General Instructions:

All questions are compulsory.

The question paper consists of __4__ Sections (A, B, C, D).

Use of calculator is not permitted.

Draw neat and labelled diagrams wherever required.

Internal choices are provided as per instructions.

The duration of the question paper is 45 minutes.

Marks allotted to each question are indicated against it.

Today's hard work makes your Tomorrow better

Section - A
1 × __6__ = __6__ Marks

1. Write one example of a pair of linear equations having no solution.
2. The pair of equations **x = -2** and **y = 5** represent lines which are:
    (A) parallel to x-axis
    (B) parallel to y-axis
    (C) intersecting at (-2, 5)
    (D) coincident
3. The x-coordinate of the point on the line $x - 2y + 4 = 0$, when $y = -1$ is:
    (A) -2   (B) 0   (C) 2 (D) -4
4. A system of linear equations is given by :

    $a_1x + b_1y = c_1$, $a_2x + b_2y = c_2$,

    where $a_1 / a_2 = b_1 / b_2$ and $(a_1, a_2, b_1, b_2 \neq 0)$.
        Which of the following statements is true ?
    (A) The given system has a unique solution.
    (B) The given system has no solution.
    (C) The given system has infinite number of solutions.
    (D) The given system has no solution or has infinite number of solutions.
5. If the system of equations $3x + 2y = 6$ and $6x + ky = 12$ has one solutions, then the value of k is:
6. What is the nature of lines represented by the equations: $x = 3$ and $y = -2$ (intersecting / parallel / coincident)

Section - B
2 × __4__ = __8__ Marks

7. The product of the digits of a 2-digit number is 18. When 27 is subtracted from the number, the digits interchange their places. Find the number.

8. Find the values of 'a' and 'b' for which the system of linear equations
$3x + 4y = 12$, $(a + b)x + 2(a - b)y = 24$ has infinite number of solutions.

9. For what value of k does the system : $(k+1)x + 2y = 4$, $2x + (k-1)y = 2$ have
(i) a unique solution
(ii) infinitely many solutions
(iii) no solution?

10. Check whether the point $(-4, 3)$ lies on both the line represented by the linear pair of Equation $x + y + 1 = 0$ and $x - y = 1$

Section – C
$3 \times \underline{\ 4\ } = \underline{\ 12\ }$ Marks

11. Solve the following system of linear equations graphically :
$x + 2y = 6$ and $3x - 2y = 2$
Also, write the coordinates of the vertices of the triangle formed by these lines and y-axis.

12. A parking lot has a fixed charge for first 4 hours and an additional charge per hour thereafter. Rohit paid ₹30 for parking his car for 7 hours, while Neha paid ₹22 for 6 hours. Find the fixed charge and the charge per extra hour.

13. Solve using elimination method:
$2(x+y) - 3(x-y) = 4$ and $3(x+y) + 2(x-y) = 23$

14. Solve using substitution method:
$x/2 + y = 4$, $y = x/3 + 1$

Section – D (Case Based)
$\underline{\ 4\ }$ Marks

15. Case:
A school canteen sells sandwiches and juice. On one day, 3 sandwiches and 2 juices cost ₹46. On another day, 5 sandwiches and 4 juices cost ₹78.
Questions:
(i) Let the cost of one sandwich be ₹x and one juice be ₹y. Write the pair of linear equations. (1 mark)
(ii) Solve the equations using elimination method. (2 marks)
(iii) Find the cost of one sandwich and one juice. (1 mark)

Question Type | No. of Qs | Marks | Time (min)

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1 Mark	6	6	9 min
2 Marks	4	8	12 min
3 Marks	4	12	20 min
4 Marks	1	4	4 min
Revision / Buffer Time		0–3 min	
TOTAL TIME		45 min	