

KEAM 2026 Engineering April 20

Question Paper

Conducted by CEE Kerala



General Instructions

- (i) **Duration:** The total duration of the examination is 3 hours (180 minutes).
- (ii) **Total Marks:** The complete paper carries a maximum of 600 marks.
- (iii) **Structure:** The paper has 3 Sections:
 - **Section A:** 45 Multiple Choice Questions (Physics).
 - **Section B:** 30 Multiple Choice Questions (Chemistry).
 - **Section B:** 75 Multiple Choice Questions (Mathematics).
- (iv) **Compulsory Questions:** All 150 questions are compulsory.
- (v) Each question has four options. Only **one** option is correct.
- (vi) **Correct Answer:** +4 marks.
- (vii) **Incorrect Answer:** -1 (Negative marking).
- (viii) **Unanswered/Marked for Review:** 0 marks.

PHYSICS

1. The slope of the tangent drawn on a position-time graph at any instant is equal to the instantaneous ____.

- (a) acceleration
- (b) force
- (c) velocity

- (d) momentum
 - (e) impulse
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2. The dimensions for the gravitational constant G are ____.

- (a) $M^{-1}L^2T^{-2}$
 - (b) $M^0L^0T^0$
 - (c) MT^{-2}
 - (d) ML^2T^{-2}
 - (e) $M^{-1}L^3T^{-2}$
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3. The de Broglie wavelength associated with an electron accelerated by a potential of 64 V is ____.

- (a) 1.227 nm
 - (b) 0.613 nm
 - (c) 0.302 nm
 - (d) 0.153 nm
 - (e) 2.454 nm
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4. The horizontal range of a projectile is maximum when the angle of projection is ____.

- (a) 0°
 - (b) 30°
 - (c) 45°
 - (d) 60°
 - (e) 90°
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5. The graph between displacement and time for a particle moving with uniform acceleration is a ____.

- (a) straight line with a positive slope

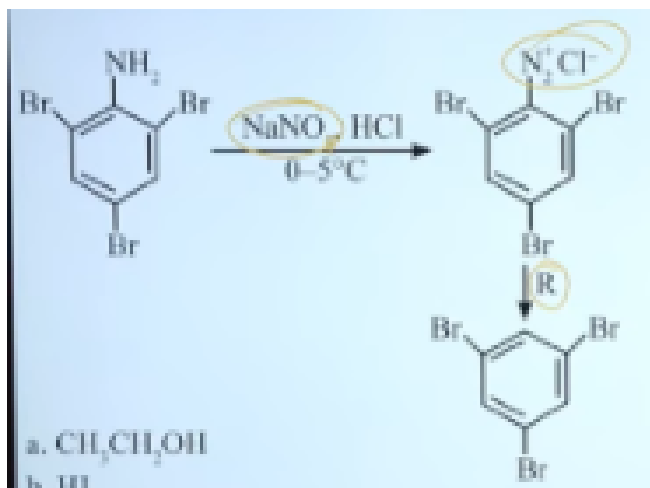
- (b) parabola
 - (c) ellipse
 - (d) straight line parallel to time axis
 - (e) straight line perpendicular to time axis
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CHEMISTRY

1. Zr ($Z = 40$) and Hf ($Z = 72$) have similar atomic and ionic radii because of:

- (a) Diagonal relationship
 - (b) Lanthanoid contraction
 - (c) Having similar chemical properties
 - (d) Belonging to same group
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2. The reagent 'R' in the given sequence of chemical reaction is:

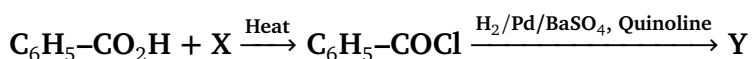


- (a) $\text{CH}_3\text{CH}_2\text{OH}$
 - (b) HI
 - (c) CuCN/KCN
 - (d) H_2O
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3. Reaction of butanone with methylmagnesium bromide followed by hydrolysis gives:

- (a) 2-methyl-2-butanol
 - (b) 2-butanol
 - (c) 3-methyl-2-butanol
 - (d) 2,2-dimethyl-1-butanol
 - (e) 2-pentanol
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4. X and Y in the below reaction are _____ and _____ respectively



- (a) SOCl_2 and $\text{C}_6\text{H}_5\text{CHO}$
 - (b) $(\text{COCl})_2$ and $\text{C}_6\text{H}_5\text{CH}_3$
 - (c) SOCl_2 and $\text{C}_6\text{H}_5\text{CH}_3$
 - (d) $(\text{COCl})_2$ and $\text{C}_6\text{H}_5\text{CH}_2\text{OH}$
 - (e) SOCl_2 and $\text{C}_6\text{H}_5\text{CH}_2\text{Cl}$
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5. The correct increasing order of the acid strength of benzoic acid (I), 4-nitrobenzoic acid (II), 3,4-dinitrobenzoic acid (III) and 4-methoxybenzoic acid (IV) is

- (a) $\text{I} < \text{II} < \text{III} < \text{IV}$
 - (b) $\text{II} < \text{I} < \text{IV} < \text{III}$
 - (c) $\text{IV} < \text{I} < \text{II} < \text{III}$
 - (d) $\text{IV} < \text{II} < \text{I} < \text{III}$
 - (e) $\text{I} < \text{IV} < \text{II} < \text{III}$
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MATHEMATICS

1. The value of the integral $\int_0^\pi \frac{\cos x}{1+\sin^2 x} dx$ is

- (a) 0

- (b) 1
 - (c) $\frac{\pi}{2}$
 - (d) π
 - (e) 2π
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2. The value of k , if the circles $2x^2 + 2y^2 - 4x + 6y = 3$ and $x^2 + y^2 + kx + y = 0$ cut orthogonally is

- (a) 2
 - (b) 3
 - (c) 4
 - (d) 5
 - (e) 1
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3. The axis of the parabola $x^2 + 6x + 4y + 5 = 0$ is

- (a) $x = 0$
 - (b) $y = 1$
 - (c) $x + 3 = 0$
 - (d) $y = 4$
 - (e) $y + 2 = 0$
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4. The distance between the foci of the ellipse $\frac{(x+2)^2}{9} + \frac{(y-1)^2}{4} = 1$ is

- (a) $\sqrt{5}$
 - (b) $2\sqrt{5}$
 - (c) $3\sqrt{5}$
 - (d) $9\sqrt{5}$
 - (e) $7\sqrt{5}$
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5. The circle passing through the point $(1, -2)$ and touching the x -axis at $(3,0)$ also passes through the point

- (a) $(2, -5)$
 - (b) $(-5, -2)$
 - (c) $(-2, 5)$
 - (d) $(-5, 2)$
 - (e) $(5, -2)$
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