Analytical Geometry-3

Model Exam Question paper - 3

11th Standard

Business Maths

Reg.No. : | | | | | | |

I.Answer all the questions

Time : 01:05:00 Hrs | Total Marks : 50

Part-A | 4 x 1 = 4

1) If (1,-3) is the centre of the circle $x^2+y^2+ax+by+9=0$, its radius is

   (a) $\sqrt{10}$ (b) 1 (c) 5 (d) $\sqrt{19}$

2) The equation of tangent at (1,2) to the circle $x^2+y^2=5$ is

   (a) x+y=5 (b) x+2y=5 (c) x-y=5 (d) x-2y=5

3) The length of tangent from (3,4) to the circle $x^2+y^2-4x+6y-1=0$ is

   (a) 7 (b) 6 (c) 5 (d) 8

4) If y=2x+c is a tangent to the circle $x^2+y^2=5$ then the value of c is

   (a) $\pm\sqrt{5}$ (b) ± 25 (c) ± 5 (d) ± 2

Part-B | 4 x 2 = 8

5) Find the equation of a straight line through the intersection of 3x+4y=7 and x+y-2=0 and having slope=5.

6) Find the equation of the circle with centre at (3,5) and radius 4 units

7) Find the equation of the circle passing through the point (1,4) and having its centre at (2,3)

8) Find the centre and radius of the circle $x^2+y^2-6x+8y-24=0$

Part-C | 6 x 3 = 18

9) The fixed cost is Rs.500 and the estimated cost of 100 units is Rs.1200. Find the total cost y for producing x units assuming it to be a linear function.

10) Find the equation of the circle when the coordinates of the end point of the diameter are (2,-7) and (6,5)

11) Find the equation of tangent to the circle $x^2+y^2+2x-3y-8=0$ at (2,3)

12) Find the condition the that line lx+my+n=0 is a tangent to the circle $x^2+y^2=a^2$

13) Show that the lines 5x+6y=20 and 18x-15y=17 are at right angles.

14) Find the equation of the line passing through (2,-5) and parallel to the line 4x+3y-5=0.

Part-D | 4 x 5 = 20

15) Show that the triangle formed by the lines 4x-3y-8=0, 3x-4y+6=0 and x+y-9=0 is an isosceles triangle.

16) The fixed cost is Rs.700 and estimated cost of 100 units is Rs. 1,800. Find the total cost y for producing x units.

17) As the number of units produced increases from 500 to 1000 the total cost of production increases from Rs.6000 to Rs.9000. Find the relationship between the cost(y) and the number of units produced (x) if the relationship is linear.

18) Find the equation of a circle passing through the points (1,1),(2,-1) and (2,3)

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