Chapter – 4

Linear Equations in Two Variables

1. **Linear Equations**
2. **Solution of a Linear Equation**
3. **Graph of a Linear Equation in Two Variables**
4. **Equations of Lines Parallel to x-axis and y-axis**

- An equation of the form $ax + by + c = 0$ where a, b and c are real numbers such that a and b are not both zero is called a linear equation in two variables.
- A pair of values of x and y which satisfy the equation $ax + by + c = 0$ is called a solution of the equation.

· **Graph:** The graph of every linear equation in two variables is a straight line. Every point on the graph of a linear equation in two variables is two variables is a solution of the linear equation. Conversely, every solution of the linear equation is a point on the graph of the linear equation.

· A linear equation in two variables has infinitely many solutions.

· The graph of every linear equation in two variables is a straight line.

· $y = 0$ is the equation of x-axis and $x = 0$ is equation of y-axis.

· The graph of $x = a$ is a straight line parallel to the y-axis.

· The graph of $y = a$ is a straight line parallel to the x-axis.

· An equation of the type $y = mx$ represent a line passing through the origin.