

VITEEE 2025 April 23 Shift 1 Question Paper

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. A body of mass 2 kg is moving with a velocity of 3 m/s. What is its kinetic energy?

- (1) 6 J
 - (2) 9 J
 - (3) 12 J
 - (4) 18 J
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2. A bulb rated 60 W operates for 2 hours. How much energy does it consume in this time?

- (1) 120 J
 - (2) 1200 J
 - (3) 720 J
 - (4) 4320 J
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3. What is the focal length of a lens if its power is +2 D?

- (1) 0.5 m
 - (2) 1.0 m
 - (3) 2.0 m
 - (4) 0.2 m
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4. A stone is dropped from a height of 45 m. What is the time taken for the stone to reach the ground?

- (1) 3 s
 - (2) 5 s
 - (3) 6 s
 - (4) 9 s
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5. A current of 2 A flows through a resistor for 10 minutes. What is the total charge that flows through the resistor?

- (1) 120 C
 - (2) 200 C
 - (3) 240 C
 - (4) 360 C
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6. A body of mass 10 kg is moving with a speed of 5 m/s. What is the momentum of the body?

- (1) 50 kg m/s
 - (2) 100 kg m/s
 - (3) 200 kg m/s
 - (4) 25 kg m/s
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7. The potential energy of a body at a height of 10 meters is 200 J. What is its mass? (Take $g = 10 \text{ m/s}^2$)

- (1) 2 kg
 - (2) 5 kg
 - (3) 10 kg
 - (4) 20 kg
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8. What is the resistance of a conductor if the potential difference across it is 12 V and the current flowing through it is 3 A?

- (1) 4 Ω

- (2) 6Ω
 - (3) 9Ω
 - (4) 12Ω
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9. A convex lens has a focal length of 10 cm. What is the magnification produced when the object is placed 30 cm from the lens?

- (1) 2
 - (2) 3
 - (3) 1.5
 - (4) 4
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10. What is the molar mass of NaCl?

- (1) 58 g/mol
 - (2) 60 g/mol
 - (3) 62 g/mol
 - (4) 56 g/mol
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11. Which of the following is an example of a redox reaction?

- (1) $\text{H}_2 + \text{Cl}_2 \rightarrow 2 \text{HCl}$
 - (2) $\text{NaCl} + \text{AgNO}_3 \rightarrow \text{NaNO}_3 + \text{AgCl}$
 - (3) $\text{C}_2\text{H}_5\text{OH} + 3 \text{O}_2 \rightarrow 2 \text{CO}_2 + 3 \text{H}_2\text{O}$
 - (4) $\text{H}_2 + \text{O}_2 \rightarrow 2 \text{H}_2\text{O}$
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12. What is the pH of a solution if the concentration of H^+ ions is $1 \times 10^{-5} \text{ mol/L}$?

- (1) 5
 - (2) 6
 - (3) 4
 - (4) 7
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13. What is the number of moles in 18 g of water (H_2O)?

- (1) 1 mol
- (2) 0.5 mol

- (3) 2 mol
 - (4) 0.25 mol
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14. Which of the following gases has the highest density at STP?

- (1) O₂
 - (2) N₂
 - (3) CO₂
 - (4) H₂
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15. Which of the following acids is a strong acid?

- (1) H₂SO₄
 - (2) CH₃COOH
 - (3) H₂CO₃
 - (4) HNO₃
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16. What is the pH of a solution with a H⁺ concentration of 1×10^{-3} mol/L?

- (1) 3
 - (2) 4
 - (3) 5
 - (4) 6
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17. Which of the following is an example of an exothermic reaction?

- (1) $\text{H}_2 + \text{Cl}_2 \rightarrow 2\text{HCl}$
 - (2) $\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3$
 - (3) $\text{C}_6\text{H}_6 + 15\text{O}_2 \rightarrow 6\text{CO}_2 + 3\text{H}_2\text{O}$
 - (4) $\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3$
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18. What is the molar volume of an ideal gas at standard temperature and pressure (STP)?

- (1) 22.4 L/mol
- (2) 1 L/mol
- (3) 24 L/mol

(4) 12 L/mol

19. Which of the following is a characteristic property of acids?

- (1) They turn blue litmus paper red.
 - (2) They turn red litmus paper blue.
 - (3) They are slippery to touch.
 - (4) They have a bitter taste.
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20. Find the value of x in the equation $2x + 3 = 7x - 8$.

- (1) $x = 1$
 - (2) $x = 2$
 - (3) $x = 3$
 - (4) $x = 4$
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21. The sum of the first 10 terms of an arithmetic progression is 150. If the first term is 10, what is the common difference?

- (1) 5
 - (2) 3
 - (3) 4
 - (4) 2
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22. What is the area of a triangle with base 8 cm and height 6 cm?

- (1) 24 cm^2
 - (2) 30 cm^2
 - (3) 36 cm^2
 - (4) 48 cm^2
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23. Solve for x in the equation $\frac{1}{x} + \frac{1}{x+2} = \frac{5}{6}$.

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

24. Find the solution of the quadratic equation $2x^2 - 3x - 5 = 0$.

- (1) $x = 1, x = -2$
 - (2) $x = -1, x = 2$
 - (3) $x = \frac{5}{2}, x = -1$
 - (4) $x = \frac{-5}{2}, x = 1$
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25. The ratio of the sum of two numbers to their difference is 5:1. If the sum of the numbers is 18, find the numbers.

- (1) 12, 6
 - (2) 10, 8
 - (3) 9, 9
 - (4) 14, 4
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26. Coding Decoding: If in a certain code language, "APPLE" is written as "BQQMF", how would "MANGO" be written in the same code?

- (1) NBPHP
 - (2) NBQHP
 - (3) NCPHQ
 - (4) MBOHP
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27. Data Interpretation: The following table shows the number of students in five different colleges. Answer the questions based on the data.

College	Number of Students
A	1000
B	1500
C	1200
D	1300
E	900

Question: What is the average number of students in all five colleges?

- (1) 1200
 - (2) 1000
 - (3) 1100
 - (4) 1300
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28. Clock Calendars: If today is Monday, what day of the week will it be after 100 days?

- (1) Thursday
 - (2) Wednesday
 - (3) Tuesday
 - (4) Friday
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29. Simple Arithmetic: What is the value of 15% of 120?

- (1) 12
 - (2) 18
 - (3) 24
 - (4) 15
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30. Poetic Devices: Identify the poetic device used in the following line: "*The wind whispered through the trees.*"

- (1) Simile
 - (2) Personification
 - (3) Alliteration
 - (4) Metaphor
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31. Synonyms/Antonyms: What is the synonym of the word "Eloquent"?

- (1) Simple
 - (2) Unclear
 - (3) Articulate
 - (4) Shy
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32. Idioms/Proverbs: Which of the following idioms means "to do something in a very energetic or enthusiastic manner"?

- (1) To burn the midnight oil
 - (2) To break the ice
 - (3) To go the extra mile
 - (4) To hit the nail on the head
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