

## JEE Main 2026 Predicted Question Paper

1. A 2 kg block on a frictionless surface is pulled with 10 N force. Acceleration?

Ans:  $a = F/m = 5\text{m/s}^2$

2. Find the kinetic energy of a 3 kg body moving at 4 m/s.

Ans:  $KE = 24\text{ J}$

3. Moment of inertia of a solid sphere about its diameter?

Ans:  $2 / 5 MR^2$

4. The escape velocity of Earth depends on?

Ans: Radius and mass of Earth

5. Force on a charge moving perpendicular to the magnetic field?

Ans:  $F = qvB$

6. Probability of getting a tail in a fair coin?

Ans:  $1 / 2$

7. If  $D < 0$  in quadratic equation, roots are:

Ans: Complex

8. What is the hybridisation of  $\text{NH}_3$ ?

Ans:  $sp^3$

9. Unit of rate constant for first order reaction?

Ans:  $s^{-1}$

10. A projectile is fired at an angle  $\theta$  with the horizontal. At the highest point, its speed is  $1/\sqrt{2}$  times its initial speed  $u$ . What is the horizontal range?

Ans: Range  $R = u^2 \sin(2\theta) / g = u^2 \sin 90^\circ / g = u^2 / g$

11. Distance between (1,1,1) & (2,2,2)?

Ans:  $\sqrt{2}$

12.  $\int e^x dx = ?$

Ans:  $e^x + C$

13. In the reaction:  $\text{CH}_3\text{COOH} + \text{C}_2\text{H}_5\text{OH} \rightarrow \text{CH}_3\text{COOC}_2\text{H}_5 + \text{H}_2\text{O}$ , the type of reaction is:

Ans: Esterification

14. Equation of a line through (1,2) with slope 3 is:

Ans:  $y = 3x - 1$

15. If  $\sin \theta = 3/5$  and  $\theta$  in QI,  $\cos \theta$  equals:

Ans:  $4/5$

16.  $d/dx (x^3)$  equals:

Ans:  $3x^2$

17. Number of real solutions of  $x|x+4| + 3|x+2| + 10 = 0$  is:

Ans: 1

18. The probability of drawing an ace from a 52-card deck is:

Ans:  $1/13$

19. If a  $10\ \Omega$  and a  $15\ \Omega$  resistor are connected in parallel with a  $20\ \text{V}$  source, the current through  $10\ \Omega$  is:

Ans:  $2\ \text{A}$

20. A box on a frictionless surface is pulled with  $12\ \text{N}$ . Its mass is  $3\ \text{kg}$ . The acceleration is:

Ans:  $4\ \text{m/s}^2$

