All Branches Hinglish

Subject: Engineering Mathematics

DPP-07

Chapter: Linear Algebra

Topic : System of Equations

1. The system of equation $3x - y + z = 0$, $15x - 6y + 5z = 0$, $\lambda x - 2y + 2z = 0$ has a none zero solution, if λ is

(a) 6 (b) –6

(c) 2 (d) –2

2. The system of equation $x - 2y + z = 0$, $2x - y + 3z = 0$, $\lambda x + y - z = 0$ has the trivial solution as the only solution, if λ is

(a) $\lambda \neq -\frac{4}{5}$ (b) $\lambda = \frac{4}{3}$

(c) $\lambda \neq 2$ (d) None of these

3. The system equations $x + y + z = 6$, $x + 2y + 3z = 10$, $x + 2y + \lambda z = 12$ is inconsistent, if λ is

(a) 3 (b) –3

(c) 0 (d) None of these

4. The system of equations $5x + 3y + 7z = 4$, $3x + 26y + 2z = 9$, $7x + 2y + 10z = 5$ has

(a) a unique solution

(b) no solution

(c) an infinite number of solutions

(d) none of these

5. The system of equations $x - 4y + 7z = 17$, $3x + 8y - 2z = 13$, $7x - 8y + 26z = 5$ has

(a) a unique solutin

(b) no solution

(c) an infinite number of solution

(d) none of these

6. Consider the following system of equations

$2x_1 + x_2 + x_3 = 0$

$x_2 - x_3 = 0$

$x_1 + x_2 = 0$

This system has

(a) a unique solution

(b) no solution

(c) infinite number of solutions

(d) five solutions

7. For what value of a, if any will the following system of equation in x, y and z has a solution?

$2x + 3y = 4$

$x + y + z = 0$

$3x + 2y - z = a$

(a) Any real number

(b) 0

(c) 1

(d) There is no such value

8. The system of equations

$x + y + z = 6$

$x + 4y + 6z = 20$

$x + 4y + \lambda z = \mu$

has No solution for values of λ and μ given by

(a) $\lambda = 6, \mu = 20$ (b) $\lambda = 6, \mu \neq 20$

(c) $\lambda \neq 6, \mu = 20$ (d) $\lambda \neq 6, \mu = 20$

Answer Key

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