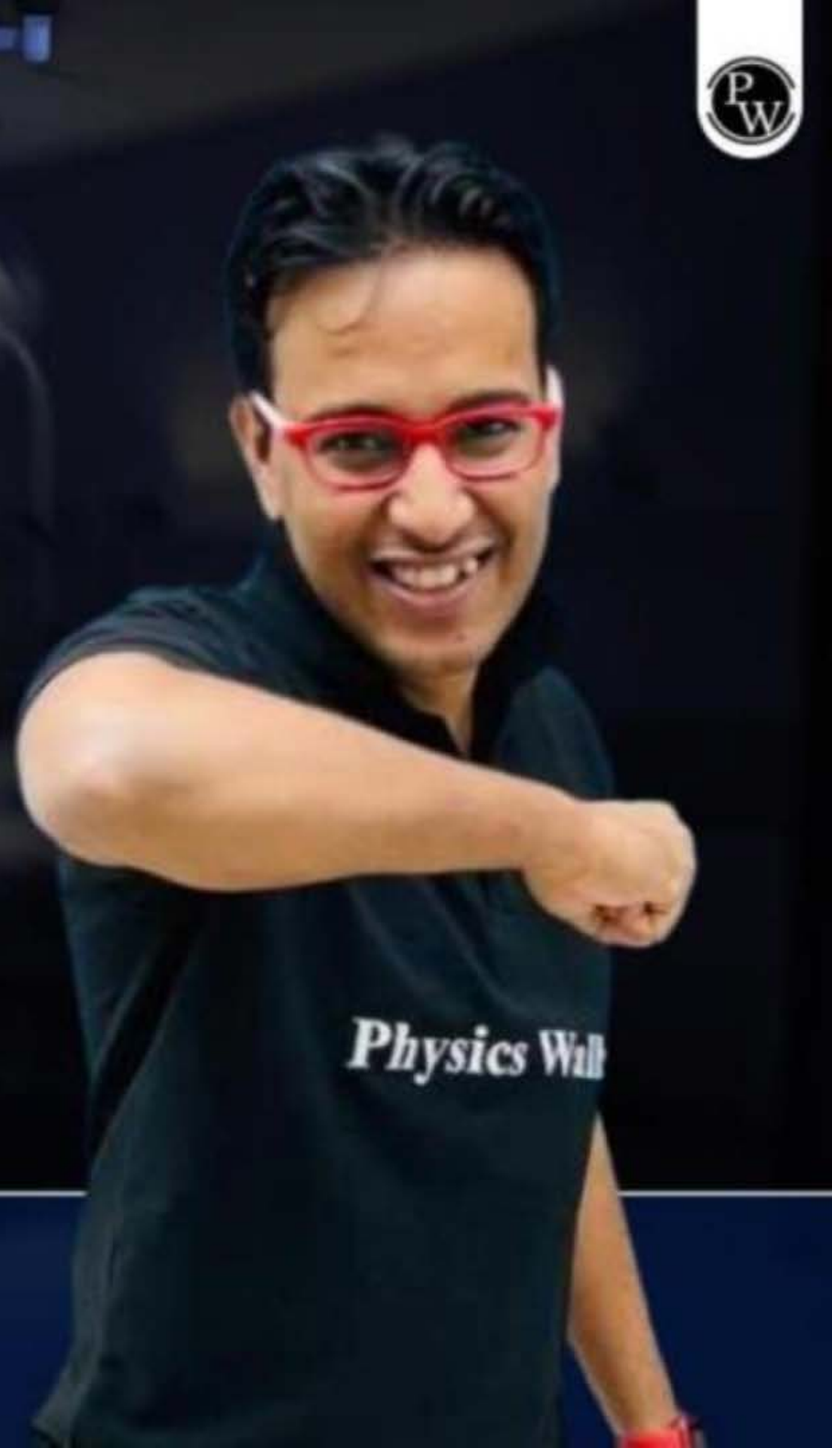
YAKEEN NEET 2.0

2026

Units and Measurements

PHYSICS | Lecture – 06

By – Saleem Ahmed Sir



Todays Goal

- Ques Practice

Q Orbital velocity of a sattelite around the earth depends on mass of earth M, radius of orbit 'r', & G Universal Grav. const. find the expression.

