PHYSICS

Q1. A sheet of paper is placed on a table and a jug full of water is kept on it while pulling the paper suddenly, it is observed that the water does not spill out of jug. It is due to the inertia of the

(a) paper sheet
(b) jug & water in it
(c) hard
(d) table

Ans. (b)

Q2. "Every Action has equal & opposite reaction" was discovered by

(a) Pascal
(b) Newton
(c) Edison
(d) Copernicus

Ans. (b)

Q3. If a car travels a distance of 100 km & it takes 25 minutes to reach its destination , the speed of the car is

(a) 4 km/min
(b) 4 mt/min
(c) 400 mt/min
(d) None of these

Ans. (a)

Q4. Name of scienctist who gave a relationship between mechanical energy & heat energy

(a) Darwine
(b) Jameswatt
(c) James precot joule
(d) sir Isac Newton

Ans. (c)

Q5. A 1500 w electric geyser used every day for 2 hrs. Calculate the energy consumed ?

(a) 90 kwh
(b) 30 kwh
(c) 750 kwh
(d) None of these

Ans. (a) Power of Geyser = 1500 W
Used time = 30 x 2 = 60

Energy Power x Time = 1500 x 60 / 1000 = 90 kwh

Q6. As per Law of Conservation of energy during a process or system of transformation of energy, the energy is

(a) always lost
(b) always gained
(c) (c) neither gain nor lost
(d) (d) only gets converted for heat to mechanical energy

Ans. (c)

Q7. An engine supplies 196 joules of energy. If the energy is supplied to a weight of 500 gms. How high can it be lifted

(a) 38.2 (b) 39.2

(c) 40.2 (d) 42

Ans. (b) Energy supplied to the engine = 196 J
Mass of water = 500 gm = 500/1000 = ½ kg
Acceleration due to ground (g) = 10 mt/sec^2.
Energy required for lifting water = mgh
H = energy supplied / m x g = 196 x 2 / 1 x 10 = 39.2 mt.

Q8. Which of the following force is responsible for taking a gas ballon upwards ?

(a) Gravitational force (b) Muscular force

(c) Bouyant force (d) Magnetic force

Ans. (c)

Q9. When white light is passed through a prism, it is observed that violet light bends more than the red light. This is because

(a) Velocity of red light in glass is less than that of violet light
(b) Refractive Index of glass is more for violet light
(c) wave length of violet light is less than that of red light
(d) It is the properties of these colours.

Ans. (b)

Q10. Pascal's law hold good for

(a) gases only (b) liquid & fluid

(c) solids only (d) for all

Ans. (d)

Q11. The Instrument for measuring electric current is known as

(a) Ammeter (b) Voltameter

(c) Galvanometer (d) Chronometer

Ans. (a)

Q12. Find at what temperature, the velocity of sound in air is 1.5 times the velocity at 70^0 C

(a) 357°C (b) 387°C

(c) 350°C (d) 290°C

Ans. (a) we know that $\frac{Vt}{Vo} = \sqrt{\frac{373+t}{273}}$

& $\frac{Vt}{Vo} = \sqrt{\frac{373+t}{280}} = \frac{3}{2}$

$\Rightarrow$ t = 357°C

Q13. If m_1 & m_2 be the masses of two bodies, d be the distance between them, the force of attraction (F) as per the universal law of gravitation is

(a) $F = \frac{m_1 m_2}{d^2}$

(b) $F = G\frac{m_1 m_2}{d^2}$

(c) $F = G\frac{m_1 m_2}{d}$

(d) $F = G\frac{m_1^2 m_2^2}{d^2}$

Ans. (c)

Q14. The acceleration due to gravity is zero at

(a) Poles
(b) equator
(c) center of earth
(d) None of these

Ans. (c)

Q15. The energy of an electron in n the orbit of a hydrogen atom is given by

(a) $E_n = -13.6 / n^2$ ev.
(b) $E_n = -13.6 / n^3$ ev.
(c) $E_n = +13.6 / n^2$ ev.
(d) $E_n = +13.6 / n^3$ ev.

Ans.

Q16. The size of an atom is nearly

(a) 10^{-5} m
(b) 10^{-8} m
(c) 10^{-15} m
(d) 10^{-10} m

Ans. (d)

Q17. The force of repulsion between two parallel wires is 'f' when each one of them carries a certain current ' I '. If the current in each is doubled, the force between them would be

(a) 2f
(b) 3f
(c) 4f
(d) f / 4

Ans. (c)

Q18. A fuse wires has eventially

(a) High resistance & high melting point
(b) Low resistance & high melting point
(c) Low resistance 7 low melting point
(d) None of these

Ans. (d) it has high resistance & low melting point

Q19. The emf of 3 identical cells connected in series in 6 V. The emf of each is

(a) 6 V (b) 2 V

(c) 3 V (d) None of these

Ans. (b)

Q20. One weber/mt ^{2} is equal to

(a) 10^{-3} gram (b) 10^{-4} gram

(c) 10^4 gram (d) None of these

Ans. (b)

Q21. A person using convex lense must be suffering from

(a) Myopia
(b) Astigmatism
(c) Hypermyopia
(d) None of these

Ans. (c)

Q22. If there is no atmosphere, then the duration of daylight on earth will

(a) Increase
(b) decrease
(c) remain same
(d) (d) None of these

Ans. (b)

Q23. The critical angle of liquid is 30^0. Its refractive Index will be

(a) 4
(b) 2
(c) 3
(d) 0.5

Ans. (b) r = 1/ Sin C, Here C = 30^0.
So r = 1 / Sin 30^0 = 2.00

Q24. A hygrometer measures

(a) The constant of Hydroscopic substance
(b) Relataive density of solids
(c) Relative density of liquids
(d) amount of water vapour in air

Ans. (a)

Q25. Which of the given samples of equal volumes of Hydrogen & Oxygen at NTP has a larges number of molecules.

(a) Hydrogen
(b) Oxygen
(c) Both have the same number of molecules
(d) None of these

Ans. (b)

Q26. A sample of gas is at 0^0. What is the requirement of temperature for increasment to double the r.m.s. speed of molecules ?

(a) 273^0
(b) 1000^0
(c) -273^0
(d) 1092^0

Ans. (a)

Q27. (Equal volume of all gases, measured under the same condition of pressure & temperature contain the same number of molecules. This is known as

(a) Boyle's law
(b) Charle's law
(c) Avogradous law
(d) Ottovan law

Ans. (a)

Q28. The value of plank's Constant

(a) depends upon frequency
(b) is always same
(c) depends upon energy
(d) depends on wavelength

Ans. (b)

Q29. Doping is a process of

(a) purifying the semiconductor
(b) making the material crystalline
(c) adding controlled impurities into the material
(d) making the material an insulator

Ans. (c)