain the theory of wet corrosion.
- e) Explain the factors affecting the stabilities of complex ions.
- f) Describe with an examples 'Precipitation' titrations.

- 4. Answer any FOUR of the following:** **16**
- a) Explain disadvantages of scale and sludge formation in boilers.
 - b) Explain action of acid and alkali on cellulose.
 - c) Write the characteristics of a good fuel.
 - d) Explain the factors affecting the dry corrosion.
 - e) Explain Werner's co-ordination theory.
 - f) Explain chemical properties of sodium carbonate.
- 5. Answer any FOUR of the following:** **16**
- a) Explain ion exchange process with a diagram.
 - b) Explain action of enzymes on starch.
 - c) Describe the method of determining saponification value of an oil.
 - d) Describe cathodic protection of sacrificial anode.
 - e) Explain primary and secondary standards.
 - f) Write two chemical properties of sulphuric acid and hydrochloric acid with reactions.
- 6. Answer any FOUR of the following:** **16**
- a) Write and explain the structure of cellulose.
 - b) Explain the role of soap and detergents in textile wet processing.
 - c) Define paint. Name the constituents of paint with one example each.
 - d) Write the important applications of sequestering agents in textiles.
 - e) Define redox titration. Explain it with an example.
 - f) Write the important applications of sodium hydroxide and hydrochloric acid in textiles.
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