Sol^n

$$v \propto m^x r^y G^z$$

$$v = k\, m^x r^y G^z$$

k → Dimensionless

$$= M^x L^y (M^{-1}L^3T^{-2})^z$$

$$M^0 L T^{-1} = M^{x-z} L^{y+3z} T^{-2z}$$

$-2z = -1$

$z = \frac{1}{2}$

$x - z = 0$

$x = z$

$x = \frac{1}{2}$

$y + 3z = 1$

$y + \frac{3}{2} = 1$

$y = -\frac{1}{2}$

$$F = G\frac{m_1 m_2}{r^2}$$

$$G = M^{-1}L^3T^{-2}$$

$$v = k\, m^{\frac{1}{2}} r^{-\frac{1}{2}} G^{\frac{1}{2}}$$

$$v = k\sqrt{\frac{GM}{r}}$$

k → ?

Q If force 'F', length 'L', & velocity 'v' are taken as fundamental Unit then dimension of mass will be.

Sol $m = F^x L^y v^z$

Ans $m = F L v^{-2}$

$m = (mLT^{-2})^x L^y (LT^{-1})^z$

$m^1 L^0 T^0 = m^x L^{x+y+z} T^{-2x-z}$

$x = 1$

$-2x - z = 0$

$z = -2$

$x + y + z = 0$

$1 + y - 2 = 0$

$y = 1$

Q Express mass 'm' in terms of force, length, Velocity.

Q If force 'F', length 'L', & velocity 'v' are taken as fundamental phy. quantity then dimension of mass will be.

Ans $m = F L v^{-2}$

(1) $F^2 L v^{-2}$

(2) $F^3 L^2 v$

(3) $F L^2 v$

(4) $F L v^{-2}$

(m-1) option elimanating.

(m-2) $m = F^x L^y v^z$

Example 4: If P is the pressure of a gas and ρ is its density, then find the dimension of velocity in term of pressure and density.

H.W

Example 4: If P is the pressure of a gas and ρ is its density, then find the dimension of velocity in term of pressure and density.

Sol^n

$$v = P^x \rho^y \Rightarrow (ML^{-1}T^{-2})^x (ML^{-3})^y$$

$$M^0 L T^{-1} = M^{x+y} L^{-x-3y} T^{-2x-3y}$$

$$\vdots$$

solve & get $x = \frac{1}{2}$ $y = -\frac{1}{2}$

Home work

Solve by proper methode...

32. If momentum (p), area (A) and time (T) are taken to be fundamental quantities, then energy has the dimensional formula:

(1) $pA^{-1}T^{1}$ (2) $p^{2}AT$

(3) $pA^{-1/2}T$ (4) $pA^{1/2}T^{-1}$

(Yakeen NEET Physics M-1)

Ans ⇒ (4)

33. If units of length, mass and force are chosen as fundamental units, the dimensions of time would be:

(1) $M^{1/2}\,L^{-1/2}\,F^{1/2}$ (2) $M^{1/2}\,L^{1/2}\,F^{1/2}$

(3) $M^{1/2}\,L^{1/2}\,F^{-1/2}$ (4) $M^{1}\,L^{-1/2}\,F^{-1/2}$

(Yakeen NEET Physics M-1)

Ans ⇒ (3)

34. If speed of light (c), acceleration due to gravity (g) and pressure (P) are taken as fundamental units, the dimensions of gravitational constant (G) are:

(1) $c^{0}\,g\,P^{-3}$ (2) $c^{2}\,g^{3}\,P^{-2}$

(3) $c^{0}\,g^{2}\,P^{-1}$ (4) $c^{2}\,g^{2}\,P^{-2}$

(Yakeen NEET Physics M-1)

Ans ⇒ (3)

35. If energy (E), velocity (V) and force (F) be taken as fundamental quantity, then what are the dimensions of mass:

(1) EV^{2} (2) EV^{-2}

(3) FV^{-1} (4) FV^{-2}

(Yakeen NEET Physics M-1)

Ans (2)

