

CUET 2025 June 3 Physics Question Paper

Time Allowed :1 Hours	Maximum Marks :250	Total questions :50
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General Instructions

Read the following instructions very carefully and strictly follow them:

1. The test is of 1 hour duration.
2. The question paper consists of 50 questions. The maximum marks are 250.
3. 5 marks are awarded for every correct answer, and 1 mark is deducted for every wrong answer.

1. A projectile is fired with an initial velocity u at an angle θ to the horizontal. The time of flight is T . What is the maximum height H reached by the projectile?

- (1) $\frac{u^2 \sin^2 \theta}{2g}$
 - (2) $\frac{u^2 \sin 2\theta}{2g}$
 - (3) $\frac{u^2 \sin^2 \theta}{g}$
 - (4) $\frac{u^2 \sin \theta}{2g}$
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2. Two point charges q_1 and q_2 are placed at a distance r in vacuum. The force between them is F . If the distance is doubled and both charges are halved, what will be the new force?

- (1) $\frac{F}{8}$
 - (2) $\frac{F}{4}$
 - (3) $\frac{F}{2}$
 - (4) $\frac{F}{16}$
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3. In a circuit, if the resistance is doubled and the voltage is halved, what happens to the current flowing through the circuit?

- (1) Becomes half
 - (2) Becomes quarter
 - (3) Becomes double
 - (4) Remains same
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4. A convex lens forms an image at twice the distance of the object from the lens. What is the magnification?

- (1) 2

- (2) -2
 - (3) 0.5
 - (4) -0.5
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5. The stopping potential for photoelectric emission from a metal surface is 2 V when light of wavelength 400 nm is incident. What will be the stopping potential for light of wavelength 300 nm? (Planck's constant $h = 6.63 \times 10^{-34}$ Js, speed of light $c = 3 \times 10^8$ m/s, charge of electron $e = 1.6 \times 10^{-19}$ C)

- (1) 4 V
 - (2) 6 V
 - (3) 8 V
 - (4) 10 V
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6. In an adiabatic process, the work done by the gas is 500 J. What is the change in internal energy of the gas?

- (1) 0 J
 - (2) +500 J
 - (3) -500 J
 - (4) Cannot be determined
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7. A pendulum completes 20 oscillations in 40 seconds. What is its frequency?

- (1) 0.5 Hz
 - (2) 2 Hz
 - (3) 20 Hz
 - (4) 40 Hz
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8. A charged particle with charge q and velocity $\vec{v}$ moves perpendicular to a magnetic field $\vec{B}$. The radius of the circular path is r . What is the expression for r ?

- (1) $\frac{mv}{qB}$
 - (2) $\frac{qB}{m}$
 - (3) $\frac{m}{qBv}$
 - (4) $\frac{v}{mqB}$
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9. Which of the following physical quantities has the same dimensions as $\frac{\text{Force} \times \text{Time}}{\text{Mass}}$?

- (1) Velocity
 - (2) Acceleration
 - (3) Momentum
 - (4) Impulse
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10. A vehicle moves on a banked curve of radius r with banking angle θ . What is the speed v of the vehicle to avoid slipping without friction?

- (1) $\sqrt{rg \tan \theta}$
 - (2) $\sqrt{rg \cot \theta}$
 - (3) $\sqrt{\frac{rg}{\tan \theta}}$
 - (4) $\sqrt{rg \sin \theta}$
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