

Vasishtha Model Test Paper - 2025

(18)(E)

Basic Maths Paper - 1

Shree Vasishtha Vidhyalaya - Vav

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[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. If $17x + 23y = 40$ and $23x + 17y = 80$ then, $x + y =$ _____
(A) 120 (B) 40 (C) 3 (D) 80
2. A formula known as the quadratic formula for finding the solution of a quadratic _____ equation was given by a mathematician.
(A) Sridhar Acharya (B) Brahmagupta (C) Euclid (D) Pythagoras
3. For an A.P., $a_{10} =$ _____
(A) $a + 10d$ (B) $a + 11d$ (C) $a + 9d$ (D) $a - 9d$
4. Distance of point (a, b) from origin is _____.
(A) $\sqrt{a^2 - b^2}$ (B) $\sqrt{a^2 + b^2}$ (C) $a^2 - b^2$ (D) $a^2 + b^2$
5. $\sin^2 45^\circ =$ _____
(A) $\frac{1}{\sqrt{2}}$ (B) $\frac{1}{2}$ (C) $\frac{1}{4}$ (D) $\sqrt{2}$
6. For any information, if $\bar{X} = 15$ and $Z = 15$ then $M =$ _____
(A) 30 (B) 45 (C) 15 (D) 20

- Choose the correct answers from the answer given in brackets and write the following statement as true or false (Que. No. 7 to 12)

- H.C.F. of 17, 23 and 29 by applying the prime factorisation method are _____ [0, 1, 11339] (06)
- The graph of $p(x) = 3x + 5$ is a _____. [Ray, Line segment, Line]
- The probabilities of getting a 4 on a balanced die is _____ [$\frac{1}{4}$, $\frac{1}{6}$, $\frac{4}{6}$]
- As the value of θ increases, the value of $\cos \theta$ become _____ [increase, decrease, negative]
- A tangent to a circle touches _____ the circle in a point. [1, 2, 0]
- Mode - Mean = _____ (Median - Mean) [2, 3, 4]

- State whether the following statements are true or false (Que. No. 13 to 16)

- $(\sqrt{2} - \sqrt{3})(\sqrt{2} + \sqrt{3})$ is irrational [04]
- If $p(x) = x^2 - 7x + 10$, then the number of the zeros are 3
- The standard form of $\frac{x}{3} + \frac{y}{2} = -3$ is $x + y + 18 = 0$.
- The sum of the probabilities of all basic elementary events in the experiment is 0.

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

- Write a formula to find the n^{th} term of an APs. [04]
- The point common to the circle and its tangent is called ?
- What is the probability of the event that the sun rises in the east ?
- State the class length of class 65-75.

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

A	B
21. Total Surface Area of a hemisphere	(a) $\pi r^2 h$
22. The volume of a 10 rupee coin	(b) 10π
	(c) $3\pi r^2$

A	B
23. Area of minor sector	(a) $2\pi r$
24. Circumference of a circle	(b) $\frac{\pi r^2 \theta}{360}$
	(c) $\frac{\pi r^2 \theta}{180}$