



PHYSICS

BOOKS - KUMAR PRAKASHAN KENDRA PHYSICS (GUJRATI ENGLISH)

OBJECTIVE QUESTIONS AS PER NEW PAPER STYLE

Chapter 2 Fill In The Blanks

1. $\frac{1\mu m}{1fm} = \dots\dots$

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2. Number of significant digit in 0.0060 are

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3. For study of nanotechnology Microscope is developed.

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4. 1 rad = Degree.

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5. Light year is unit of

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6. Solid angle subtended by hemisphere at centre is

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7. To measure distance between rock Method is used.

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8. For precise measurement of time clock is most accurate.

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9. When 15.753 is round off to 3 significant digit Is obtained.

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Chapter 2 Match Type Questions

1. Match Column-I with Column-II properly :

Column-I

- (1) Distance between the earth and stars
- (2) Wavelength of infrared wave

Column-II

- (a) kilometer
- (b) Light year
- (c) Angstrom

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2. In Column-I quantity and Column-II their value are given. Match them properly :

Column-I

Column-II

- | | |
|------------------|------------------------------|
| (1) 1 light year | (a) $3.08 \times 10^{16} m$ |
| (2) 1 Parsec | (b) $9.46 \times 10^{15} m$ |
| (3) A.U. | (c) $1.496 \times 10^{11} m$ |



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3. In Column-I instrument and in Column-II their least count is given.

Match them properly :

Column-I

Column-II

- | | |
|----------------------------|---------------|
| (1) Microscope | (a) 0.01 cm |
| (2) Micrometer screw gauge | (b) 0.001 cm |
| | (c) 0.0001 cm |



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4. In Column-I physical quantity and in Column -II its dimensional formula is given. Match them properly :

Column-I

Column-II

- | | |
|----------------------|----------------------|
| (1) Moment of force | (a) $M^1 L^1 T^{-1}$ |
| (2) Angular momentum | (b) $M^1 L^2 T^{-1}$ |
| (3) Linear momentum | (c) $M^1 L^2 T^{-2}$ |

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5. In Column-I number and in Column-II their significant digit are given.

Match them properly :

Column-I

Column-II

- | | |
|------------------------------|-------|
| (1) $2.85 \times 10^{26} kg$ | (a) 1 |
| (2) $0.009m^2$ | (b) 2 |
| (3) $0.060s$ | (c) 3 |

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Chapter 3 Fill In The Blanks

1. Path length is always

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2. Slope of $v \rightarrow t$ graph of body having accelerated motion is

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3. If $v \rightarrow t$ graph is parallel to time axis, then object is

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4. If distance travelled by particle is zero then its displacement is

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5. For body moving with uniform acceleration a change in velocity of body in Δt time interval will be

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6. Time rate of change in position of object is called

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7. Average velocity Average speed.

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8. A particle starting from initial velocity v_0 moves on straight line with constant acceleration equation of distance travelled during n^{th} second will be

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9. Two objects are moving in same direction with velocity v_A and v_B velocity of A with respect to B will be

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10. Ratio of distance travelled by free falling object in first, second and third second time interval will be

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Chapter 3 Match Type Questions

1. In Column-I relation and in Column-II corresponding equation is given.

Match them properly :

Column-I

(1) *Velocity* → *relation*

(2) *Velocity* → displacement relation

Column-II

(a) $v = v_0 + at$

(b) $S = v_0t + \frac{1}{2}at^2$

(c) $v^2 = v_0^2 + 2as$

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2. The output of a two-input AND gate is high

A. Only if both the inputs are high

B. Only if both the inputs are low

C. Only if one input is high and the other is low

D. If at least one input is low

Answer: (1-c), (2-b), (3-a)



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3. Match Column-I with Column-II :

Column-I

Column-II

(1) Positive acceleration

(a) Speed of particle decreases

(2) Negative acceleration

(b) Speed of particle increases

(c) Speed of particle keep on changing



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4. Match Column-I with Column-II :

Column-I

(1) If A and B are moving perpendicular to each other than velocity of w.r.t.

(2) Relative velocity of rain drop w.r.t to man



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Chapter 4 Fill In The Blanks

1. If $\vec{A} \cdot \vec{B} = AB$, then angle between \vec{A} and \vec{B} will be



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2. At highest point velocity of projectile is (θ = angle of projection).



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3. Component of $\hat{i} - 2\hat{j} + 4\hat{k}$ on y-axis



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4. When angle of projection is Range of projectile will be maximum.



