CHAPTER-11
CONIC SECTIONS

1 EXERCISE - 11.3

In each of the exercises 1 to 9 ,find the coordinates of the foci, the vertices,the length of major axis, the minor axis,the eccentricity and the length of the latus rectum of the ellipse.

1. $\frac{x^2}{36} + \frac{y^2}{16} = 1$
2. $\frac{x^2}{4} + \frac{y^2}{25} = 1$
3. $\frac{x^2}{16} + \frac{y^2}{9} = 1$
4. $\frac{x^2}{25} + \frac{y^2}{100} = 1$
5. $\frac{x^2}{49} + \frac{y^2}{36} = 1$
6. $\frac{x^2}{100} + \frac{y^2}{400} = 1$
7. $36x^2 + 4y^2 = 144$
8. $16x^2 + y^2 = 16$
9. $4x^2 + 9y^2 = 36$

In each of the following exercises 10 to 20, find the equation for the ellipse that satisfies the given conditions:

10. vertices $(\pm 5, 0)$, foci$(\pm 4, 0)$
11. vertices $(\pm 0, 13)$, foci$(0, \pm 5)$
12. vertices $(\pm 6, 0)$, foci$(\pm 4, 0)$
13. Ends of major axis $(\pm 3, 0)$, ends of minor axis$(0, \pm 2)$
14. ends of major axis $(0, \pm\sqrt{5})$, ends of minor axis$(\pm 1, 0)$
15. length of major axis 26, foci$(\pm 5, 0)$

16. length of minor axis 16, foci$(0, \pm 6)$
17. foci$(\pm 3, 0)$, $a = 4$
18. b=3,c=4, centre at the origin; foci on the x axis
19. centre at$(0, 0)$, major axis on the y-axis and passes through the points(3,2) and (1,6)
20. major axis on the x-axis and passes through the points (4,3) and (6,2)