

VITEEE 2025 April 22 Shift 1 Question Paper with Solutions

Time Allowed :2 Hours 30 minutes

Maximum Marks :125

Total Questions :125

General Instructions

Read the following instructions very carefully and strictly follow them:

1. The test is of 2 hours and 30 minutes duration.
2. The question paper consists of 125 questions. The maximum marks are 200.
3. There are three parts in the question paper consisting of Physics, Chemistry, Biology/Mathematics, Aptitude and English e.

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

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) $40\ \mu\text{F}$

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

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

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

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

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) $x = 5$
