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21718

3 Hours / 100 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Use of Non-programmable Electronic Pocket Calculator is permissible.
- (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any TEN of the following:** **20**
- Define pH and pOH.
 - Define BOD and COD of water.
 - Explain the reaction with enzymes.
 - Define gelatinising property of starch.
 - Define:
 - Surface tension and
 - Interfacial tension lowering
 - Define saponification value.
 - Give the classification of fuels with one example each.
 - Define corrosion. List its types.
 - Write any four objects of applying paint.
 - Explain qualitative and quantitative analysis.

P.T.O.

- k) Define accuracy and precision.
- l) Write the uses of sequestering agents in textile.
- m) Explain chelates.
- n) Write any four uses of sodium carbonate in textile industry.

2. Attempt any FOUR of the following: 16

- a) Distinguish between temporary and permanent hardness of water.
- b) Write the quality parameters of potable (drinking) water.
- c) Write problems arises due to use of hard water in textile industry.
- d) Explain the causes of formation of scale and sludge in boiler.
- e) Describe ion exchange process with suitable diagram.
- f) Give the classification of carbohydrates with one example each.

3. Attempt any FOUR of the following: 16

- a) Write chemical properties of starch paste.
- b) Explain action of acid and alkali on cellulose.
- c) Explain the action of enzymes on starch.
- d) Explain the role of soap and detergent in textile.
- e) Explain the chemical nature of oils and fats.
- f) Explain:
 - (i) Water hydrolysis
 - (ii) Alkali hydrolysis of an oil

- 4. Attempt any FOUR of the following:** **16**
- a) Explain the properties of soap:
 - (i) Foaming property
 - (ii) Wetting property
 - b) Write the characteristics of a good fuel.
 - c) Write the applications of fuel in textile industry.
 - d) Explain the factors affecting on atmospheric corrosion.
 - e) Explain the mechanism of wet corrosion by evolution of hydrogen gas.
 - f) Distinguish between galvanizing and tinning.
- 5. Attempt any FOUR of the following:** **16**
- a) Explain metal cladding process with diagram and write its applications.
 - b) Define paint write the constituents of paint with suitable example of each.
 - c) Explain primary and secondary standards with example.
 - d) Describe precipitation titration method. Give a specific example.
 - e) Name the different methods of chemical analysis. Explain any one of them with example.
 - f) Explain acid base titration with suitable sample.
- 6. Attempt any FOUR of the following:** **16**
- a) Explain the factors affecting on stability of complex ion.
 - b) Describe Werner's co-ordination theory.
 - c) Write the important uses of sequestering agents in textile.
 - d) Differentiate between co-ordination compound and co-ordination number.
 - e) Explain chemical properties of HCl and H_2SO_4 .
 - f) Write the applications of NaOH and HCl in textile processing.
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