

Roll No.

182512

1st year / Textile Design
Subject : Applied Science

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 Joule is the SI unit of (CO3)

- a) Force b) Power
c) Work d) Pressure

Q.2 The formula for pressure is given by (CO4)

- a) Force/Area b) Force x area
c) Force/Length d) None of them

Q.3 Convection is not possible in (CO6)

- a) Solid b) Liquid
c) Gas d) None of them

Q.4 pH of 0.00M HCl (aq) is (C09)

- a) 4 b) 5
c) 3 d) 6

Q.5 Water is generally used as a _____ while making solution. (CO9)

- a) Solvent b) Solute
c) Indicator d) Testing reagent

- Q.6 1F is equal to _____ C/mol (CO10)
 a) 9650 b) 8650
 c) 86500 d) 96500

Section-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 Define Power. (CO3)
 Q.8 What is the formula for strain? (CO4)
 Q.9 What is the SI unit of temperature? (CO5)
 Q.10 What are the units of molality? (CO9)
 Q.11 How much Faraday electricity is required when following reaction takes place $\text{Cu}^{2+}(\text{aq}) - \text{Cu}(\text{s})$. (CO10)
 Q.12 Give an example of acid. (CO9)

Section-C

Note: Short answer type Question. Attempt any eight questions out of Ten Questions. (8x4=32)

- Q.13 What is Work? Deduce the formula for work done in moving a object on horizontal surface. (CO3)
 Q.14 Explain different types of modulus of elasticity. (CO4)
 Q.15 A lamp consumes 100J of electrical energy in 5 Sec. What is its power? (CO3)

- Q.16 What is the effect of temperature and impurity on surface tension? (CO4)
 Q.17 Explain different types of scale of temperature. (CO5)
 Q.18 Calculate the Molarity of a solution containing 80g of NaOH in 500 mL water. (CO9)
 (Molar mass of Na=23g/mol, O=16g/mol, H=1g/mol)
 Q.19 Calculate the pH of 0.001M aqueous NaOH solution at 25 degree C? (CO9)
 Q.20 What is an electrolyte. Give an example of electrolyte. (CO10)
 Q.21 What are the different industrial applications of Electrolysis? (CO10)
 Q.22 State Faraday laws of Electrolysis. (CO10)

Section-D

Note: Long answer questions. Attempt any two question out of three Questions. (2x8=16)

- Q.23 (a) What is Energy? Explain its types with examples. (CO3)
 (b) Write any four examples of transformation of Energy. (CO6)
 Q.24 Explain different modes of transfer of heat with suitable examples. (CO6)
 Q.25 Define following terms: (CO9)
 a) Molarity b) Molality
 c) Gram equivalent d) Arrhenious acid