

BOARD OF SECONDARY EDUCATION (TELANGANA)
SUMMATIVE ASSESSMENT – II
TENTH CLASS MATHEMATICS MODEL PAPER
PAPER – I (ENGLISH VERSION)

Time: 2 hrs. 45 mins.

PART – A & B

Maximum Marks: 40

INSTRUCTIONS:

- i) In the time duration of 2 hrs. 45 mins., 15 minutes of time is allotted to read and understand the question paper.
- ii) Answers the questions under PART – A in separate answer book.
- iii) Write the answers to the questions under PART – B on the question paper itself and attach it to the answer book of PART – A.

Time: 2 hrs.

PART – A

Marks: 35

INSTRUCTIONS:

- i) PART – A comprises of three Sections I, II, III.
- ii) All the questions are compulsory.
- iii) There is no overall choice. However, there is an internal choice to the questions under Section – III.

SECTION – I

INSTRUCTIONS:

- i) Answer ALL the questions.
 - ii) Each question carries ONE mark. $7 \times 1 = 7$
1. Expand $\log \frac{x^2 y^3}{z^5}$.
 2. 1 be the zero of quadratic polynomial $kx^2 - 5x + 7$ then find k.
 3. How do you say, $2x + 3y + 5 = 0$ & $x + 5y - 2 = 0$ pair of linear equations is intersecting lines?
 4. Write $A = \{3, 7, 12, 19, \dots\}$ in set builder form.
 5. Harika said that roots of a quadratic equation $x^2 - 5x + 25 = 0$. Justify.
 6. Write any two points lie in the X – axis.
 7. Write the formula of n^{th} term in Geometric progression and explain.

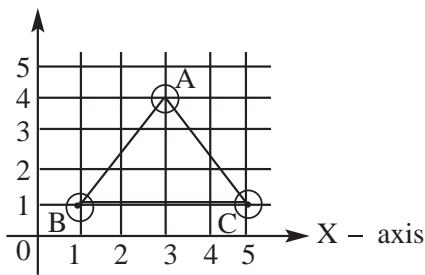
SECTION – II

INSTRUCTIONS:

- i) Answer ALL the questions.
 - ii) Each question carries TWO marks. $6 \times 2 = 12$
8. $P = \{x/x = n^2, n \in \mathbb{N}, n < 3\}$
 $Q = \{x/x = n^2 + 1, n \in \mathbb{N}, n < 3\}$ then, how do you say about P & Q?

9. Can we find the numbers, if two numbers LCM is 75 & HCF is 25? Justify.
10. Divide $2x^2 + 7x + 4$ with $(x - 1)$. Write the quotient.

11. Y - axis



Find the area of ΔABC .

12. Solve the quadratic equation $x^2 - 5x + 6 = 0$ by the method of completing the square.
13. In Arithmetic progression, the difference between 1 & 6th terms is 10. Then what is the common difference. Write the progression.

SECTION - III

INSTRUCTIONS:

- i) Answer ALL the questions.
- ii) Each question carries FOUR marks.
- iii) Each question has Internal Choice.

4 × 4 = 16

14. a) Find the zeros of a quadratic polynomial $x^2 + 2x - 3$ by using graph.

(OR)

b) By using graph, solve $2x - y = 5$ & $3x + 2y = 11$

15. a) Mid point of (1, 2) (3, 4) is A, Mid point of (2, 4) (4, 8) is B. Find the coordinates of line segment of AB internally with 2 : 3.

(OR)

b) Find the multiples of 3 in between 1 to 500. With this find their sum.

16. a) Verify that 1, -1 & 2 are the zeros of the cubic polynomial $p(x) = x^3 - 2x^2 - x + 2$ and then verify the relationship between the zeros and its coefficient.

(OR)

b) Prove that $\sqrt{5} + \sqrt{7}$ is an irrational number.

17. a) Write three quadratic equations, satisfy the discriminant $b^2 - 4ac = 0$, $b^2 - 4ac > 0$ & $b^2 - 4ac < 0$.

(OR)

b) Show that P(-1, 4), Q(-1, -2), R(2, -2) is a right angled triangle and find in which vertices is right angle.

25. If a man completes a work in 25 days. Then work done in 1 day is ()
A) $\frac{1}{5}$ B) $\frac{1}{10}$ C) $\frac{1}{15}$ D) $\frac{1}{25}$
26. Hypotenuse of a right angled triangle is 5 cm, sum of the other two sides is 7 cm. Then the required equation to find the sides is ()
A) $x^2 - 7x + 12 = 0$ B) $x^2 + 7x - 12 = 0$
C) $x^2 - 7x - 12 = 0$ D) None
27. Slope is denoted by the following trigonometric ratio ()
A) $\sin \theta$ B) $\cos \theta$ C) $\tan \theta$ D) $\operatorname{cosec} \theta$

PART - B

ANSWERS

18-A; 19-D; 20-B; 21-C; 22-C; 23-C; 24-A; 25-D; 26-A; 27-C.