VENKATA RAMANA TUITION CENTRE

Slip Test – 4

Topic : QUADRATIC EQUATIONS

Class : 10th. **Max. Marks : 25**

ANSWER THE FOLLOWING QUESTIONS **10 × ½ = 5M**

1. What is the quadratic equation of roots p and q ?
2. If 'k' is root of $ax^2 + bx + c = 0$ then what is the value of $ak^2 + bk + c$?
3. Which of the following is not a quadratic equation?

   A) $x + 1/x = 5$. B) $x^2 + 1/x^2 = 1$. C) $(x + 1)(x - 1) = 0$ D) none
4. Write quadratic formula ?
5. For what value of 'p' the roots of $x^2 + px + 4 = 0$ will be equal?
6. The path of projective is defined by _____ function.
7. See at last.
8. Statement A: If roots of $ax^2 + bx + c = 0$ are equal then each root is $-\frac{b}{2a}$.

   Statement B : If roots of $ax^2 + bx + c = 0$ are equal then $b^2 : ac = 1 : 4$.

   A) Both are true. B) Both are false. C) only A is true. D) only B
9. If 1 is root of the equation $2x^2 – kx + 3 = 0$ then find the value of 'k' ?
10. What is discriminant ?

ANSWER THE FOLLOWING QUESTIONS **4 × 1 = 4M**

11. If p and q are roots of $x^2 – ax + b = 0$ then find $1/a + 1/b$?
12. Write the nature of the roots of $5x^2 - 2x - 7 = 0$?
13. Show that $x^2 + x + 1 = 0$ have no real roots ?

14. " The product of two consecutive odd integers is 306". Represent this statement in the from of quadratic equation?

ANSWER THE FOLLOWING QUESTIONS 4 × 2 = 8 M

15. If 2 is root of $x^2 - 5x + k = 0$ then find k value and the another root ?
16. Find the solutions of of $3x^2 - 5x + 2 = 0$ by applying the quadratic formula?
17. Sum of a number and it's reciprocal is 10/3. Find the number ?
18. Find the sum and product of the roots of the equation $x^2 - 4\sqrt{3}x + 9 = 0$.

ANSWER THE FOLLOWING QUESTIONS 2 × 4 = 8 M

19. Johan's mother is 26 years older than him. The product of their ages after 3 years will be 360. Find their present ages ?

Or

A motor boat heads upstream a distance of 24km on a river whose current is running at 3km per hour. The trip up and back takes 6hours. Assuming that the boat maintained a constant speed, what was it's speed ?

20. Solve $3x^2 - 5x + 2 = 0$ by the method of completing the square ?

Or

Find the roots of the equation $\frac{1}{x} - \frac{1}{x-2} = 3$ (x is not equal to 0 or 2).