Paper – 5 (Circle)

1. If radii of the circles $x^2 + y^2 = 1$, $x^2 + y^2 - 2x - 6y = 6$ and $2x^2 + 2y^2 - 8x - 24y + c = 0$ are in AP, then c=
   (a) 18 (b) 9 (c) – 18 (d) None
2. Equation of a circle through $(-1, -2)$ and concentric with the circle $x^2 + y^2 - 3x + 4y - c = 0$ is
   (a) $x^2 + y^2 - 3x + 4y - 1 = 0$ (b) $x^2 + y^2 - 3x + 4y = 0$
   (c) $x^2 + y^2 - 3x + 4y + 2 = 0$ (d) $x^2 + y^2 + 3x - 4y = 0$
3. Equation of a circle whose two diameters are along the lines $2x - 3y + 4 = 0$ and $3x + 4y - 5 = 0$ and passes through the origin is
   (a) $x^2 + y^2 + 2x - 44y = 0$ (b) $17x^2 + 17y^2 - 2x + 44y = 0$
   (c) $17x^2 + 17y^2 + 2x - 44y = 0$ (d) None of these
4. Points (2,0), (0, 1), (4,5) and (0, a) are concyclic. Then a is equal to :
   (a) 14/3 or 1 (b) 14 or 1/3 (c) —14/3 or —1 (d) None of these
5. If $(-3,2)$ lies on the circle $x^2 + y^2 + 2gx + 2fy + c = 0$ which is concentric with the circle $x^2 + y^2 + 6x + 8y - 5 = 0$, then c is
   (a) 11 (b) —11 (c) 24 (d) None
6. Equation of the circle concentric with the circle $x^2 + y^2 - 8x + 6y - 5 = 0$ and passing through the point $(-2, 7)$ is
   (a) $x^2 + y^2 - 8x + 6y + 27 = 0$ (b) $x^2 + y^2 - 8x + 6y - 27 = 0$
   (c) $x^2 + y^2 - 8x - 6y + 27 = 0$ (d) None of these r
7. The locus of the centre of a circle of radius 3 which rolls on the outside of the circle $x^2 + y^2 + 3x - 6y - 9 = 0$ is
   (a) $x^2 + y^2 + 3x - 6y + 5 = 0$ (b) $x^2 + y^2 + 3x - 6y + 45 = 0$
   (c) $x^2 + y^2 + 3x - 6y + 29/4 = 0$ (d) $x^2 + y^2 + 3x - 6y - 45 = 0$
8. The area of circle centred at (1, 2) and passing through (4,6) is
   (a) 5π (b) 10π (c) 25π (d) None
9. If the line $y = x + 3$ meets the circle $x^2 + y^2 = a$ in A and B, then equation of the circle on AB as diameter is :
   (a) $x^2 + y^2 + 3x - 3y - a^2 + 9 = 0$ (b) $x^2 + y^2 - 3x + 3y - a^2 + 9 = 0$
   (c) $x^2 + y^2 + 3x + 3y - a^2 + 9 = 0$ (d) None or these
10. A circle of radius 3 units passes through the point (7,3) is and its centre lies on the straight line $x - y - 1 = 0$. Then its equation is
    (a) $x^2 + y^2 - 8x - 6y + 16 = 0$ (b) $x^2 + y^2 - 14x - 12y + 76 = 0$
    (c) Both (a) and (b) (d) None of these

Answer Key Paper 4 (Pair of Straight Line)

01.D	02.C	03.A	04.C	05.D
06.A	07.D	08.A	09.A	10.A

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