All Branches Hinglish

Subject: Engineering Mathematics
Chapter: Calculus
Topic : Function of Its Graph, Domain & Range of Function

DPP-01

1. What is the form of the function f(x) for the following data?

x	0	1	2	3
$f(x)$	3	6	11	18

(a) $x^2 + 2x + 3$ (b) $x^2 - 2x + 3$

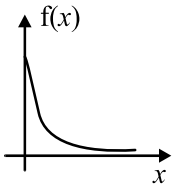
(c) $x^2 + 2x - 3$ (d) $x^2 - 2x - 3$

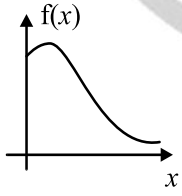
2. Which one of the following functions is strictly bounded?

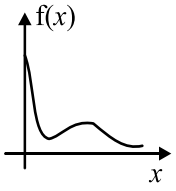
(a) $1/x^2$ (b) e^x

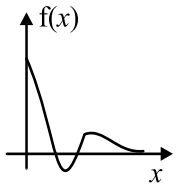
(c) x^2 (d) e^{-x^2}

3. Which one of the following graphs describes the function $f(x) = e^{-x}(x^2 + x + 1)$?

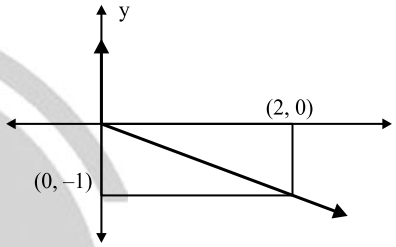
(a) 

(b) 

(c) 

(d) 

4. Choose the most appropriate equation for the function drawn as a thick line, in the plot below.



(a) $x = y - |y|$ (b) $x = -(y - |y|)$

(c) $x = y + |y|$ (d) $x = -(y + |y|)$

5. $f(x) = 2x^3 - 15x^2 + 36x + 1$ is increasing in the interval

(a)] 2, 3 [(b)] $-\infty$, 3 [

(c)] $-\infty$, 2 [$\cup$] 3, ∞ [(d)None of these

6. $f(x) = x^9 + 3x^7 + 6$ is increasing for

(a) All positive real values of x

(b) All negative real values of x

(c) All non-zero real values of x

(d) None of these

7. $f(x) = x^2 e^{-x}$ is increasing in the interval

(a)] $-\infty$, ∞ [(b)] $-$ 2, 0 [

(c)] 2, ∞ [(d)] 0, 2 [

8. The least value of a for which $f(x) = x^2 + ax + 1$ is increasing on] 1, 2 [is

(a) 2 (b) –2

(c) 1 (d) –1

Answer Key

1. **(a)**
2. **(d)**
3. **(b)**
4. **(b)**
5. **(c)**
6. **(c)**
7. **(d)**
8. **(b)**