1st Year / Textile Design

Subject:- Applied Sciences

Time : 3Hrs.   M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory   (6x1=6)

Q.1   The no. of moles of solute per kg of solvent is called

a)   Normality   b)   Molarity

c)   Strength   d)   Molality

Q.2   Oxidation is defined as

a)   Loss electrons   b)   Gain of electrons

c)   Gain of protons   d)   Loss of protons

Q.3   One Horse Power is equal to

a)   750 watts   b)   1000 watts

c)   746 watts   d)   250 watts

Q.21   Explain Electro refining.

Q.22   Explain some engineering application of surface tension.

SECTION-D

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

Q.23   Define electrolysis. Explain any two industrial applications of electrolysis.

Q.24   Define the various scales of temperature and also find the relationship between them.

Q.25   Explain different modes of transfer of heat.

Q.4   SI unit of work is

   a)   Joule   b)   Newton

   c)   m/sec   d)   watt

Q.5   Units of surface tension is

   a) Nm^{-1} b) N/m^2

   c)   poise   d)   none

Q.6   Gauge pressure is measure by

   a)   Manometer   b)   Barometer

   c)   Fathometer   d)   Thermometer

SECTION-B

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

Q.7   Blood is a buffer solution. (True/False)

Q.8   pH of neutral solution is _____.

Q.9   Cations are _____ charged ions.

Q.10 Define work.

Q.11 Give an example of zero work.

Q.12 Define fluid.

SECTION-C

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

Q.13 Calculate the molarity of a solution containing 0.5gm of NaOH dissolved in 250ml of solution.

Q.14 Define solute solvent and solution.

Q.15 Write Faraday's second law of electrolysis.

Q.16 Derive expression for potential energy.

Q.17 Differentiate between heat and temperature on the basis of K. E. of molecules.

Q.18 Explain modulus of rigidity.

Q.19 Define surface Tension, give Dimensional formula.

Q.20 Define thrust and gauge pressure.