

TS EAMCET 2025 April 29 Shift 1 Question Paper

Time Allowed :3 Hours	Maximum Marks : 160	Total Questions :160
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General Instructions

Read the following instructions very carefully and strictly follow them:

1. This question paper comprises 160 questions.
2. The Paper is divided into three parts- Biology, Physics and Chemistry.
3. There are 40 questions in Physics, 40 questions in Chemistry and 80 questions in Biology.
4. For each correct response, candidates are awarded 1 marks.

1. A body moves along the sides of an equilateral triangle of side 20 cm and comes back to the initial point after one round. Then the distance and displacement of the body respectively are

- (A) 60 cm, 0 cm
 - (B) 60 cm, 20 cm
 - (C) 20 cm, 60 cm
 - (D) 20 cm, 0 cm
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2. In a photoelectric experiment the incident photons have frequency $\frac{3}{2}\nu$, where ν is the threshold frequency of the material. What is the kinetic energy of the emitted electrons?

- (A) $\frac{h\nu}{2}$
 - (B) $h\nu$
 - (C) $\frac{3h\nu}{2}$
 - (D) $2h\nu$
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3. A straight wire carrying current I is lying along the axis of a circular loop carrying current I . The force on this wire due to the circular loop is proportional to (Assume the axis of the circular loop is perpendicular to the plane of the loop).

- (A) I^2
 - (B) I
 - (C) $\frac{1}{r^2}$
 - (D) $\frac{1}{r^3}$
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4. A point charge of 3.0 C is at the center of a cubic Gaussian surface of radius 10 cm. What is the net electric flux through the surface?

- (A) $1.0 \times 10^3 \text{ N}\cdot\text{m}^2/\text{C}$
- (B) $3.0 \times 10^3 \text{ N}\cdot\text{m}^2/\text{C}$
- (C) $1.0 \times 10^4 \text{ N}\cdot\text{m}^2/\text{C}$
- (D) $3.0 \times 10^4 \text{ N}\cdot\text{m}^2/\text{C}$

5. A drop of radius R breaks into n equal drops. What is the ratio of total final surface energy to initial surface energy?

6. A rod has length L . The linear mass density is $2x$ kg/m, where x is the distance from the left end. The center of mass of the rod from the left end lies at a distance of

- (A) $\frac{L}{2}$
 - (B) $\frac{3L}{4}$
 - (C) $\frac{L}{3}$
 - (D) $\frac{L}{5}$
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7. The square of resultant of two equal forces is three times their product. The angle between the forces is?

- (A) 30°
 - (B) 60°
 - (C) 90°
 - (D) 120°
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8. A ball is projected vertically up with speed V_0 from a certain height H . When the ball reaches the ground, the speed is $3V_0$. The time taken by the ball to reach the ground and height H respectively are:

- (A) $\frac{V_0}{g}, \frac{V_0^2}{2g}$
 - (B) $\frac{V_0}{g}, \frac{3V_0^2}{2g}$
 - (C) $\frac{2V_0}{g}, \frac{V_0^2}{2g}$
 - (D) $\frac{3V_0}{g}, \frac{3V_0^2}{2g}$
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9. The length of minute hand in a clock is 4.5 cm. If the tip of the minute hand moves from 6 AM to 6:30 AM, the average velocity of the tip is:

- (A) 0 cm/s
- (B) $\frac{4.5\pi}{30}$ cm/s

(C) $\frac{9\pi}{30} \text{ cm/s}$

(D) $\frac{4.5}{30} \text{ cm/s}$