36. If area (A), velocity (V) and density (ρ) are taken as fundamental units, what is the dimensional formula for force?

(1) $[AV^{2}\rho]$ (2) $[A^{2}V\rho]$

(3) $[AV\rho^{2}]$ (4) $[AV\rho]$

(Yakeen NEET Physics M-1)

Ans (1)

2. Planck's constant h, speed of light c and gravitational constant G are used to form a unit of length L and a unit of mass M. Then, the correct options is/are. **[JEE Adv. 2015]**

(1) $M \propto \sqrt{c}$

(2) $M \propto \sqrt{G}$

(3) $L \propto \sqrt{h}$

(4) $L \propto \sqrt{G}$

$L = h^x c^y G^z$

$x = ?$ $G = ?$

$m \propto h^a v^b G^c$

$b = ?$ $c = ?$

Soln

Planck's constant h, speed of light c and gravitational constant G are used to form a unit of length L and a unit of mass M. Then, the correct options is/are. **[JEE Adv. 2015]**

(1) $M \propto \sqrt{c}$ (2) $M \propto \sqrt{G}$

(3) $L \propto \sqrt{h}$ (4) $L \propto \sqrt{G}$

$L = k\, h^x c^y G^z$

↓

Dimensionless

$L = (ML^2T^{-1})^x (LT^{-1})^y (M^{-1}L^3T^{-2})^z$

$M^0L^1T^0 = M^{x-z}\, L^{2x+y+3z}\, T^{-x-y-2z}$

$x - z = 0$

$2x + y + 3z = 0$

$-x - y - 2z = 0$

solve and get

$x = \frac{1}{2}$, $y = -\frac{3}{2}$, $z = \frac{1}{2}$

$L \propto \sqrt{\frac{hG}{c^3}}$

Similarly

$M = h^a c^b G^c$

Solve as this by yourself. & get

$a = \frac{1}{2}$, $y = \frac{1}{2}$

$z = -\frac{1}{2}$

$m \propto \sqrt{\frac{c}{G}}$

11. A dimensionless quantity is constructed in terms of electronic charge e, permittivity of free space ε_0, Planck's constant h, and speed of light c. If the dimensionless quantity is written as $e^{\alpha}\varepsilon_0{}^{\beta}h^{\gamma}c^{\delta}$ and n is a non-zero integer, then $(\alpha, \beta, \gamma, \delta)$ is given by: **[JEE Adv. 2024]**

(1) $(2n, -n, -n, -n)$

(2) $(n, -n, -2n, -n)$

(3) $(n, -n, -n, -2n)$

(4) $(2n, -n, -2n, -2n)$

Sol^{n}

$$e^{\alpha}\epsilon_0^{\beta}h^{\gamma}c^{d} = 1$$

$$(AT)^{\alpha}\left(M^{-1}L^{-3}T^{+4}A^{2}\right)^{\beta}\left(ML^{2}T^{-1}\right)^{\gamma}\left(LT^{-1}\right)^{d} = 1$$

$$M^{-\beta+\gamma}\; L^{-3\beta+2\gamma+d}\; T^{\alpha+4\beta-\gamma-d}\; A^{\alpha+2\beta} = 1$$

$-\beta+\gamma=0 \Rightarrow \boxed{\beta=\gamma}$ —①

$\boxed{\alpha+2\beta=0}$ —② $\quad -3\beta+2\gamma+d=0$ —③

$\alpha+4\beta-\gamma-d=0$ —④

Let $\beta=-n \Rightarrow \gamma=-n$ from eq^{n} —①

$\alpha=+2n$ (from eq^{n} 2)

From eq^{n} ③ $\Rightarrow$ $-3(-n)+2(-n)+d=0$

$3n-2n+d=0$

$\boxed{d=-n}$

So According to option

$(\alpha, \beta, \gamma, d) \Rightarrow (2n, -n, -n, -n)$ 1st Option

9. Let us consider a system of units in which mass and angular momentum are dimensionless. If length has dimension of L, which of the following statement(s) is/are correct? **[JEE Adv, 2019]**

(1) The dimension of force is L^{-3}.