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5. For particle moving on circular path with constant speed angle between instantaneous velocity and instantaneous acceleration will be



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6. If $\vec{A} = 4\hat{i} + 3\hat{j}$, then $|\vec{A}| = \dots\dots$



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7. $\vec{A} = 3\hat{i} + 2\hat{j}$ and $\vec{B} = \hat{i} + \hat{j} - 2\hat{k}$ in $\vec{A} - \vec{B}$ magnitude of y-component will be



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8. When object is projected in vertically upward direction with velocity u , its time of flight will be

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9. A particles is moving on circular path of radius R with constant angular velocity ω . Its centripetal acceleration will be

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10. Component of given vector will be always

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1. Match Column-I with Column-II :

Column-I

Column-II

- | | |
|----------------------|-----------------|
| (1) Angular momentum | (a) Scalar |
| (2) Potential energy | (b) Vector |
| | (c) Unit vector |



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2. Match Column-I with Column-II :

Column-I

Column-II

- | | |
|---|-----------------|
| (1) Combination of two vector is maximum. | (a) 180° |
| (2) Combination of two vector is minimum. | (b) 90° |
| | (c) 0° |



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3. Match Column-I with Column-II :

Column-I

- (1) When body is projected horizontally with constant velocity its angle of
- (2) Acceleration of body thrown horizontally with constant velocity.



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4. Match Column-I with Column-II :

Column-I

(1) Resultant of two mutually perpendicular vector.

(2) Direction of $\vec{A} \times \vec{B}$

Column-II

(a) At angle bisector

(b) Plane

(c) Perpendicular to



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Chapter 5 Fill In The Blanks

1. When 10 N force act on a body, $1ms^{-2}$ acceleration is produced on it.

Mass of body will be



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2. By newton's first law of motion to keep object in motion by Velocity no force is required.



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3. When lift is moving in upward direction with constant acceleration pseudo weight of object will

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4. A mass of 3 kg is attached at end of rope with 6 kg mass. At upper end of rope tension will be

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5. Impulse of force when F force act on body for Δt . Similar impulse will provided when $2F$ force act on body for time.

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6. When iron pressed heavily friction will

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7. In moving bicycle frictional force on wheel will be in Direction.



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8. Value of friction depend on and



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9. Condition that body can be parked in circular road with slope is



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10. Force means change in momentum.



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1. Match Column-I with Column-II :

Column-I

Column-II

- | | |
|--------------------------|------------------------------------|
| (1) Definition of force. | (a) Newton's third law of motion. |
| (2) Magnitude of force. | (b) Newton's second law of motion. |
| | (c) Newton's first law of motion. |



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2. Match Column-I with Column-II :

Column-I

Column-II

- | | |
|--------------------------------|----------------------|
| (1) Change in momentum | (a) Force |
| (2) Rate of change of momentum | (b) Impulse of force |
| | (c) Momentum |



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3. Match Column-I with Column-II :

Column-I

Column-II

- | | |
|--------------------------------------|------------------------------------|
| (1) Newton's third law of motion | (a) $\vec{F}_{12} = -\vec{F}_{21}$ |
| (2) Law of conservation of momentum. | (b) $\Delta \vec{p} = 0$ |
| | (c) $\vec{F}_{12} = \vec{F}_{21}$ |

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4. Match Column-I with Column-II :

Column-I

Column-II

- | | |
|----------------------|---------------------------|
| (1) Static friction | (a) Boundary friction |
| (2) Rolling friction | (b) Ball-bearing |
| | (c) Object moving on road |

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Chapter 6 Fill In The Blanks

1. When object is placed at a certain height from the ground, the work done by gravitational force is

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2. When work done is zero, then speed of object is

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3. For collision, restitution coefficient is 1.

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4. If momentum of object becomes twice, then its kinetic energy would become times .

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5. For complete inelastic collision, restitution coefficient $e = \dots$

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6. By the instrument of 1 kW power, 1 kWh energy is consumed in time.

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7. In electricity consumption, 1 unit means J work.

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8. Object fallen down on Earth from 10 m height lost 20% energy, then it will gain height.

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9. If potential energy due to attractive force in circular path of radius r is

$$U = - \frac{k}{2r^2}, \text{ then its total energy} = \dots .$$

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10. By conversion of $1 \mu\text{g}$ mass in energy, energy is obtained.

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Chapter 6 Match Type Questions

1. Match Column-I with Column-II :

Column-I

Column-II

- | | |
|----------------------------|-------------------------|
| (1) Conservative force | (a) Friction force |
| (2) Non-conservative force | (b) Gravitational force |
| | (c) Internal force |



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2. Match Column-I with Column-II :

Column-I

Column-II

- | | |
|------------------------|-------------------------------------|
| (1) Zero work done | (a) by gravitational force |
| (2) Positive work done | (b) opposite to gravitational force |
| (3) Negative work done | (c) by centripetal force |



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3. Match Column-I with Column-II :

Column-I

Column-II

- | | |
|----------------------|--|
| (1) 1 kg m | (a) 1 Js^{-1} |
| (2) 1 g cm | (b) $1 \text{ gf} \times 1 \text{ cm}$ |
| | (c) $1 \text{ kgf} \times 1 \text{ m}$ |



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4. An Object is falling freely from height h due to gravitational field.

