



17222

14115

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

MARKS

1. Answer **any ten** : (10×2=20)

- Define pH. Write its mathematical expression.
- Define acid and base on basis of producing H^+ and OH^- .
- Write the pH value of extremely acidic and basic solution.
- Define viscosity. State effect of temperature on viscosity.
- Define normality and molarity.
- What are colloids ? Give one example of colloidal substance.
- State two points to distinguish between exothermic and endothermic reaction.
- Define surface tension. Write its value for water.
- Define oxidation, with suitable chemical reaction.
- State reduction with suitable chemical reaction.
- Define heat of solution. Give an example.

P.T.O.

**MARKS**

l) Define :

i) Association

ii) Dissociation.

m) Explain principle of extraction process.

n) Write commercial applications of process of extraction.

2. Answer **any four** :

(4×4=16)

a) Define acid and base according to Lewis concept.

b) Explain concept of strength of an acid and a base.

c) Explain the importance of pH in textile wet processing and dyeing.

d) Explain with an example the role of alkali liberating and acid liberating agent in wet processing.

e) Define salts. Classify salts, giving examples.

f) Explain uses of salts in textile processing.

3. Answer **any four** :

(4×4=16)

a) How are solutions prepared from solid and liquid substance by considering its weight by volume ?

b) Explain concept of saturated solutions.

c) Explain process of Osmosis. Name two semipermeable membranes.

d) Classify colloids giving examples.

e) Distinguish between hydrophylic and hydrophobic sols.

f) Explain with an example :

i) oil in water emulsion

ii) water in oil emulsion.



MARKS

4. Answer **any four** : **(4×4=16)**

- a) Distinguish between reversible and irreversible reaction. Give an example of each.
- b) Define 'kinetics'. Explain its scope.
- c) State and explain the law of mass action with mathematical expression.
- d)
 - i) Explain meaning of equilibrium constant.
 - ii) Define order of reaction. What is meant by 'zero' order reaction ?
- e) Explain factors affecting rate of chemical reaction in
 - i) diazotisation
 - ii) reactive dyeing.
- f) Explain meaning of interface and interfacial tension.

5. Answer **any four** : **(4×4=16)**

- a) Explain with an example :
 - i) Cohesive force
 - ii) Adhesive force.
- b) Define emulsifying agent. Write its evidence in textile wet processing.
- c) Explain with an example, role of wetting agent in textile wet processing.
- d) Define oxidising and reducing agents. Give two examples of each.
- e) Explain applications of potassium dichromate in textile wet processing.
- f) Explain use of sodium m-nitrobenzene sulphonate as oxidizing agent for preventing hydrolysis of reactive dyes.

**MARKS**

6. Answer **any four** :

(4×4=16)

- a) Write use of sodium sulphide and 'NaOCl' in textile wet processing.
 - b) Explain the application of hydrogen peroxide in textile wet processing.
 - c) State and explain first law of thermodynamics. Write its mathematical expression.
 - d) State applications of laws of thermodynamics.
 - e) Define the terms :
 - i) heat of formation
 - ii) heat of combustion
 - iii) heat of dilution
 - iv) heat of neutralisation.
 - f) Explain distribution law. Write its limitations.
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