(2) The dimension of energy of L^{-2}.

(3) The dimension of power is L^{-5}.

(4) The dimension of linear momentum is L^{-1}.

mvr ⇒ $MLT^{-1} \cdot L$ ⇒

① MLT^{-2} ⇒ $1 \times L \times L^{-4} = L^{-3}$

$m = 1$

$ML^2T^{-1} = 1$ ⇒ $L^2 = T$

ML^2T^{-2} ⇒ $1 \times L^2 \times L^{-4} = L^{-2}$

$ML^2T^{-3} \equiv \frac{ML^2}{T^3} = \frac{L^2}{L^6} = L^{-4}$

mXVelocity ⇒ $LT^{-1} \equiv \frac{L}{T} = \frac{L}{L^2} = L^{-1}$

and positive ions is called neutral plasma. Certain solids containing fixed positive ions surrounded by free electrons can be treated as neutral plasma. Let N be the number density of free electrons, each of mass m. When the electrons are subjected to an electric field, they are displaced relatively away from the heavy positive ions. If the electric field becomes zero, the electrons begin to oscillate about the positive ions with a natural angular frequency ω_p, which is called the plasma frequency. To sustain the oscillations, a time varying electric field needs to be applied that has an angular frequency w, where a part of the energy is absorbed and a part of it is reflected. As ω approaches ω_p, all the free electrons are set to resonance together and all the energy is reflected. This is the explanation of high reflectivity of metals.

Taking the electronic charge as e and the permittivity as ε_0, use dimensional analysis to determine the correct expression for ω_p.

[IIT-JEE 2011]

(1) $\sqrt{\frac{Ne}{m\varepsilon_0}}$

(2) $\sqrt{\frac{m\varepsilon_0}{Ne}}$

(3) $\sqrt{\frac{Ne^2}{m\varepsilon_0}}$

(4) $\sqrt{\frac{m\varepsilon_0}{Ne^2}}$

$$\frac{S^2\sigma}{K} \Rightarrow \frac{M^2 L^4 T^{-6} A^{-2} \theta^{-2}}{M L T^{-3} \theta^{-1}} \frac{A.AT}{L^2 MLT^{-2}}$$

$J = \sigma E$

$$\sigma = \frac{J}{E} \Rightarrow \frac{A.AT}{L^2 MLT^{-2}}$$

$$S \equiv \frac{ML^2T^{-2}}{AT\theta} \equiv ML^2T^{-3}A^{-1}\theta^{-1}$$

$$\frac{\theta^{-2}}{\theta^{-1}} \equiv \theta^{-1}$$

12. A temperature difference can generate e.m.f. in some materials. Let S be the e.m.f. produced per unit temperature difference between the ends of a wire, σ the electrical conductivity and κ the thermal conductivity of the material of the wire. Taking M, L, T, I and K as dimensions of mass, length, time, current and temperature, respectively, the dimensional formula of the quantity $Z = \frac{S^2\sigma}{\kappa}$ is: **[JEE Adv. 2025]**

(1) $[M^0L^0T^0I^0K^0]$ (2) $[M^0L^0T^0I^0K^{-1}]$

(3) $[M^1L^2T^{-2}I^{-1}K^{-1}]$ (4) $[M^1L^2T^{-4}I^{-1}K^{-1}]$

13. A length-scale (l) depends on the permittivity (ε) of a dielectric material, Boltzmann's constant (k_B), the absolute temperature (T), the number per unit volume (n) of certain charged particles and the charge (q) carried by each of the particles. Which of the following expression(s) for l is (are) dimensionally correct? **[JEE Adv. 2016]**

H.W

no. per unit vol^n = L^{-3} ≡ No. density

(1) $l = \sqrt{\left(\frac{nq^2}{\varepsilon k_B T}\right)}$

(2) $l = \sqrt{\left(\frac{\varepsilon k_E T}{nq^2}\right)}$

(3) $l = \sqrt{\left(\frac{q^2}{\varepsilon h^{2/3} k_B T}\right)}$

(4) $l = \sqrt{\left(\frac{q^2}{\varepsilon n^{1/3} k_B T}\right)}$

$\epsilon = m^{-1} L^{-3} T^4 A^2$

$K \equiv m L^2 T^{-2} \theta^{-1}$

$T \equiv \theta$

$n \equiv L^{-3}$

Ans (2, 4)

