

CUET 2025 June 2 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. Two point charges $+Q$ and $-4Q$ are placed 60 cm apart. Where should a third charge be placed so that it experiences zero net force?

- (A) 15 cm from $+Q$
 - (B) 20 cm from $-4Q$
 - (C) 60 cm from $+Q$
 - (D) 45 cm from $-4Q$
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2. A disc of mass M and radius R is rolling without slipping with linear velocity v . What is its total kinetic energy?

- (A) $\frac{1}{2}Mv^2$
 - (B) $\frac{3}{4}Mv^2$
 - (C) $\frac{1}{4}Mv^2$
 - (D) $\frac{5}{6}Mv^2$
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3. A block is resting on a rough horizontal surface. A force is applied horizontally, but the block does not move. What can be said about the frictional force acting on it?

- (A) It is zero
 - (B) It is equal to the limiting friction
 - (C) It is more than the applied force
 - (D) It is equal to the applied force
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4. If the temperature of an ideal gas is doubled at constant pressure, what happens to its volume?

- (A) It becomes half
- (B) It doubles

- (C) It becomes one-fourth
 - (D) It remains unchanged
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5. A 10-ohm resistor carries a current of 2 A. What is the power dissipated?

- (A) 5 W
 - (B) 10 W
 - (C) 20 W
 - (D) 40 W
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6. A wave travels along a string with a frequency of 50 Hz and wavelength of 2 m. What is its speed?

- (A) 25 m/s
 - (B) 50 m/s
 - (C) 100 m/s
 - (D) 200 m/s
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7. An object is placed 10 cm in front of a concave mirror of focal length 15 cm. The image formed is:

- (A) Virtual and enlarged
 - (B) Real and enlarged
 - (C) Virtual and diminished
 - (D) Real and diminished
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8. A current-carrying straight conductor produces a magnetic field. The direction of the field is given by:

- (A) Ampere's law
 - (B) Lenz's law
 - (C) Right-hand thumb rule
 - (D) Faraday's law
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9. A body of mass 2 kg is raised to a height of 5 m. What is the potential energy gained? (Take $g = 10 \text{ m/s}^2$)

- (A) 10 J
 - (B) 50 J
 - (C) 100 J
 - (D) 150 J
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10. If the velocity–time graph of a body is a straight line inclined to the time axis, the motion has:

- (A) Uniform velocity
 - (B) Uniform acceleration
 - (C) Variable acceleration
 - (D) Zero acceleration
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11. The value of acceleration due to gravity on the Moon is about $\frac{1}{6}$ that on Earth. If an object weighs 60 N on Earth, its weight on the Moon is:

- (A) 10 N
- (B) 20 N

- (C) 30 N
 - (D) 60 N
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12. What is the amount of heat required to raise the temperature of 100 g of water from 30°C to 80°C? (Specific heat of water = 4.2 J/g°C)

- (A) 2,100 J
 - (B) 12,600 J
 - (C) 21,000 J
 - (D) 42,000 J
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13. Two like charges are placed 1 m apart in air. If the force between them is 9 N, and one charge is 1 C, what is the other charge? (Use $k = 9 \times 10^9 \text{ Nm}^2/\text{C}^2$)

- (A) 1 C
 - (B) 0.1 C
 - (C) 0.01 C
 - (D) 10^{-9} C
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14. Two capacitors of 4 μF and 6 μF are connected in series. Their equivalent capacitance is:

- (A) 10 μF
 - (B) 5 μF
 - (C) 2.4 μF
 - (D) 1.6 μF
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15. In the Bohr model of hydrogen atom, the angular momentum of the electron is:

- (A) Quantized as multiples of h
 - (B) Continuous
 - (C) Quantized as multiples of $\frac{h}{2\pi}$
 - (D) Equal to zero
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16. Which of the following statements is true regarding static friction?

- (A) It always equals the maximum static friction.
 - (B) It is always less than kinetic friction.
 - (C) It adjusts up to a maximum value to prevent motion.
 - (D) It acts only when the body is moving.
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