VITEEE 2025 Memory Based Question Paper PDF (April 24, 2025) (Shift 1)

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) 1200 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) 6 Ω

(3) 9 Ω

(4) 12 Ω

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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) 1.5

(3) 1

(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) $H_2 + Cl_2 \rightarrow 2HCl$

(2) $NaCl + AgNO_3 \rightarrow NaNO_3 + AgCl$

(3) $C_2H_5OH + O_2 \rightarrow 2H_2O$

(4) $H_2 + O_2 \rightarrow 2H_2O$

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12. What is the pH of a solution if the concentration of H^+ ions is 1×10^{-5} 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) O_2

(2) N_2

(3) CO_2

(4) H_2

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15. Which of the following acids is a strong acid?

(1) H_2SO_4

(2) CH_3COOH

(3) H_2CO_3

(4) HNO_3

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. 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

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18. 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 have a bitter taste.

(4) They are slippery to touch.

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19. 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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20. In a code language, 'TIGER' is written as 'JUISF'. How will 'EQUAL' be written in that language?

(1) RFXMB

(2) RFXMB

(3) RFXMB

(4) RXMBF

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21. Images of consonants of the capital English alphabets are observed in a mirror. What is the number of images of these which look like their original shapes?

(1) 11

(2) 9

(3) 7

(4) 5

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22. TUV : VYB :: PRA : ?

(1) PRS

(2) RVG

(3) QVR

(4) RVO

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23. A is the brother of R. C is the mother of B. M is the sister of C. How is M related to B?

(1) Nephew

(2) Niece

(3) Aunt

(4) Cannot be determined

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24. How is P related to R? Statements:

I. Q is the son of R.

II. Q is the brother of P.

(A) If Statement I, alone is sufficient to answer the question. (B) If Statement II, alone is sufficient to answer the question. (C) If Statements I and II together are needed to answer the question. (D) If Statements I and II together are not sufficient to answer the question.

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25. Find the value of x in the equation $5x - 7 = 3x + 9$.

(1) $x = 8$

(2) $x = 6$

(3) $x = 5$

(4) $x = 4$

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26. Images of vowels of the capital English alphabets are observed in a mirror. What is the number of images of these vowels that look like their original shapes?

(1) 3

(2) 4

(3) 5

(4) 2

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27. MNO : PQR :: XYZ : ?

(1) YZ

(2) ZY

(3) ZXA

(4) ABC

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28. Find the value of x in the equation $4x - 2 = 10$.

(1) $x = 3$

(2) $x = 2$

(3) $x = 4$

(4) $x = 5$

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29. How many numbers between 0 and 9 look the same when observed in a mirror?

(1) 4

(2) 3

(3) 6

(4) 5

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30. Find the odd one out from the following series: 5, 10, 20, 40, 100, 150, 200

(1) 10

(2) 40

(3) 100

(4) 150
