Seat No.: | | | | | | | |

Vasishtha Model Test Paper - 2025

(12)(E)

Standard Maths Paper - 2

Shree Vasishtha Vidhyalaya - Vav — Piyush Sojitra

[Time: 3 Hour] *[Marks: 80]*

- **Instructions:**
  1) Write in a clear legible handwriting.
  2) This question paper has four Sections A, B, C & D and Question Numbers from 1 to 54
  3) All Sections are compulsory. General options are given.
  4) The numbers to the right represent the marks of the question.
  5) Draw neat diagrams wherever necessary.
  6) New sections should be written in a new page. Write the answers in numerical order.
  7) Calculator and smart watch are not allowed.

SECTION -A

- **Answer the following questions as required(Que. 1 to 24) (1 mark each)** **(24)**
- **Choose the right option So that the statement become true (Que. No. 1 to 6)** **(06)**

1. HCF of 17, 23 and 29 is_____
   (A) 1 (B) 2 (C) 3 (D) 4
2. What do we get if the graph of $y = \alpha x^2 + bx + c$ gives anupward open curve ?
   (A) $a < 0$ (B) $a = 0$ (C) $a > 0$ (D) $a \neq 0$
3. The lines for the pair of equations $2x+3y-9=0$ and $4x+6y-18=0$ are _____.
   (A) intersection (B) coincident (C) Parallel (D) None of above
4. _____is quadratic equation.
   (A) $x+\frac{1}{x}=3$ (B) $x^2-4=\frac{1}{x}$ (C) $x^2+3\sqrt{x}-2=0$ (D) $x^2+2y-1=0$
5. If $2k+1$, 13 and $5k-3$ are consecutive terms of an AP, then $k =$_____
   (A) 9 (B) 4 (C) 17 (D) 13
6. All _____ are similar.
   (A) Circle (B) Rectangle (C) Triangle (D) None of above

- **Choose the correct answers from the answer given in brackets and write the following statement as true: (Que. No. 7 to 12)** **[06]**

7. Co-ordinates of midpoint not line segment AB joining the points A (2a-b, b) and B (b. 2a-b) is _____ [(a,a),(a,b),(b,b)

8. $\sqrt{3}\tan 30° + \sqrt{2}\sin 45° =$ _____ (0,1,2)

9. A tangent PQ at a point P of a circle of radius 5 cm. meets a line through the center O and a point Q so that OQ = 12 cm. Length PQ= _____ ($\sqrt{119}$ cm, $\sqrt{13}$ cm, 13 cm)

10. _____ is the length of an arc. If the area of the sector of the circle is 150 cm and radius is 15 cm. take $\pi = 3.14$. [20, 40, 30]

11. If the ratio of the surface areas of two spheres is 1:2 then the ratio of their volumes is _____ ($2:\sqrt{2}, 1:2\sqrt{2}, 3:2\sqrt{2}$)

12. $Z\text{-}\bar{X} =$ _____ $X(M\text{-}\bar{X})$. (2,3,4]

- **State whether the following statements are true or false (Que. No, 13 to 16)** [04]

13. IF $P(A)=(0.9)^2$ then $P(\bar{A}) = (0.1)^2$.

14. $27x+63y=45$ and $63x+27y=135$ then $x+y=4$

15. If one of the root of the quadratic polynomial $x^2 - 4x + m = 0$ is 3 then $m=3$.

16. The distance of the point P(x,y) from the origin is $\sqrt{x^2-y^2}$

- **Answer the following questions in one sentence, word or numbers (Que. No. 17 to 20)** [04]

17. If the radius of a sphere is increased by 20% by what percentage will the volume of the sphere be increased ?

18. For any data, What is the sum of the deviations from the mean of each observation?

19. HCF (36,63)=9 is given, find out LCM.

20. If one root of $x^2-2x-m = 0$ is 5, what will be its second root?

- **Match following: (Que. No. 21 to 24)** (04)

A	B
21. Zeroes $-x + 5$	(a) 5, -5
22. Zeroes of $x^2 - 25$	(b) -5
	(c) 5

A	B
23. $-\cos^2 A - \sin^2 A$	(a) 1
24. $\sec^2 A - \tan^2 A$	(b) 0
	(c) -1