

VITEEE 2025 Memory Based Question Paper PDF (April 22, 2025) (Shift 2)

1. An object of mass 5 kg is moving with a velocity of 10 m/s. What is its kinetic energy?

- (1) 250 J
 - (2) 500 J
 - (3) 100 J
 - (4) 50 J
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2. A parallel plate capacitor has a capacitance of $10\ \mu\text{F}$. What will be its capacitance when the distance between the plates is halved?

- (1) $20\ \mu\text{F}$
 - (2) $5\ \mu\text{F}$
 - (3) $10\ \mu\text{F}$
 - (4) $40\ \mu\text{F}$
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3. What is the wavelength of a sound wave with a frequency of 500 Hz in air (speed of sound $v = 343\ \text{m/s}$)?

- (1) 0.686 m
- (2) 1.2 m
- (3) 0.8 m
- (4) 1.0 m

4. A 10 kg object is moving with a velocity of 5 m/s. What is the momentum of the object?

- (1) 50 kg · m/s
 - (2) 5 kg · m/s
 - (3) 100 kg · m/s
 - (4) 25 kg · m/s
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5. A 5 kg mass is moving at a speed of 10 m/s. What is the kinetic energy of the mass?

- (1) 250 J
 - (2) 500 J
 - (3) 100 J
 - (4) 50 J
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6. A resistor of $10\ \Omega$ is connected in series with a 12 V battery. What is the current flowing through the resistor?

- (1) 0.5 A
 - (2) 1.2 A
 - (3) 0.8 A
 - (4) 2.5 A
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7. What is the molar mass of Na_2CO_3 ?

- (1) 106 g/mol
 - (2) 98 g/mol
 - (3) 116 g/mol
 - (4) 112 g/mol
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8. Which of the following compounds is formed by covalent bonding?

- (1) NaCl
- (2) H_2O
- (3) Na_2O

(4) KCl

9. What is the pH of a 0.001 M solution of NaOH?

(1) 11

(2) 13

(3) 10

(4) 12

10. Which of the following is the strongest oxidizing agent?

(1) Cl₂

(2) I₂

(3) Br₂

(4) F₂

11. What is the IUPAC name of the compound CH₃CH₂COOH?

(1) Ethanoic acid

(2) Propanoic acid

(3) Butanoic acid

(4) Acetic acid

12. Solve for x in the equation $3x + 5 = 2x + 7$.

(1) $x = 2$

(2) $x = -2$

(3) $x = 0$

(4) $x = 1$

13. Find the value of x in the quadratic equation $x^2 - 5x + 6 = 0$.

(1) $x = 2, 3$

(2) $x = -2, -3$

(3) $x = 1, 6$

(4) $x = -1, 6$

14. Find the sum of the roots of the quadratic equation $2x^2 - 3x - 5 = 0$.

- (1) $\frac{3}{2}$
 - (2) $\frac{5}{2}$
 - (3) $\frac{-5}{2}$
 - (4) $\frac{-3}{2}$
-

15. Find the value of x that satisfies the equation $\frac{3x-4}{2} = 5$.

- (1) $x = 3$
 - (2) $x = 4$
 - (3) $x = 2$
 - (4) $x = 5$
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