## **CUET 2025 June 2 Physics Question Paper**

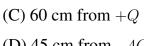
**Time Allowed :**1 Hours | **Maximum Marks :**250 | **Total questions :**50

## **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

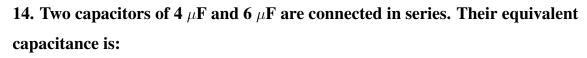
- (D) 45 cm from -4Q
- 2. A disc of mass M and radius R is rolling without slipping with linear velocity v. What is its total kinetic energy?
- (A)  $\frac{1}{2}Mv^2$
- (B)  $\frac{3}{4}Mv^2$
- (C)  $\frac{1}{4}Mv^2$
- (D)  $\frac{5}{6}Mv^2$
- 3. A block is resting on a rough horizontal surface. A force 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
- 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	
5. A 10-ohm resistor carries a current	nt of 2 A. What is the power dissipated?
(A) 5 W	
(B) 10 W	
(C) 20 W	
(D) 40 W	
6. A wave travels along a string with	a frequency of 50 Hz and wavelength of 2 m. Wha
is its speed?	
(A) 25 m/s	
(B) 50 m/s	
(C) 100 m/s	
(D) 200 m/s	
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	

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
- 9. A body of mass 2 kg is raised to a height of 5 m. What is the potential energy gained? (Take  $q = 10 \,\text{m/s}^2$ )
- (A) 10 J
- (B) 50 J
- (C) 100 J
- (D) 150 J
- 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
- 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	
12. What is the amoun	t of heat required to raise the temperature of 100 g of water from
30°C to 80°C? (Specific	c heat of water = $4.2 \text{ J/g}^{\circ}\text{C}$
(A) 2,100 J	
(B) 12,600 J	
(C) 21,000 J	
(D) 42,000 J	
13. Two like charges a	re placed 1 m apart in air. If the force between them is 9 N, and
_	t is the other charge? (Use $k = 9 \times 10^9 \mathrm{Nm}^2/\mathrm{C}^2$ )
(A) 1 C	
(B) 0.1 C	
(C) 0.01 C	
(D) $10^{-9}$ C	



- (A) 10  $\mu F$
- (B) 5  $\mu F$
- (C) 2.4  $\mu$ F
- (D)  $1.6 \mu F$

15.	In	the Bol	hr model	l of hydro	gen atom.	the angular	momentum	of the	electron	is:
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- (A) Quantized as multiples of h
- (B) Continuous
- (C) Quantized as multiples of  $\frac{h}{2\pi}$
- (D) Equal to zero

## 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.