Sol^{n}

(b) $\sqrt{\dfrac{\epsilon K_B T}{nq^2}} = \sqrt{\dfrac{M^{-1}L^{-3}T^{4}A^{2} \times ML^{2}T^{-2}K^{-1} \times K}{L^{-3}(AT)^{2}}}$

$= L$

(a) $\sqrt{\dfrac{q^2}{\epsilon n^{1/3} K_B T}} = \sqrt{\dfrac{A^2 T^2}{M^{-1}L^{-3}T^{4}A^{2}.(L^{-3})^{\frac{1}{3}}.(ML^{2}T^{-2}K^{-1}K}$

$= L$

HCV

Theory of relativity reveals that mass can be converted into energy. The energy E so obtained is proportional to certain powers of mass m and the speed c of light. Guess a relation among the quantities using the method of dimensions.

$$E \propto m^x c^y \Rightarrow m^x (LT^{-1})^y$$

$$mL^2T^{-2} = m^x L^y T^{-y}$$

$x = 1$
$y = 2$

$$\Delta E = mc^2$$

HCV

The frequency of vibration of a string depends on the length L between the nodes, the tension F in the string and its mass per unit length m. Guess the expression for its frequency from dimensional analysis.

$f \propto L^x F^y m^z$

silly

$T^{-1} \equiv L^x (m L T^{-2})^y \left(\frac{m}{L}\right)^z$

$m^0 L^0 T^{-1} = m^{y+z} L^{x+y-z} T^{-2y}$

$y = \frac{1}{2}$

$y + z = 0$

$z = -\frac{1}{2}$

$x + y - z = 0$

$x + \frac{1}{2} - \left(-\frac{1}{2}\right) = 0$

$x = -1$

**1

*notex

Example 9: When a solid sphere moves through a liquid, the liquid opposes the motion with a force F. The magnitude of F depends on the coefficient of viscosity η of the liquid, the radius r of the sphere and the speed v of the sphere. Assuming that F is proportional to different powers of these quantities, guess a formula for F using the method of dimensions.

$F \propto \eta^x r^y v^z$

$F = k \eta^x r^y v^z$

$F = 6\pi r \eta v$

18. Test if the following equations are dimensionally correct :

H/W

(a) $h = \dfrac{2\,S\cos\theta}{\rho r g}$,

(b) $v = \sqrt{\dfrac{P}{\rho}}$,

(c) $V = \dfrac{\pi P r^4 t}{8\eta l}$,

(d) $\nu = \dfrac{1}{2\pi}\sqrt{\dfrac{mgl}{I}}$;

where h = height, S = surface tension, ρ = density, P = pressure, V = volume, η = coefficient of viscosity, ν = frequency and I = moment of inertia.

H/W

Q. A gas bubble oscillates with a time period T proportional to $P^a d^b E^c$ where P is pressure, d is the density and E is the energy. The values of a, b & c are

(A) $a=\frac{3}{2}, b=-\frac{1}{3}, c=\frac{1}{2}$

(B) $a=-\frac{5}{6}, b=\frac{1}{3}, c=\frac{1}{2}$

(C*) $a=-\frac{5}{6}, b=\frac{1}{2}, c=\frac{1}{3}$

(D) $a=\frac{3}{2}, b=-\frac{1}{3}, c=\frac{1}{2}$

$a+b+c=0$

Sol^n

$T = P^a d^b E^c$

$= (mL^{-1}T^{-2})^a (mL^{-3})^b (mL^2T^{-2})^c$

$M^0L^0T^1 = m^{\quad} \cdot L^{-a-3b+2c}$

notes

Q If Force 'F', Length 'L', time 'T' are taken as fundamental quantity then dimension of ρ density will be

① F^2L^2T

② $F^{-1}L^3T^{-2}$

③ $FL^{-4}T^2$

④ FL^3T^{-3}

(m1) $\Rightarrow$ $\rho = F^x L^y T^z$

$ML^{-3} = (MLT^{-2})^x L^y T^z$

$ML^{-3}T^0 = M^x L^{x+y} T^{-2x+z}$

Solve & get Ans ...

