

Subject: Business Economics

Course: B.A., 6th Semester, Undergraduate.

Paper No: 631

Paper Title: Advance Mathematical Techniques.

Unit No.: 5 (Five)

Title: ELEMENTARY DIFFERENTIAL EQUATIONS

Lecture No: 1 (One)

Title: Differential Equations.

Summary

- A differential equation is an equation that contains an unknown function and its derivatives.
- When the differential equation has several independent variables then the derivatives are partial derivatives and the differential equation is called partial differential equation.
- The order of a differential equation is the order of the highest derivative that occurs in the equation.
- The degree of a differential equation is determined by the highest power of the derivatives when the equation is simplified.
- An ordinary differential equation (ODE) is said to be linear if the dependent variable is of the first degree.
- A function $y=f(x)$ is called a solution of a differential equation if the equation is satisfied when $y=f(x)$ and its derivatives are substituted into the equation.
- Variable separable method.
- Solution of homogeneous differential equation.
- Exact differential equation.