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**SCIENCES- COMPUTER SCIENCE**

**19/SCI01/008**

**100 LEVEL**

**MAT102 ASSIGNMENT**

1. x2+y2+2x+6y+6=0

**SOLUTION**

x2 +y2+2x+6y+6=0

x2+y2+2x+6y=-6

Collect like terms

x2+2x+y2+6y=-6

x2+2x+(2/2)2+y2+6y+(6/2)2=-6+(2/2)2+(6/2)2

x2+2x+(1)2+y2+6y+(3)2=-6+(1)2+(3)2

(x+1)2+(y+3)2=-6+1+9

(x+1)2+(y+3)2=4

(x+1)2+(y+3)2=22

Compare the above equation with (x-a)2+(y-b)2=r2

a=-1, b=-3 and r=2

**∴ The center of the circle is (-1 , -3) and the radius is 2units.**

1. x2+y2-4x+10y-8=0

**SOLUTION**

x2+y2-4x+10y-8=0

x2+y2-4x+10y=8

Collect like terms

x2-4x+y2+10y=8

x2-4x+(-4/2)2+y2+10y+(10/2)2= 8+(-4/2)2+(10/2)2

x2-4x+(-2)2+y2+10y+(5)2= 8+(-2)2+(5)2

(x-2)2+(y+5)2=8+4+25

(x-2)2+(y+5)2= 37

(x-2)2+(y+5)2= (√37)2

Compare the above equation with (x-a)2+(y-b)2=r2

a=2, b=-5 and r=√37

**∴ The center of the circle is (2, -5) and the radius is √37units.**