

- Q.26 Derive the expression for the kinetic energy of a body.
- Q.27 Define solute and solvent. Give examples.
- Q.28 Define vector quantity. Give two examples of zero work.
- Q.29 Give example of strong electrolytes.
- Q.30 Define electrochemical equivalent.
- Q.31 Tell the different scales of measuring temperature.
- Q.32 State the principle of conservation of mechanical energy. Give some examples.
- Q.33 A solution is prepared by dissolving 2g of NaOH to give 250 ml of it. Calculate the molarity of the solution.
- Q.34 State Faraday's first law of electrolysis.
- Q.35 Define acidity and basicity with examples.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Define PH. Tell the different industrial application of PH.
- Q.37 Define different temperature scales. Explain relationship between these temperature scales.
- Q.38 Write a note on Faraday's laws of electrolysis.

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SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 The sum of K.E. & P.E. is called.
a) Mechanical energy b) Solar Energy
c) Electrical Energy d) Thermal Energy
- Q.2 Speed is _____ quantity.
a) Scalar b) Vector
c) Tensor d) None of the above
- Q.3 Negatively charged ions are called
a) Cation b) Anion
c) None d) Buffer
- Q.4 Electrolysis of solution is due to formation of
a) Electrons b) Ions
c) Atoms d) Oxides
- Q.5 Cations are _____ charged ions.
a) Negative b) Neutral

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- c) Both A & B d) Positive
- Q.6 A True solution is _____ mixture
- a) Homogenous b) Heterogenous
- c) Both A & B d) None
- Q.7 A Flying bird possess
- a) K.E. Only b) P.E. Only
- c) Both K.E. & P.E. d) Wind energy
- Q.8 pH of Human Blood is _____
- a) 7.4 b) 7
- c) 6 d) 4
- Q.9 SI Unit of work is
- a) Newton b) Joule
- c) Watt d) Pascal
- Q.10 Friction is always _____
- a) Energy b) Force
- c) Speed d) Mass

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 _____ is an example of non electrolyte.
- Q.12 Speed is quantity.

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- Q.13 pH of neutral solution is 7. (True/False)
- Q.14 Formula of Faraday 1st law of electrolysis is _____.
- Q.15 Units of molarity are g mol L⁻¹. (True/False)
- Q.16 Formula of kinetic energy is?
- Q.17 During electrolysis all ions move in _____ direction.
- Q.18 Rate at which work is done is called _____.
- Q.19 Molarity of a solution _____ with temperature.
- Q.20 Effect of temperature on surface tension _____.
- a) Decreases with rise in T
- b) Increases with rise in T
- c) Both A & B
- d) None

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Calculate the molecular mass of Fe₂(SO₄)₃. Atomic mass of Fe=56, S=32 and O=16.
- Q.22 Define conduction and radiation with examples.
- Q.23 Define viscosity. How viscosity change with increase with temperature.
- Q.24 Explain the process of electro refining.
- Q.25 Differentiate heat and energy.

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