

KEAM 2026 Engineering April 18

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 acceleration of a moving body is found from the:

- (A) area under velocity-time graph
- (B) area under displacement-time graph
- (C) slope of distance-time graph
- (D) slope of velocity-time graph

(E) area under acceleration-time graph

2. The time period of an earth's satellite revolving at a height of 35,800 km is

- (A) 24 hours
 - (B) 100 minutes
 - (C) 12 hours
 - (D) 48 hours
 - (E) 52 hours
-

3. For most of the materials, Young's modulus (Y) and rigidity modulus (G) are related as

- (A) $G = 3Y$
 - (B) $G = \frac{Y}{3}$
 - (C) $G = \frac{3}{2}Y$
 - (D) $G = \frac{Y}{8}$
 - (E) $10G = 3Y$
-

4. The pressure on an object of bulk modulus B undergoing hydraulic compression due to a stress exerted by surrounding fluid having volume strain $\frac{\Delta V}{V}$ is:

- (A) $B^2 \left(\frac{\Delta V}{V} \right)$
 - (B) $B \left(\frac{\Delta V}{V} \right)^2$
 - (C) $\frac{1}{B} \left(\frac{\Delta V}{V} \right)$
 - (D) $\frac{1}{B^2} \left(\frac{\Delta V}{V} \right)$
 - (E) $B \left(\frac{\Delta V}{V} \right)$
-

5. When the displacement of a particle executing simple harmonic motion is half its amplitude, the ratio of its kinetic energy to potential energy is:

- (A) 1 : 3
 - (B) 2 : 1
 - (C) 3 : 1
 - (D) 1 : 2
 - (E) 2 : 3
-

6. When a magnetic field is applied on a stationary electron, it

- (A) remains stationary
 - (B) spins about its own axis
 - (C) moves in the direction of the field
 - (D) moves perpendicular to the direction of the field
 - (E) moves opposite to the direction of the field
-

7. The resistors $R_1 = 3\Omega$ and $R_2 = 1\Omega$ are connected in parallel to a 20 V battery. Find the heat developed in the resistor R_1 in one minute.

- (A) 600 J
 - (B) 800 J
 - (C) 6000 J
 - (D) 8000 J
 - (E) 7000 J
-

CHEMISTRY

8. Among the following, the molecule that will have the highest dipole moment is:

- (A) H_2

- (B) HI
 - (C) HBr
 - (D) HCl
 - (E) HF
-

9. An odd electron molecule among the following is (2015)

- (A) CO
 - (B) SO₂
 - (C) CO₂
 - (D) NO
 - (E) O₂
-

10. Which one of the following is the correct relation between C_p and C_v for one mole of an ideal gas? (R is molar gas constant)

- (A) $C_p = C_v - R$
 - (B) $C_p = C_v + R$
 - (C) $C_p = R - C_v$
 - (D) $C_p = C_v \times R$
 - (E) $C_p = C_v / R$
-

11. Which of the following is a Lewis acid?

- (A) HCl
- (B) HO⁻
- (C) H₂O
- (D) Co³⁺
- (E) NH₃

12. The average oxidation state of sulphur in the tetrathionate ion is:

- (A) +3
- (B) +2.5
- (C) +5
- (D) +3.5
- (E) +1.5

13. Which of the following is an electron donating group?

- (A) NO_2
- (B) $-\text{CH}_3$
- (C) $-\text{COOH}$
- (D) $-\text{CN}$
- (E) $-\text{OC}_6\text{H}_5$

MATHS

14. If $ay = x + b$ is the equation of the line passing through the points $(-5, -2)$ and $(4, 7)$, then the value of $2a + b$ is equal to:

- (A) 1
- (B) 3
- (C) 5
- (D) -3
- (E) -1

15. The equation of perpendicular bisector of the line segment joining the points $(10, 0)$ and

(0, -4) is

- (A) $5x + 2y = 21$
 - (B) $5x + 2y = 0$
 - (C) $2x - 5y = 21$
 - (D) $5x - 2y = 21$
 - (E) $2x + 3y = 21$
-

16. The end-points of a diameter of a circle are (1,4) and (5,4). Then the equation of the circle is

- (A) $(x-3)^2 + y^2 = 9$
 - (B) $(x-3)^2 + (y+4)^2 = 3$
 - (C) $(x-2)^2 + (y-4)^2 = 9$
 - (D) $(x+3)^2 + (y+4)^2 = 9$
 - (E) $(x-3)^2 + (y-4)^2 = 4$
-

17. The foci of a hyperbola are (8,3) and (0,3) and eccentricity is $\frac{4}{3}$. Then the length of the transverse axis is:

- (A) $\frac{32}{3}$
 - (B) 4
 - (C) 8
 - (D) $\frac{8}{3}$
 - (E) 6
-

18. A set contains 9 elements. Then the number of subsets of the set which contains at most 4 elements is:

- (A) 32
- (B) 64

- (C) 128
 - (D) 256
 - (E) 512
-

19. If x^{22} is in the $(r + 1)^{\text{th}}$ term of the binomial expansion of $(3x^3 - x^2)^9$, then the value of r is equal to

- (A) 3
 - (B) 4
 - (C) 5
 - (D) 6
 - (E) 7
-