17222

16117

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

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 of the following: **20**

a) Define acid and base on the basis of producing hydrogen and hydroxylysis.

b) Define viscosity. State effect of temperature on viscosity.

c) Define osmosis and osmotic pressure.

d) Define:

(i) pH

(ii) pOH

e) State law of mass action.

f) Define reversible reaction, with an example.

g) Define surface tension. Write its unit. Write value of surface tension for water.

h) Define 'vat dyes'. Give one example.

i) Define oxidation, with an example of addition of oxygen.

Marks

j) Define heat of formation with an example.

k) Define heat of neutralisation with an example.

l) State "Distribution Law".

m) Define heat of dilution with an example.

n) Write commercial application of process of extraction.

2. Answer any FOUR of the following: **16**

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

b) Classify salts, giving examples, of each type.

c) Explain uses of salts in textile processing.

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

e) Explain Arrhenius concept of acid and base.

f) Explain the various factors affecting rate of chemical reaction. Explain any one of them.

3. Answer any FOUR of the following: **16**

a) Explain the importance of viscosity in textile processing.

b) Explain the role of emulsifying agents in textile wet processing.

c) Explain concept of saturated solutions.

d) Explain process of osmosis. Name two semipermeable membranes.

e) Distinguish between hydrophylic sols and hydrophobic sols.

f) Explain with an example:

(i) Oil in water emulsion

(ii) Water in oil emulsion

4. Answer any FOUR of the following: **16**

a) (i) Explain meaning of equillibrium constant.

(ii) Define order of reaction. What is meant by 'Zero' order reaction.

b) State factors affecting rate of chemical reaction in:

(i) diazotisation

(ii) reactive dyeing

Marks

c) Explain the factors affecting rate of chemical reaction.

d) Write any four importance of pH in textile wet processing.

e) Explain the application of potassium dichromate in vat-and sulphur-dyeing.

f) Explain the use of sodium meta nitro benzene sulphonate as oxidising agent for preventing hydrolysis of reactive dyes.

5. Answer any FOUR of the following: **16**

a) Explain meaning of interface and interfacial tension.

b) Explain with an example:

(i) Cohesive force

(ii) Adhesive force

c) Define reduction reaction. Give an example. Name two reducing agents.

d) Define emulsifying agent. Write its evidence in textile wet processing

e) Explain with an example, role of wetting agent in textile wet processing.

f) Explain application of sodium oxychloride in textile wet processing.

6. Answer any FOUR of the following: **16**

a) State applications of laws of thermodynamics.

b) State and explain first law of thermodynamics write its mathematical expression.

c) Explain applications of distribution law.

d) State the applications of heat of reaction in textiles.

e) Explain theory of reaction.

f) Describe use of hydrogen peroxide in textiles.

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