MATHEMATICS

DPP

DAILY PRACTICE PROBLEMS

DPP No. 14

Total Marks : 23

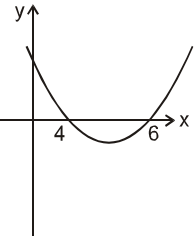
Max. Time : 25 min.

Topic : Quadratic Equation

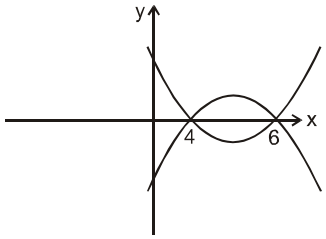
Type of Questions		**M.M., Min.**
Single choice Objective (no negative marking) Q.1,2,3,4, 5	**(3 marks, 3 min.)**	**[15, 15]**
Subjective Questions (no negative marking) Q.6,7	**(4 marks, 5 min.)**	**[8, 10]**

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

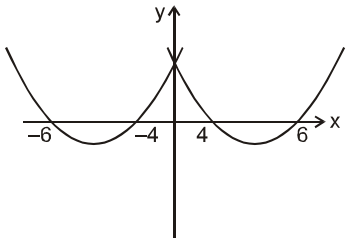
(A)



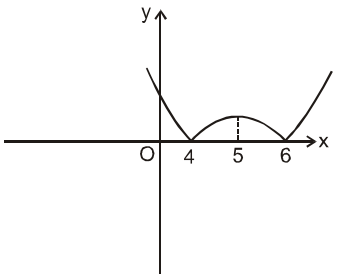
(B)



(C)



(D)



2. Solution set of the equation $3^{2x^2} - 2.3^{x^2+x+6} + 3^{2(x+6)} = 0$ 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 (–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.** $p \in \left[3, \frac{15}{4}\right]$