(m-2) .

Ans ③

note

Q If Force F, Energy E & velocity 'v' are taken as fundamental Unit, then dimension of mass will be

Sol: $m = F^x E^y v^z$

$$m^1 L^0 T^0 = (mLT^{-2})^x (mL^2T^{-2})^y (LT^{-1})^z$$

$$m^1 L^0 T^0 = m^{x+y} L^{x+2y+z} T^{-2x-2y-z}$$

Compare & Solve

24. A balloon is made of a material of surface tension S and its inflation outlet (from where gas is filled in it) has small area A. It is filled with a gas of density ρ and takes a spherical shape of radius R. When the gas is allowed to flow freely out of it, its radius changes from R to 0 (zero) in time T. If the speed $v(r)$ of gas coming out of the balloon depends on r as r^a and $T \propto S^{\alpha} A^{\beta} \rho^{\gamma} R^{\delta}$ then

NEET 2025

$\alpha+\beta+\gamma+\delta$

$M^0L^0T^1 = \left(\frac{F}{L}\right)^{\alpha}\left(\frac{m}{L^3}\right)^{\gamma}$

$= m^{\alpha+\gamma}$

$\alpha+\gamma=0$

(1) $a=\frac{1}{2}, \alpha=\frac{1}{2}, \beta=-1, \gamma=+1, \delta=\frac{3}{2}$

(2) $a=-\frac{1}{2}, \alpha=-\frac{1}{2}, \beta=-1, \gamma=-\frac{1}{2}, \delta=\frac{5}{2}$

(3) $a=-\frac{1}{2}, \alpha=-\frac{1}{2}, \beta=-1, \gamma=\frac{1}{2}, \delta=\frac{7}{2}$

(4) $a=\frac{1}{2}, \alpha=\frac{1}{2}, \beta=-\frac{1}{2}, \gamma=\frac{1}{2}, \delta=\frac{7}{2}$

Ans. (3)

2. If Energy (E), velocity (v) and time (T) are fundamental units. What will be the dimension of surface tension? (S)

यदि ऊर्जा (E), वेग (v) और समय (T) मूलभूत मात्रक हो तो पृष्ठ तनाव की विमाएँ क्या होगी ?

Ans. $[S] = Ev^{-2}T^{-2}$ ✓ Chuk

$$S = E^x v^y T^z$$

$$\frac{mLT^{-2}}{L} = (ml^2T^{-2})^x (LT^{-1})^y T^z$$

$$m^1L^0T^{-2} = m^x L^{2x+y} T^{-2x-y+z}$$

notes

Direct formula hidden type

⊛ If Force, Length, time are taken as fundamental physical quantity. then dimension of Energy.

Sol

$$E = F L T^{0}$$

notes

Direct formula hidden type (SKC Chupa methode)

⊛ If Force, Length, time are taken as fundamental physical quantity. then dimension of Pressure

Soln $P = F^x L^y T^z$

$$\text{Press} = \frac{\text{Force}}{\text{Area}}$$

$$P = F L^{-2} T^0$$

notes

Direct formula hidden type

⊛ If Force, Length, time are taken as fundamental physical quantity. then dimension of Momentum

Sol^n $P = F^x L^y T^z$

$F \cdot t$

$$P = F^1 T^1 L^0$$

1. An ideal gas enclosed in a vertical cylindrical container supports a freely moving piston of mass M. The piston and the cylinder have equal cross sectional area A. When the piston is in equilibrium, the volume of the gas is V_0 and its pressure is P_0. The piston is slightly displaced from the equilibrium position and released. Assuming that the system is completely isolated from its surrounding, the piston executes a simple harmonic motion with frequency. **[JEE Mains-2013]**

