VITEEE 2025 April 22 Shift 1 Question Paper with Solutions

Time Allowed :2 Hours 30 minutes	**Maximum Marks :**125	**Total Questions :**125

> **General Instructions**
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> **Read the following instructions very carefully and strictly follow them:**
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> 1. The test is of 2 hours and 30 minutes duration.
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> 2. The question paper consists of 125 questions. The maximum marks are 200.
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> 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

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2. A parallel plate capacitor has a capacitance of $10\,\mu$F. What will be its capacitance when the distance between the plates is halved?

(1) $20\,\mu$F

(2) $5\,\mu$F

(3) $10\,\mu$F

(4) $40\,\mu$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 $v = 343\,$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 $\cdot$ m/s

(2) 5 kg $\cdot$ m/s

(3) 100 kg $\cdot$ m/s

(4) 25 kg $\cdot$ 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

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

(1) 11

(2) 13

(3) 10

(4) 12

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

(1) Cl_2

(2) I_2

(3) Br_2

(4) F_2

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11. What is the IUPAC name of the compound CH_3CH_2COOH?

(1) Ethanoic acid

(2) Propanoic acid

(3) Butanoic acid

(4) Acetic acid

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

(1) $x = 2$

(2) $x = -2$

(3) $x = 0$

(4) $x = 1$

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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) $x = -1, 6$

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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) $\frac{-3}{2}$

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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) $x = 5$