

22242

22232

3 Hours / 70 Marks

Seat No.

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- Instructions :** (1) All Questions are *compulsory*.  
(2) Illustrate your answers with neat sketches wherever necessary.

**Marks**

1. Attempt any FIVE of the following :

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- Define the term pH and pOH, write the difference between them.
- State two uses of salts in Wet Processing.
- Define Normality and Molarity.
- Differentiate between reversible and irreversible reactions, give an example of each.
- Write names of four oxidizing and reducing agents.
- State limitations of Second Law of Thermodynamics.
- Identify the method of separating alcohol from water.

2. Attempt any THREE of the following :

12

- Explain the importance of pH in textile wet processing.
- Define Osmosis. Describe the process of Osmosis with a labelled diagram.
- Explain the effect of change in concentration of reactant on the rate of chemical reaction.
- Define Oxidising agent and reducing agent & give two examples of each with respect to oxygen atom.



- 3. Attempt any THREE of the following : 12**
- (a) Certain salt is formed by combination of  $\text{H}_2\text{CO}_3$  and  $\text{NaOH}$ . Predict the wet process in which it can be used.
  - (b) Molecular weight of  $\text{Al}(\text{OH})_3$  is 78 gm. Calculate the weight of  $\text{Al}(\text{OH})_3$  required for preparation of 0.1 N 1000 ml solution.
  - (c) Differentiate between endothermic and exothermic reaction with one example of each.
  - (d) State the role of  $\text{K}_2\text{Cr}_2\text{O}_7$  &  $\text{H}_2\text{O}_2$  in textile industry.
- 4. Attempt any THREE of the following : 12**
- (a) Explain Lewis concept of acid and base.
  - (b) Explain the role of considering heat of reaction in textile wet processing.
  - (c) List the factors to be considered while selecting fuel for boiler. Predict the reason for same.
  - (d) Explain principle of extraction & explain the process of extraction for mixture of solution.
  - (e) Distinguish between dissociation and association.
- 5. Attempt any TWO of the following : 12**
- (a) (i) Explain the concept of strength of acid and base.  
(ii) Explain the role of alkali and acid liberating agent in wet processing of textiles.
  - (b)  $\text{NaOCl}$  can be used as oxidising agent but  $\text{Na}_2\text{CO}_3$  cannot be used as an oxidising agent though it contain oxygen. Predict the reason.
  - (c) Reactive dyes are applied at two different temperatures but polyester dyeing is carried out in specific critical temperature zone. Predict the reason.
- 6. Attempt any TWO of the following : 12**
- (a) Vat dyes are applied on cotton in alkaline reduced condition. Predict the reason. Identify the reagents required for dyeing of cotton with vat dyes.
  - (b) State the application of heat of reaction in textiles wet processing.
  - (c) Explain the application of distribution law.
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