

BCECE 2026 May 30 (Physics)

Question Paper (Memory-Based) PDF

Conducted by Bihar Combined Entrance Competitive Examination Board (BCECEB)



General Instructions

- (i) The question paper will consist of 100 Multiple Choice Questions (MCQs).
- (ii) The duration of the Physics examination will be 1 hour 30 minutes (90 minutes).
- (iii) The examination will be conducted in offline (pen-and-paper/OMR-based) mode.
- (iv) For every correct answer, 4 marks will be awarded and for every incorrect answer, 1 mark will be deducted as negative marking.

1. A body moves from rest with a uniform acceleration of 4 m/s^2 . The distance covered by it in the 5th second of its motion is:

- (A) 16 m
- (B) 18 m
- (C) 20 m
- (D) 22 m

2. A projectile is thrown with a speed of 40 m/s at an angle of 60° with the horizontal. Its radius of curvature at the highest point of its trajectory is ($g = 10 \text{ m/s}^2$):

- (A) 40 m
- (B) 20 m
- (C) 80 m
- (D) 10 m

3. A particle of mass 0.5 kg undergoes a collision where its velocity changes from $4\hat{i} \text{ m/s}$ to

$-3\hat{j}$ m/s. The magnitude of impulse imparted to the particle is:

- (A) 2.5 N s
 - (B) 3.5 N s
 - (C) 1.5 N s
 - (D) 5.0 N s
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4. A uniform metal chain of length 2 m and mass 4 kg is lying on a horizontal table with 30% of its length hanging down over the edge. The work done in pulling the hanging part back onto the table is ($g = 10 \text{ m/s}^2$):

- (A) 3.6 J
 - (B) 1.8 J
 - (C) 7.2 J
 - (D) 5.4 J
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5. A bullet of mass 10 g moving horizontally with a velocity of 400 m/s strikes a wooden block of mass 3.99 kg suspended by a long string and gets embedded in it. The vertical height to which the block rises is ($g = 10 \text{ m/s}^2$):

- (A) 0.2 m
 - (B) 0.1 m
 - (C) 0.05 m
 - (D) 0.4 m
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6. A solid sphere of mass 10 kg and radius 0.2 m is rolling without slipping on a horizontal floor with a velocity of 5 m/s. Its total kinetic energy is:

- (A) 125 J
 - (B) 175 J
 - (C) 250 J
 - (D) 150 J
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7. A satellite is orbiting extremely close to the surface of a planet of average density ρ . The time period of revolution of the satellite depends only on ρ as:

- (A) Proportional to $\sqrt{\rho}$
 - (B) Inversely proportional to $\sqrt{\rho}$
 - (C) Proportional to ρ
 - (D) Inversely proportional to ρ
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8. Four point masses each of mass m are placed at the four corners of a square of side length a . The gravitational potential at the center of the square is:

- (A) $-4Gm/a$
 - (B) $-4\sqrt{2}Gm/a$
 - (C) $-2\sqrt{2}Gm/a$
 - (D) Zero
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9. Two wires of same material have lengths in the ratio 1 : 2 and diameters in the ratio 2 : 1. If they are stretched by the same load force, the ratio of their extensions ($\Delta l_1 : \Delta l_2$) is:

- (A) 1 : 4
 - (B) 1 : 8
 - (C) 1 : 2
 - (D) 4 : 1
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10. A sphere of mass M and radius R falls through a glycerin column and attains a terminal velocity v_1 . Another sphere of same material but radius $3R$ falls through it. Its terminal velocity v_2 is:

- (A) $3v_1$
- (B) $9v_1$
- (C) $27v_1$
- (D) $v_1/3$

