

**SACRED HEART COLLEGE (AUTONOMOUS)
THEVARA, KOCHI**

DEPARTMENT OF MATHEMATICS

COMPUTATIONAL THINKING FOR PROBLEM SOLVEING

16MATVAC01

Course objectives

This course is intended to expose you to the basic ideas of different counting techniques and generating functions.

Course outcomes

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

- 1) To identify different counting techniques
- 2) To find the number of arrangements
- 3) To find the generating function
- 4) To apply generating functions for finding arrangements and combinations

Text book

Applied combinatorics - Alan Tucker

Module-1 (15 hrs) (section 5.1 -5.5)

Basic counting principles, arrangements and selections, arrangements and selections with repetitions, binomial identities

Module -2 (15 hrs) (section 6.1 -6.4)

Generating functions, partitions, exponential generating functions.



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