एक ऊर्ध्वाधर बेलनाकार पात्र में रखी एक आदर्श गैस एक द्रव्यमान M के स्वतंत्र रूप से गतिशील पिस्टन को आधार देती है। पिस्टन ओर बेलन के अनुप्रस्थ परिच्छेद क्षेत्रफल एकसमान A हैं। जब पिस्टन साम्यावस्था में है, तब गैस का आयतन V_0 है और इसका दाब P_0 हैं। पिस्टन को इसकी साम्यावस्था स्थिति से थोड़ा सा विस्थापित किया जाता है और फिर छोड़ दिया जाता है। यह मान लें कि निकाय अपने परिवेश से पूर्णत: रोधी है, तब पिस्टन इस आवृत्ति की सरल आवर्त गति करेगा:

(1) $\frac{1}{2\pi}\frac{A\gamma P_0}{V_0 M}$ (2) $\frac{1}{2\pi}\frac{V_0 M P_0}{A^2\gamma}$ (3) $\frac{1}{2\pi}\sqrt{\frac{A^2\gamma P_0}{MV_0}}$ (4) $\frac{1}{2\pi}\sqrt{\frac{MV_0}{A\gamma P_0}}$

Ans. (3)

13. In a system of units if force (F), acceleration (A) and time (T) are taken as fundamental units, then the dimensional formula of energy is

H/W

(a) FA^2T (b) FAT^2 (c) F^2AT (d) FAT

Ans ⇒ (b)

HW

Example 12: Pressure (P) acting due to a fluid kept in a container depends on, weight of liquid (w), Area of cross-section of container (A) and density of fluid (ρ). Establish a formula of pressure (P).

Sol' next page

Ans $P = w^1 A^{-1} \rho^0$

(Solve it by chupa formula methode)

9. If momentum (P), mass (M) and time (T) are chosen as fundamental quantities the dimensional formula for length is _____.

(a) $[P^1T^1M^1]$ (b) $[P^1T^1M^2]$

(c) $[P^1T^1M^{-1}]$ (d) $[P^2T^2M^1]$

10. For the equation $F = A^a v^b d^c$ where F is force, A is area, v is velocity and d is density, with the dimensional analysis gives the following values for exponents.

(a) $a = 1, b = 2, c = 1$

(b) $a = 2, b = 1, c = 1$

(c) $a = 1, b = 1, c = 2$

(d) $a = 0, b = 1, c = 1$

H/W

2. In the formula; $P = \frac{nRT}{V-b}\, e^{-\frac{a}{RTV}}$ find the dimensions of 'b' and 'a' respectively, where P = pressure, n = no. of moles, T = temperature, V = volume and R = universal gas constant.

(a) $[L^3]$, $[MLT^{-2}]$ (b) $[M^2L]$, $[ML^5T^{-2}]$

(c) $[L^3]$, $[ML^5T^{-2}mol^{-1}]$ (d) $[M^2L]$, $[MLT^{-2}]$

Ans (C)

25. The Vander Waal's equation is $\left(P+\frac{a}{V^2}\right)(V-b)=RT$ Where P is pressure, V is volume, T is absolute temperature of given sample of a gas, R is called molar gas constant, a and b are Vander waal's constant.

Now answer the following

(*i*) The dimensional formula for b is same as for

(*a*) V (*b*) PV^2 (*c*) RT (*d*) P

(*ii*) The dimensional formula for a is same as for

(*a*) V^2 (*b*) P (*c*) PV^2 (*d*) RT

(*iii*) The dimensional formula of $\frac{ab}{RT}$ is

(*a*) $[ML^5T^{-2}]$ (*b*) $[M^0L^3T^0]$

(*c*) $[ML^{-1}T^{-2}]$ (*d*) $[M^0L^6T^0]$

(*iv*) The dimensional formula for RT is same as for

(*a*) Energy (*b*) force

(*c*) Latent heat (*d*) Specific heat

(*v*) The dimensional formula for RT is not same as that for

(*a*) $\frac{ab}{V^2}$ (*b*) Pb

(*c*) $\frac{a}{V^2}$ (*d*) PV

Ans ① a
② c
③ d
④ a
⑤ c

8. A physical quantity $\vec{S}$ is defined as $\vec{S} = \dfrac{(\vec{E} \times \vec{B})}{\mu_0}$, where $\vec{E}$ is electric field, $\vec{B}$ is magnetic field and μ_0 is the permeability of free space. The dimensions of $\vec{S}$ are the same as the dimensions of which of the following quantity (ies) ?