Match the following :

Column-I

(1) Potential energy = kinetic energy

(2) Potential energy = 2 (kinetic energy)

Column-II

(a) at $\frac{2h}{3}$ height

(b) constant at all points

(c) at $\frac{h}{2}$ height



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Chapter 7 Fill In The Blanks

1. If velocity of centre of mass $v_{cm} = 0$ and angular speed $\omega = 0$, then object is said to be in equilibrium.



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2. Object has angular momentum if is applied on it.



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3. If vessel is filled half by water, then its centre of gravity will go



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4. The point at which whole mass of object is centred it is called



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5. The plays the same role in rotational motion as mass plays in linear motion.



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6. If angular velocity of a rigid body at 10 cm distance from rotational axis is 10 rad/s, then the linear velocity of particle is



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7. $J s^{-1}$ is SI unit of physical quantity.



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8. The condition for rolling without slipping on a slope having friction is



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9. If $|\vec{A} \times \vec{B}| = \vec{A} \cdot \vec{B}$, then angle between \vec{A} and \vec{B} is $\theta = \dots$



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10. Angle between linear and angular momentum for particle performing rotational motion is





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11. If $F\hat{k}$ force is acting on particle has position vector $(2\hat{i} - 2\hat{j})$, then torque on it is



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Chapter 7 Match Type Questions

1. Equations of linear motion are given in Column-I and equations of angular motion are given in Column-II. Match them properly :

Column - I *Column - II*

(1) $W = F\Delta x$ (a) $P = \tau\omega$

(2) $P = Fv$ (b) $W = \tau\Delta\theta$

(c) $L = I\omega$



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2. Match Column-I with Column-II :

Column-I Column-II

(1) $\frac{m_1 m_2}{m_1 + m_2}$ Reduced mass of a system of two particles

(2) $\frac{r_1 + r_2}{2}$ (b) position vector of centre of mass of a system of two particles



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3. Match Column-I with Column-II :

Column-I

(1) SI unit of torque

(2) SI unit of radius of gyration

Column-II

(a) m

(b) Nm

(c) $J s^{-2}$



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4. Match Column-I with Column-II :

Column-I

(1) Perpendicular axis theorem

(2) Parallel axis theorem

Column-II

$I = I_C + M d^2$

$I_z = I_x + I_y$

where d = distance between two parallel axes.



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5. Match column-I with Column-II :

Column-I

- (1) Moment of inertia of solid sphere about any diameter
- (2) Moment of inertia of solid sphere about the tangent to its boundary

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Chapter 8 Fill In The Blanks

1. Gravitational acceleration is proportional to the distance from centre inside the surface of earth.

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2. If earth contracts such that its radius becomes half without change in mass, then weight on earth becomes times.

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3. Orbital speed of geo-stationary satellite of earth is approximately.

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4. Gravitational intensity of centre of earth is

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5. If potential energy of a satellite is $-8 \times 10^9 J$, then its binding energy is

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6. Kepler's 2nd law for constant areal velocity is result of law of conservation of

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7. Time period of Mars to revolve around Sun is 8 times greater than that of Mercury. If distance of Mercury from Sun is 5.79×10^{10} m then that of Mars is approximately

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8. If mass of object on earth is m kg, then its mass on Moon is

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9. Geo-stationary satellite is at height from surface of Earth.

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10. If distance between two objects $m_1 = m_2 = 1$ kg 1 mm, then gravitational force between them is [$G = 6.67 \times 10^{-11}$ SI unit]

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Chapter 8 Match Type Questions

1. Type of satellites are given in Column-I and their uses are given in Column-II. Match them properly :

Column-I

Column-II

(1) Polar satellite

(a) Tele communication

(2) Geo-stationary satellite

(b) Investigation

(c) For information about atmosphere

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2. Match Column-I with Column-II :

Column-I

Column-II

(1) Kepler's 1st law

(a) Law of time period

(2) Kepler's 2nd law

(b) Law of orbit

(3) Kepler's 3rd law

(c) Law of area

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3. Match Column-I with Column-II :

Column-I

Column-II

- | | |
|--------------------------|-----------------------|
| (1) Maximum value of g | (a) At Earth's center |
| (2) Minimum value of g | (b) At poles |
| (3) Zero value of g | (c) At equator |



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4. Match Column-I with Column-II :

Column-I

Column-II

- | | |
|---|------------------------------|
| (1) The magnitude of escape speed of surface of Earth | (a) 2.38 km s^{-1} |
| (2) The magnitude of escape speed on surface of Moon | (b) 7.92 km s^{-1} |
| | (c) 11.2 km s^{-1} |



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5. Match Column-I with Column-II :

Column-I

Column-II

- | | |
|--|---------------------|
| (1) It has never a positive value | (a) Escape speed |
| (2) The reason of negative potential energy of galaxy is | (b) Gravitational |
| | (c) The type of for |



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