

MHT CET 2026 Mathematics Memory Based Question paper PDF

Chemistry

1. What is the coordination number of an atom in an FCC unit cell?

- (a) 6
- (b) 8
- (c) 12
- (d) 4

2. Identify the product when Phenol reacts with Bromine water.

- (a) *o*-Bromophenol
- (b) *m*-Bromophenol
- (c) 2,4,6-Tribromophenol
- (d) Bromobenzene

3. What is the oxidation state of Phosphorus in H_3PO_4 ?

- (a) +3
- (b) +5
- (c) +1
- (d) -3

4. Which gas is evolved when Sodium metal reacts with Ethanol?

- (a) Oxygen
- (b) Nitrogen
- (c) Hydrogen
- (d) Carbon dioxide

5. What is the SI unit of molar conductivity?

- (a) S cm^{-1}
- (b) $\text{S cm}^2 \text{ mol}^{-1}$
- (c) S mol^{-1}
- (d) S cm

Physics

6. What happens to the resistance of a wire if its radius is halved?
- (a) It becomes half
 - (b) It becomes double
 - (c) It increases 4 times
 - (d) It increases 16 times
7. What is the value of escape velocity on the Earth's surface?
- (a) 7.9 km/s
 - (b) 9.8 km/s
 - (c) 11.2 km/s
 - (d) 15 km/s
8. In an AC circuit, what is the power factor of a pure resistor?
- (a) 0
 - (b) 0.5
 - (c) 1
 - (d) -1
9. Name the phenomenon that proves the transverse nature of light.
- (a) Diffraction
 - (b) Interference
 - (c) Polarisation
 - (d) Reflection
10. What is the energy of a photon of frequency ν ?
- (a) $E = mc^2$
 - (b) $E = h\nu$
 - (c) $E = \frac{1}{2}mv^2$
 - (d) $E = \frac{h}{\nu}$

Mathematics

11. Evaluate:

$$\int \log x \, dx$$

- (a) $x \log x - x + C$
 - (b) $\log x + C$
 - (c) $x \log x + C$
 - (d) $\frac{\log x}{x} + C$
12. What is the value of $\sin^{-1}(1/2) + \cos^{-1}(1/2)$?
- (a) 0
 - (b) $\pi/4$

- (c) $\pi/2$
- (d) π

13. Find the slope of the normal to the curve $y = 2x^2 + 3 \sin x$ at $x = 0$.

- (a) 0
- (b) $-1/3$
- (c) $1/3$
- (d) 3

14. What is the order of the differential equation:

$$\frac{d^2y}{dx^2} + \left(\frac{dy}{dx}\right)^3 = 0$$

- (a) 1
- (b) 2
- (c) 3
- (d) 4

15. What is the probability of an impossible event?

- (a) 1
- (b) 0.5
- (c) 0
- (d) -1