## 1 Lecture - MTH101

## Important Subjective

1. What is a coordinate plane? Answer: A coordinate plane is a two-dimensional plane with two perpendicular number lines, the x -axis and the y -axis, which are used to assign coordinates to points on the plane.
2. What is the origin in the Cartesian coordinate system? Answer: The origin is the point where the $x$ axis and the $y$-axis intersect and is assigned the coordinates $(0,0)$.
3. How are coordinates assigned to points on the plane? Answer: Coordinates are assigned to points on the plane by measuring the distance from the origin along each axis.
4. What is a graph in Calculus and Analytical Geometry? Answer: A graph is a visual representation of the relationship between two variables, typically represented by the $x$ and $y$-axes.
5. How is a graph created? Answer: A graph is created by plotting points that correspond to specific values of the independent and dependent variables and then connecting them by a line or curve.
6. What information can the shape of a graph provide? Answer: The shape of a graph can provide valuable information about the properties of the function being graphed.
7. What is a line in Calculus and Analytical Geometry? Answer: A line is a straight path that extends infinitely in both directions.
8. How can a line be described using its equation in standard form? Answer: The equation of a line in standard form is $\mathrm{ax}+\mathrm{by}=\mathrm{c}$, where $\mathrm{a}, \mathrm{b}$, and c are constants that define the line's properties.
9. How can a line be described using its equation in slope-intercept form? Answer: The equation of a line in slope-intercept form is $\mathrm{y}=\mathrm{mx}+\mathrm{b}$, where m is the slope of the line, and b is the y -intercept.
10. What is the slope of a line? Answer: The slope of a line is a measure of how steep it is and is defined as the change in the $y$-coordinate divided by the change in the $x$-coordinate.
