Question Paper – 3

ONE MARK QUESTIONS

1. Writ the 10^{th} term of the AP whose the first term is p and the common difference is q.
2. Write the formula to find the TSA of a hemisphere.
3. If the nature of roots of the quadratic equation $ax^2+bx+c= 0$ are real and distinct, then find the value of the discriminant.
4. State basic proportionality theorem (Thales theorem).
5. How many solutions are there to the pair of linear equations in two variables, if they are intersecting to each other?
6. Draw a line segment of length 7.6 cm and divide it in the ratio 5:8. Measure the two parts.

TWO MARKS QUESTIONS

7. Find S_{13} of an AP whose $a_7 = 6$ and the common difference is 2.
8. If $\cos \theta = 0.6$, Show that $5\sin\theta - 3\tan\theta = 0$,
9. Solve: $2x + 3y - 11 = 0$ and $2x - 4y + 24 = 0$ by elimination method.
10. Solve : $x^2 + 7x + 12 = 0$ using formula
11. Draw a circle of radius 6 cm. from a point 10 cm away from its centre, construct the pair of tangent to the circle and measure their lengths.
12. Find the coordinates of the mid-point of the line segment joining (8,5) and (6,3)
13. Show that the quadratic equation $3x^2 - 4\sqrt{3}x + 4 = 0$ have equal real roots.

THREE MARKS QUESTIONS

14. Prove that "tangents drawn from an external point to the circle are equal".
15. Construct a triangle of side 7cm, $\angle A = 45^0$ and $\angle B = 105^0$ and then a triangle similar to it whose sides are $\frac{3}{4}$ of the corresponding sides of the first triangle.
16. Draw the **"less than type"** ogive for the given data.

Weight in kg	< 38	< 40	< 42	< 44	< 46	< 48	< 50	< 52
Number of students	0	3	5	9	14	28	32	35

17. Find the mean of the following data

C.I	1-4	4-7	7-10	10-13	13-16	16-19
Frequency	6	30	40	16	4	4

FOUR MARKS QUESTIONS

18. Solve: $x + y = 7$ and $2x - 3y = 6$ graphically.

FIVE MARKS QUESTIONS

19. State and prove Pythagoras theorem.

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