## **Previous Year Questions: Pair of Linear Equations in Two Variables**

### 1 Mark Questions:

- 1. Find the value of k if the system of equations 2x + 3y = 7 and kx 6y = 5 has a unique solution.
- 2. Determine whether the pair of equations 3x 2y = 4 and 6x 4y = 8 has infinitely many solutions.
- 3. Write the condition for a system of two linear equations to have no solution.
- 4. Find the number of solutions for the pair of equations x + 2y = 5 and 2x + 4y = 10.
- 5. Write the geometrical representation of a system of equations having a unique solution.

### 2 Mark Questions:

6. Solve the system of equations:

$$x + y = 5$$

2x - 3y = 4

- 7. Find the value of k for which the equations kx + 3y = 7 and 2x 6y = 5 have a unique solution.
- 8. The sum of two numbers is 20 and their difference is 4. Find the numbers.
- 9. Solve for x and y:

2x + 3y = 12

4x - y = 5

10. Find the point of intersection of the lines represented by 2x + 3y = 12 and 4x - y = 5.

### 3 Mark Questions:

11. The sum of the digits of a two-digit number is 9. If the digits are reversed, the new number is 9 more than the original number. Find the number.

12. Solve graphically:

x + y = 6

2x - y = 3

13. Two numbers are in the ratio 3:5. If 8 is added to both, the new ratio becomes 2:3. Find the numbers.

14. A boat takes 4 hours to travel 40 km downstream and the same time to travel 20 km upstream. Find the speed of the boat in still water and the speed of the stream.

15. The cost of 3 pens and 4 pencils is Rs.50, while the cost of 2 pens and 3 pencils is Rs.36. Find

the cost of one pen and one pencil.

### 4 Mark Questions:

16. The sum of a two-digit number and the number obtained by reversing its digits is 110. If the difference of the digits is 2, find the number.

17. The sum of the ages of a father and his son is 50 years. Ten years ago, the father's age was three times the son's age. Find their present ages.

18. Draw the graph of 2x + 3y = 12 and x - y = 1 and find the solution graphically.

19. A train travels 300 km at a uniform speed. If the speed had been 5 km/h more, it would have taken 2 hours less. Find the speed of the train.

20. The difference between two numbers is 3, and the sum of their reciprocals is 1/4. Find the numbers.