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Q1: Light year is a unit of

- (a) time
- (b) distance
- (c) sunlight intensity
- (d) mass

Answer. b) distance

Q2: The dimensional formula for Planck's constant is

- (a) [MLT]
- (b) [ML²T⁻¹]
- (c) [M²L²T⁻¹]
- (d) [ML¹T⁻¹]

Answer. b) [ML²T⁻¹] (Hint use $E = hv$)

Q3: The surface tension of a liquid is 70 dyne/cm. In MKS system its value is?

- (a) 70 N/m
- (b) 7×10^{-2} N/m
- (c) 7×10^2 N/m
- (d) 7×10^3 N/m

Answer. b) 7×10^{-2} N/m

Q4: The dimensions of Kinetic energy is same as that of

- (a) Force
- (b) Pressure
- (c) Work
- (d) Momentum

Answer. c) Work

Q5: At 4° C, the density of water is equal to

- (a) 10^{-3} kg m⁻³
- (b) 10^{-2} kg m⁻³
- (c) 10 kg m⁻³
- (d) 10^3 kg m⁻³

Answer. d) 10^3 kg m⁻³

Q6: One watt hour contains how many joules?

- (a) 3.6×10^8 J
- (b) 3.6×10^2 J
- (c) 3.6×10^3 J
- (d) 10^{-3} J

Answer. c) 3.6×10^3 J

Q7: Which of the following pairs has the same dimensions?

- (a) Specific Heat and Latent Heat
- (b) Impulse and Momentum
- (c) Surface Tension and Force

(d) Moment of Inertia and Torque
Answer. b) Impulse and Momentum

Q8: The equation of state of some gases can be expressed as Vander wal equation i.e.

$$(P + a/v^2)(V - b) = RT$$

Where P is the pressure, V is the volume, T is the absolute temperature and a, b, R are constants. The dimensions of 'a' are:

(a) $[M^1L^1T^{-1}]$

(b) $[M^1L^{-5}T^1]$

(c) $[M^2L^5T^{-1}]$

(d) $[M^1L^5T^{-2}]$

Answer. d) $[M^1L^5T^{-2}]$

Q9: Electron volt is a unit of

(a) Charge

(b) Potential difference

(c) Energy

(d) Magnetic Force

Answer. c) Energy

Q10: There are 20 divisions in 4 cm of the main scale. The vernier scale has 10 divisions. The least count of the instrument is

(a) 0.05 cm

(b) 0.5 cm

(c) 5.0 cm

(d) 0.005 cm

Answer. d) 0.005 cm