(1) $\dfrac{\text{Energy}}{\text{charge} \times \text{current}}$

(2) $\dfrac{\text{Force}}{\text{Length} \times \text{Time}}$

(3) $\dfrac{\text{Energy}}{\text{Volume}}$

(4) $\dfrac{\text{Power}}{\text{Area}}$

(JEE Advanced 2021)

34. Expression for time in terms of G (universal gravitational constant), h (Planck constant) and c (speed of light) is proportional to

H/W

[JEE (Main)-2019]

(1) $\sqrt{\frac{Gh}{c^5}}$

(2) $\sqrt{\frac{c^3}{Gh}}$

(3) $\sqrt{\frac{Gh}{c^3}}$

(4) $\sqrt{\frac{hc^5}{G}}$

H.W

Q If Energy (E), velocity (v), time (T) are taken as fundamental Unit. write surface tension (S) in terms of Force, velocity, time.

Ans $S = E v^{-2} T^{-2}$

Q If force, acc, time are taken as fundamental unit find dimension of energy in terms of energy.

Ans $E = F a T^2$

Q Express mass in terms of

(a) Force, acc, time

(2) Force length time

(3) Force velocity time.

(4) Energy, velocity, force

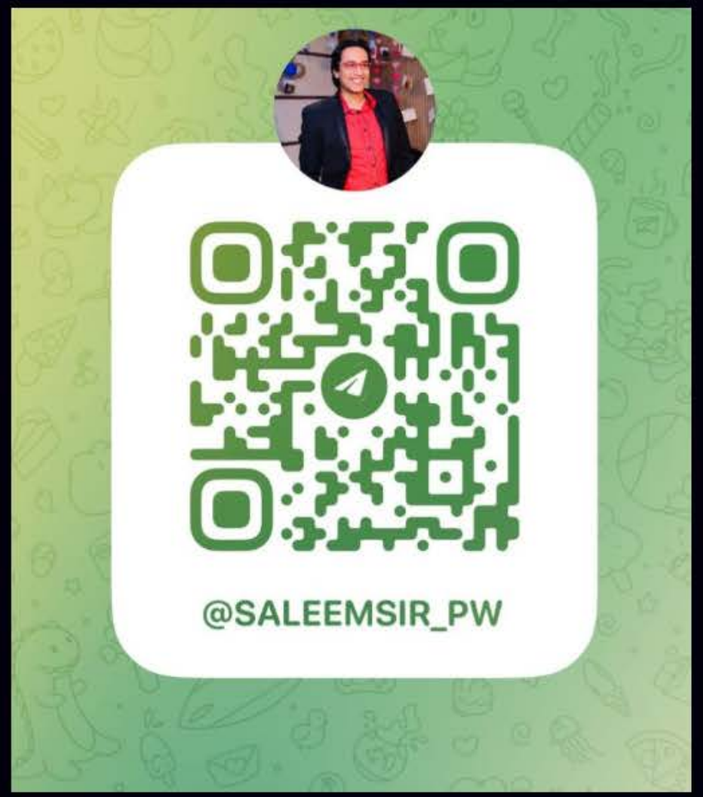
Ans will

(1) $F a^{-1} T^{-2}$

(2) $F L^{-1} T^{2}$

(3) $F^{1} v^{1} T^{-1}$

(4) $E^{1} F^{0} v^{-2}$



join it for ⇑
Very imp pdf/Notes

Home Work

- so many ques are attached in this ppt
  i will provide all ques in (pdf / KPP) form till evening
  for your practice
- HCV (page 9) ⇒ Exercise ⇒ 1, 2, 3, 4, 5, 6, 7, 14, 17, 18

→ For those who purchase module...

Module H.W ⇒ Prarambh ⇒ (1-29), (32-36)

Prabal → 1, 3, 4, 10, 12, 13, 14, 15, 16, 20

PYQ Ex.4 ⇒ 1, 5, 7, 9, 12, 18, 19, 20

THANK YOU