

Topic : Quadratic Equation

Type of Questions

M.M., Min.

Single choice Objective (no negative marking) Q.1,2,3,4, 5

(3 marks, 3 min.)

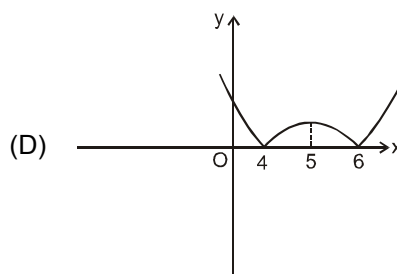
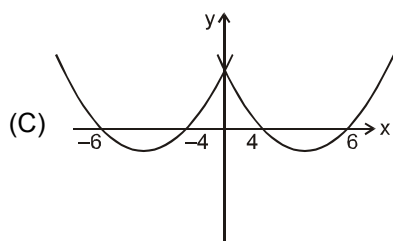
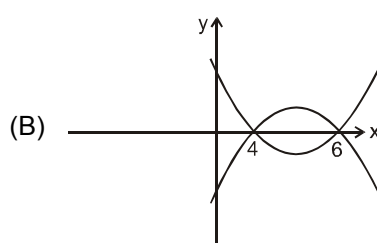
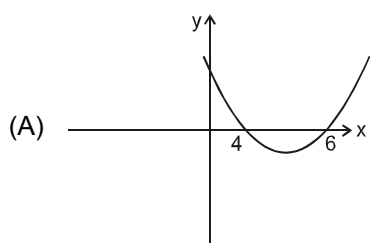
[15, 15]

Subjective Questions (no negative marking) Q.6,7

(4 marks, 5 min.)

[8, 10]

1. Which of the following is the graph of $y = |x^2 - 10x + 24|$



2. Solution set of the equation $3^{2x^2} - 2 \cdot 3^{x^2+x+6} + 3^{2(x+6)} = 0$ is
 (A) $\{-3, 2\}$ (B) $\{6, -1\}$ (C) $\{-2, 3\}$ (D) $\{1, -6\}$
3. The set of values of 'a' for which both roots of the equation $x^2 + 2(a+1)x + (9a-5) = 0$ are negative is :
 (A) $[0, \infty)$ (B) $(-\infty, 6]$ (C) $(-\infty, 0]$ (D) $\left[\frac{5}{9}, 1\right] \cup [6, \infty)$
4. The set of all values of 'a' for which the quadratic equation $3x^2 + 2(a^2 + 1)x + (a^2 - 3a + 2) = 0$ possess roots of opposite sign, is
 (A) $(-\infty, 1)$ (B) $(-\infty, 0)$ (C) $(1, 2)$ (D) $(3/2, 2)$
5. If roots of equation $x^2 - 2mx + m^2 - 1 = 0$ lie in the interval $(-2, 4)$, then
 (A) $m \in (-1, 3)$ (B) $m \in (1, 5)$ (C) $m \in (1, 3)$ (D) $m \in (-1, 5)$
6. Find the equation each of whose roots is greater by unity, than the roots of the equation $x^3 - 5x^2 + 6x - 3 = 0$.
7. Find all values of 'p' for which the root(s) of the equation $(p-3)x^2 - 2px + 5p = 0$ are real and positive.

Answers Key

1. (D) 2. (C) 3. (D) 4. (C) 5. (A)

6. $x^3 - 8x^2 + 19x - 15 = 0$ 7. $p \in \left[3, \frac{15}{4} \right]$