CHEMISTRY ONLINE
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PURE MATH

ALGEBRA AND FUNCTION

Level & Board	EDEXCEL (A-LEVEL)
TOPIC:	CIRCLES
PAPER TYPE:	QUESTION PAPER -2
TOTAL QUESTIONS	8
TOTAL MARKS	44

Questions

Q1.

The circle C has equation

$$x^2 + y^2 – 6x + 10y + 9 = 0$$

(a) Find

(i) the coordinates of the centre of C

(ii) the radius of C

(5)

The line with equation y = kx, where k is a constant, cuts C at two distinct points.

(b) Find the range of values for k.

(3)

(Total for question = 8 marks)

Q2.

The Circle C has the equation

$$x^2 + y^2 + 4x - 6y - 3 = 0$$

(a) Find the coordinates of the center of C.

(4)

(b) Find the radius of C.

(2)

(Total for question = 6 marks)

Q3.

The Circle C has the equation

$$x^2 + y^2 - 8x + 6y + 16 = 0$$

(a) Find the coordinates of the center of A.

(4)

(b) Find the radius of A.

(2)

(Total for question = 6 marks)

Q4.

The Circle C has the equation

$$x^2 + y^2 - 8x + 6y + 16 = 0$$

(a) Find the coordinates of the center of C4.

(4)

(b) Find the radius of C4.

(2)

(c) Find the range of values for k.

(3)

(Total for question = 9 marks)

Q5.

Find an equation of the circle with centre at $(5, -2)$ and radius is 4.

(5)

(Total for question = 5 marks)

Q6.

Find an equation of the circle with centre at $(\sqrt{2}, -3\sqrt{3})$ and radius is $2\sqrt{2}$.

(5)

(Total for question = 5 marks)

Q7.

Consider a quadrilateral ABCD in the coordinate plane with vertices $A(2,3)$, $B(7,8)$, C$(4,-1)$ and D$(-1,4)$. Show that ABCD is a parallelogram.

(5)

(Total for question = 5 marks)

Q8.

Consider a circle C with center O and radius r, where O(−3,5) Point A(4,2) lies on the circle.

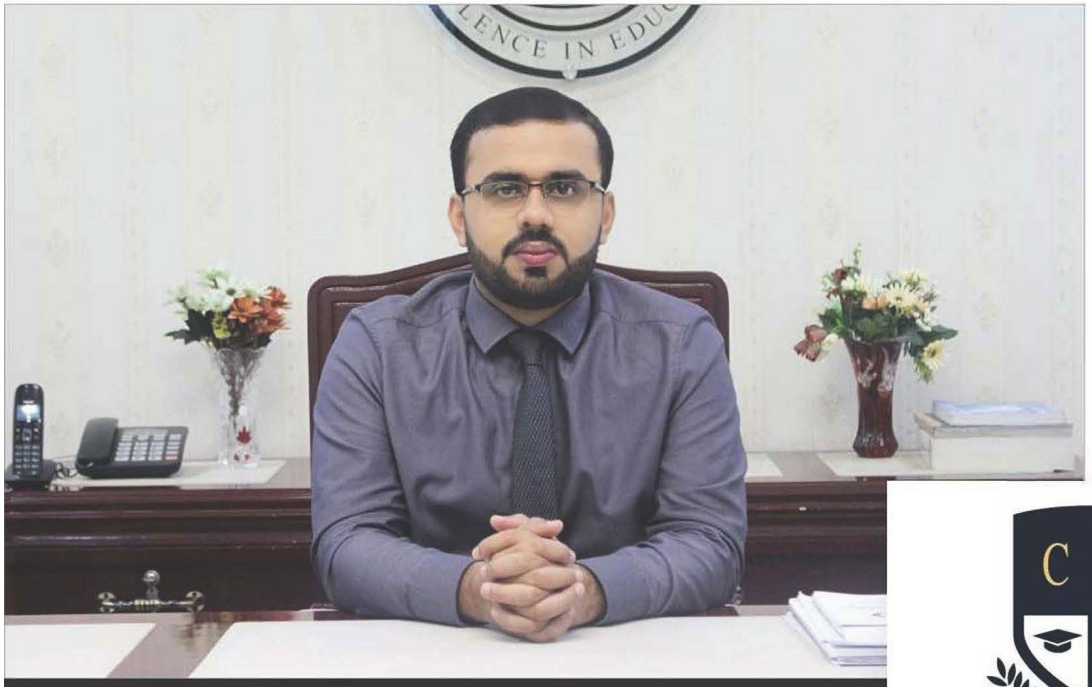
(a) Find the equation of circle C.

(3)

(b) Determine the length of the radius r.

(4)

(Total for question = 7 marks)



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