



CAT 2

SMA 103 ANALYTICAL GEOMETRY

- a) The line joining the points $(-1, 7)$ and $(23, 17)$ are taken as the diameters of a circle. Find the equation of the circle, the length of its radius and the co-ordinates of the Centre. (5marks)
- b) Discuss and sketch the following curves indicating all the important features.
- $16x^2 + 96x - 4y^2 + 16y + 64 = 0$ (5marks)
 - $4x^2 + 9y^2 = 25$ (5 marks)
 - $9x^2 - 4y^2 - 54x - 16y + 29 = 0$ (5 marks)
- c) Write the equation $x^2 + 4x = y$ in standard form and hence give the vertex, focus and direction of the curve. (5 marks)
- d) A circle passes through the point A $(2, -2)$ and B $(3, 4)$ and the Centre is on the line $x + y = 2$ Find its equation. (5 marks)