VITEEE 2025 April 23 Shift 2 Question Paper

Time Allowed :1 Hour	**Maximum Marks :**100	**Total Questions :**50

General Instructions

Read the following instructions very carefully and strictly follow them:

The test is of 2 hours and 30 minutes duration.

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

1. Statement: All Mangoes are Apples.

Conclusions: 1. Some Apples are Mangoes.

2. All Apples are Mangoes.

3. Some Mangoes are Apples.

4. Some Apples are not Mangoes.

(A) Only 1 follow.

(B) Only 2 follow.

(C) Only 1 and 3 follow.

(D) None Follow.

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2. Statement: Some dogs are cats.

Conclusions: 1. Some cats are dogs.

2. All cats are dogs.

3. All dogs are cats.

4. No dogs are cats.

(A) Only 1 follow.

(B) Only 2 follow.

(C) Only 1 and 3 follow.

(D) None Follows.

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3. Statement: No book is copy.

Conclusions: 1. No copy is book.

2. Some copies are not books.

3. All books are not copies.

4. All books are copies.

(A) Only 1 follow.

(B) Only 2 follow.

(C) Only 1, 2, and 3 follow.

(D) None Follows.

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

(A) RFXMB

(B) RFWMB

(C) RXMBF

(D) RFWBE

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5. 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?

(A) 11

(B) 9

(C) 7

(D) 5

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6. TUV : VYB :: PRA : ?

(A) PRS

(B) RVG

(C) QVR

(D) RVO

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

(A) Nephew

(B) Niece

(C) Aunt

(D) Cannot be determined

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8. 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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9. Select the number from among the given options that can replace the question mark (?) in the following series: 3, 10, 24, ?, 73, 108

(A) 37

(B) 45

(C) 52

(D) 32

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10. From the given options, choose the correct one that will replace the question mark (?) in the following series: 2, 0, 3, 2, 4, 6, 5, 12, 6, ?, 7, 30

(A) 6

(B) 20

(C) 7

(D) 16

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11. When the time is 8:30, the angle between the minute hand and the hour hand of a clock is:

(A) 75°

(B) 105°

(C) 180°

(D) 255°

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12. A car is moving along a straight road with a constant velocity of 20 m/s. The driver applies the brakes, and the car decelerates at a constant rate of $4\,\text{m/s}^2$. How much time will it take for the car to come to rest?

(1) 5 seconds

(2) 10 seconds

(3) 4 seconds

(4) 2 seconds

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13. A ball is thrown vertically upwards with a speed of 20 m/s. What is the maximum height reached by the ball? Assume the acceleration due to gravity is $g = 9.8$ m/s^2.

(1) 20.4 m

(2) 40.8 m

(3) 10.2 m

(4) 50.4 m

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14. A projectile is fired at an angle of 30° with an initial velocity of 40 m/s. What is the range of the projectile? Assume $g = 9.8$ m/s^2.

(1) 160 m

(2) 120 m

(3) 80 m

(4) 100 m

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15. What is the pH of a solution of 0.01 M HCl?

(1) 1

(2) 2

(3) 4

(4) 0

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16. What is the molecular weight of $CaCO_3$?

(1) 100 g/mol

(2) 150 g/mol

(3) 120 g/mol

(4) 200 g/mol

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17. Which of the following gases will have the highest rate of diffusion at the same temperature and pressure?

(1) H_2

(2) O_2

(3) N_2

(4) CO_2

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18. What is the oxidation state of sulfur in H_2SO_4?

(1) $+4$

(2) $+6$

(3) 0

(4) -2

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19. What volume of 0.5 M NaOH is required to neutralize 50 mL of 1 M HCl?

(1) 50 mL

(2) 100 mL

(3) 200 mL

(4) 25 mL

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20. Solve the quadratic equation:

$$x^2 - 5x + 6 = 0$$

(1) $x = 1, 6$

(2) $x = -1, -6$

(3) $x = 2, 3$

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

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21. Find the value of x in the following equation:

$$\frac{2}{x} + \frac{3}{x+1} = 1$$

(1) $x = -1$

(2) $x = 1$

(3) $x = -2$

(4) $x = 2$

22. Find the derivative of the function:

$$f(x) = 3x^3 - 5x^2 + 2x - 4$$

(1) $9x^2 - 10x + 2$

(2) $9x^2 - 10x + 1$

(3) $3x^2 - 5x + 2$

(4) $9x^2 - 5x + 2$