

**SACRED HEART COLLEGE (AUTONOMOUS)
DEPARTMENT OF MATHEMATICS**

LOGIC AND CRITICAL THINKING

15MATVAC01

Course objectives

This course is intended to expose you to the basic ideas of Boolean algebra and differential equations combined with some applications of differential equations in real life.

Course outcomes

As outcomes of this course the student should master the following:

- 1) To identify a binary operation
- 2) To solve a first order linear and exact differential equations
- 3) To solve equations reducible to linear form
- 4) To apply first order differential equations to real world systems

Text book

Differential Equations with Applications AH Siddiqi, P Manchanda

Module-1 (15 hrs) (section 2.1 -2.4)

Binary operation, Boolean Algebra

Module -2 (15 hrs) (section 4.1 -4.5, 4.7, 4.8)

Differential equation

Cooling/ warming law, population growth and decay, radioactive decay and carbon dating, series circuits, economics and finance



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