

Conic Section: Parabola - Class XI

Related Questions with Solutions

Questions

Question: 01

Find the coordinates of a point on the parabola $y^2 = 8x$ whose focal distance is 4.

- A. $(2, \pm 1)$
- B. $(\pm 2, 4)$
- C. $(\pm 1, 2)$
- D. $(2, \pm 4)$

Solutions

Solution: 01

If the coordinates of a point on the parabola $y^2 = 4ax$ are $P[x, y]$, then its focal distance is $SP = x + a$.

Here, $a = 2$ and $SP = 4$.

$$\therefore 4 = x + 2$$

$$\Rightarrow x = 2$$

$$\Rightarrow y^2 = 8 \times 2$$

$$\Rightarrow y = \pm 4$$

Thus, the co-ordinates of the required point are $[2, \pm 4]$

Correct Options

Answer:01

Correct Options: D