Instructions

Answer all questions.
Section A: Q No. 1 to 8 are of multiple Choice type and carry 1 mark each.
Section B: Q No. 9 to 14 are short answer type and carry 2 marks each.
Section C: Q No. 15 to 22 are short answer type and carry 3 marks each.
Section D: Q No. 23 to 26 are long answer type and carry 4 marks each.

Section A

1. If $\triangle ART \cong \triangle PEN$, then RT = _____ and $\angle A =$ _________
   (a) EN, $\angle P$  (b) $\angle P$, EN  (c) PE, $\angle T$  (d) PN, $\angle N$

2. Which of the following English alphabet has reflectional symmetry about a vertical mirror?
   (a) B  (b) D  (c) V  (d) E

3. The ratio of 3 km to 300 m is
   (a) 1 : 10  (b) 10 : 1  (c) 3 : 100  (d) 100 : 3

4. The product of a rational number with its reciprocal is always
   (a) 0  (b) infinite  (c) 1  (d) None

5. Which of the following is a binomial?
   (a) $3x^2y$  (b) $2 + x$  (c) $5x + 6y - 3$  (d) $7mn$

6. In $\triangle ABC$, height AD = 3 cm. Its area is 9 cm$^2$.
   Then, its base BC is
   (a) 6 cm.  (b) 9 cm.  (c) 12 cm.  (d) 3 cm.

7. The value of $(3^0 + 2^0) \times 5^0$ is
   (a) 1  (b) 25  (c) 0  (d) 2

8. When a ball is cut horizontally, its cross section is a _______.
   (a) Square  (b) Rectangle  (c) Circle  (d) Triangle
Section B

9. Express 1000 as product of powers of its prime factors.

10. Find the whole quantity, if 40% of it is 500km.

11. Find the value of: —— ——

12. Draw 2 plane figures with more than one line of symmetry.

13. Find the Simple Interest on Rs.5000 for 3 years at the rate of 10% per annum.

(Or)

The cost price of a bag is Rs. 350. It is sold for a profit of Rs. 35. Find the profit percent.

14. Draw an oblique sketch of a cuboid.

Section C

15. In figure given PQ = PR and PS is the bisector of ∠QPR.

(i) State three pairs of equal parts in Triangles PSQ and PSR

(ii) Is PSQ PSR

16. The perimeter of a rectangular sheet is 100 cm. If the length is 35cm, find its breadth.
   Also find its area.

17. Arrange the following rational numbers in ascending order: —— , —— , ——

18. A gardener wants to fence a circular garden of diameter 21m. Find the length of the wire he needs to purchase and cost of it at the rate of Rs.4 per metre.
   (Or)

Amit runs around a rectangular park which is 120m long and 80 m wide. Find the distance he covers in 3 rounds.

19. Simplify the expression 2(a² + ab) – ab and find its value if a = 5 and b = 2.

20. Simplify: —— ————.
21. Write the Order of Rotation and angle of symmetry of (a) Square (b) Rectangle and (c) Equilateral Triangle.

22. Draw the Top, Side and Front view of the solid:

![Diagram of a solid with top, side, and front views]

Section D

23. Explain why ABCED?

24. Selling price of a toy car is Rs. 480. If the profit made by shopkeeper is 20%, what is its cost price?

(Or)

The population of a city decreased from 25,000 to 24,500. Find the percentage of decrease.

25. A rectangular park is 45m long and 30m wide. A 2.5m wide path is constructed outside the park. Find the area of the path.

26. From the sum of $4 + 3x$ and $5 - 4x + 2x^2$, subtract the sum of $3x^2 - 5x$ and $-x^2 + 2x + 5$

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