

Comprehensive Test Series-01

Conic Sections

TIME: 1.5 hr.

MM: 50

General Instructions:

- All Questions are compulsory.
 - Marks are given alongwith the questions individually.
 - Use of calculator is not permitted.
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- Q.1 find the centre and radius of the circles $2x^2 + 2y^2 - x = 0$
- Q.2 Find the equation of the circle passing through the points (4,1) and (6,5) and whose centre is on the line $4x + y = 16$ (4)
- Q.3 Find the equation of the circle passing through (0,0) and making intercepts a and b on the coordinate axes.
- Q.4 Find the equation of the parabola which is symmetric about the y-axis and passes through the point (2-3).
- Q.5 Find the coordinates of the foci, the vertices, the length of major axis, the minor axis, the eccentricity and the latus rectum of the ellipse. $\frac{x^2}{25} + \frac{y^2}{9} = 1$ (4)
- Q.6 Find the coordinates of the foci, the vertices, the lengths of major and minor axes and the eccentricity of the ellipse $9x^2 + 4y^2 = 36$ (4)
- Q.7 Find the equation for the ellipse that satisfies given conditions Vertices $(\pm 5,0)$, foci $(\pm 4,0)$
- Q.8 Find the equation for the ellipse that satisfies given conditions Ends of major axis $(0, \pm \sqrt{5})$, ends of minor axis $(\pm 1,0)$
- Q.9 Find the equation for the ellipse that satisfies given conditions Centre at (0,0) major axis on the y-axis and passes through the points (3,2) and (1,6). (4)
- Q.10 Find the equation of the hyperbola with foci $(0, \pm 3)$ and vertices $(0, \pm \frac{\sqrt{11}}{2})$
- Q.11 Find the equation of the hyperbola where foci are $(0, \pm 12)$ and the length of the latus rectum is 36.
- Q.12 Find the coordinates if the foci and the vertices, the eccentricity and the length of the latus rectum of the hyperbola $\frac{x^2}{16} - \frac{y^2}{9} = 1$
- Q.13 Find the coordinates if the foci and the vertices, the eccentricity and the length of the latus rectum of the hyperbola $5y^2 - 9x^2 = 36$ (4)
- Q.14 Find the equations of hyperbola satisfaction the given condition Foci $(\pm 5,0)$, the transverse axis is of length 8
- Q.15 Find the equations of hyperbola satisfaction the given condition vertices $(\pm 7, 0)$, $e = \frac{4}{3}$.