1. A system of simultaneous linear equations is said to be inconsistent, if it has   [1]
    (a) One solution   (b) Two solutions   (c) Three solutions   (d) No solution

2. The system of equation $2x + 3y - 7 = 0$ and $6x + 5y - 11 = 0$ has   [1]
    (a) unique solution   (b) No solution (c) Infinitely many sols (d) None of these

3. The value of 'k' for which the system of equation $x + 2y - 3 = 0$ and $5x + ky + 7 = 0$ [1]
    has no solution is   (a) k = 10   (b) k = 6   (c) k = 3   (d) k = 1

4. The equation $ax^n + by^n + c = 0$ represents a straight line if   [1]
    (a) $n \geq 1$ (b) $n \leq 1$ (c) n=1   (d) None of these

5. The path of a train A is given by the equation $x + 2y - 4 = 0$ and the path of another   [2]
    train B is given by the equation $2x + 4y - 12 = 0$ represent this situation
    graphically.

6. For what value of 'α'the system of linear equations $\alpha.x + 3y = \alpha - 3$, $12x + \alpha y = \alpha$ [2]
    has no solution.

7. Find the values of 'a' and 'b' for which the following system of linear equations has   [2]
    infinite number of solutions. $2x + 3y = 7$, $(a + b + 1) x + (a + 2b + 2) y = 4 (a + b) +1$

8. Solve for 'x' and 'y' where $x + y = a - b$, $ax - by = a^2 + b^2$ [2]

9. Draw graphs of the equations on the same graph paper $2x + 3y = 12$, $x - y = 1$. Find   [3]
    the area and co-ordinate of the vertices of the triangle formed by the two straight
    lines and the y-axis.

10. Solve: $\dfrac{2}{3x+2y} + \dfrac{3}{3x-2y} = \dfrac{17}{5}$ and $\dfrac{5}{3x+2y} + \dfrac{1}{3x-2y} = 2$ [3]

11. The sum of a two-digit number and the number obtained by reversing the order of   [3]
    digits is 99. If the digits differ by 3, find the number.

12. In a cyclic quadrilateral ABCD, $\angle A = (2x+4)^\circ$, $\angle B = (y+3)^\circ$, $\angle C = (2y+10)^\circ$ and   [3]
    $\angle D = (4x-5)^\circ$ Find the four angles.