

## Question Paper – 2

### ONE MARK QUESTIONS

1. Find the common difference of the AP 3, 1, -1, -3.....
2. Find the ratio of the volumes of the cylinder and the cone of same base radius and height.
3. If  $b^2-4ac=0$ , Write the nature of roots of the quadratic equation  $ax^2+bx+c=0$
4. State basic proportionality theorem (Thales theorem).
5. If  $a_1x+b_1y+c_1=0$  and  $a_2x+b_2y+c_2=0$  are representing the intersecting lines, then write the relationship between their corresponding coefficients.
6. If the angle of inclination between a pair of tangents drawn from an external point to the circle is  $70^\circ$ . Then find the angle between the radii at center.

### TWO MARKS QUESTIONS

7. Find the  $n^{\text{th}}$  term of an AP -4,-3,-2,-1.....
8. Evaluate :  $\frac{\sin 30^\circ + \tan 45^\circ - \operatorname{cosec} 60^\circ}{\sec 30^\circ + \cos 60^\circ + \cot 45^\circ}$
9. Solve:  $x - 7y + 42 = 0$  and  $x - 3y = 6$  by elimination method.
10. Solve :  $x^2 - 3x - 10 = 0$  using formula
11. Draw a pair of tangents to a circle of radius 4 cm which are inclined to each other at an angle of  $50^\circ$
12. Find the area of triangle formed by the points (1,-1), (-4,6) and (-3,-5)
13. Find the value k, if the nature of the roots of the equation  $kx^2 - 2kx + 6 = 0$  are real and distinct.

### THREE MARKS QUESTIONS

14. Prove that "Tangents drawn from an external point to the circle are equal".

15. Construct a triangle of sides 5cm, 6cm and 7 cm and then a triangle similar to it whose sides are  $\frac{7}{5}$  of the corresponding sides of the first triangle.

16. A life insurance agent found the following data for distribution of age of 35 policy holders. Draw the "less than type" ogive for the given data.

Age in years	Less than 20	Less than 25	Less than 30	Less than 35	Less than 40	Less than 45	Less than 50
Number of policy holders	2	8	12	16	20	25	35

17. Find the mean of the following data

C.I	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	7	10	23	51	6	35

### FOUR MARKS QUESTIONS

18. Solve  $2x + y = 8$  and  $x - y = 1$  graphically.

19. Prove that "in a right angled triangle the square on the hypotenuse is equal to sum of squares of other two sides"

\*\*\*\*\*