CONIC SECTIONS

PARABOLA

In each of the question 1 to 6, find the equation of the parabola that satisfies the

given conditions:

- **Q.1** Focus (6,0); directrix x = -6
- **Q.2** Focus (0,–3); directrix y = 3
- **Q.3** Vertex (0,0); focus (3,0)
- **Q.4** Vertex (0,0); focus (-2,0)
- **Q.5** Vertex (0,0) passing through (2,3) and axis is along x-axis.
- **Q.6** Vertex (0,0), passing through (5,2) and symmetric with respect to y-axis.
- **Q.7** Find the equation of the parabola which is symmetric about the y-axis, and passes through the point (2,–3).
- **Q.8** Find the equation of the parabola with focus (2,0) and directrix x = -2.

ANSWER KEY

- **1.** $y^2 = 24x$
- **2.** $x^2 = -12y$
- **3.** $y^2 = 12x$
- **4.** $y^2 = -8x$
- **5.** $2y^2 = 9x$
- 6. $2x^2 = 25y$
- **7.** $3x^2 = -4y$
- **8.** $y^2 = 8x$