



**W M O Arts & Science College, Muttil**  
**Department of Mathematics**  
**Certificate Course on Recreational Mathematics**

No. of Hours: 30

Course Co-ordinator: Mini C

**Course Description:**

Recreational mathematics is real mathematics presented in a context that makes it fun, interesting, and challenging. It is an effective means of motivating students of any grade or ability level. It can be an integral part of daily lessons, to promote discovery, or just for fun. The use of mathematical recreations can serve as a means of convincing students that mathematics can be exciting. This enthusiasm will be transferred to other mathematical topics in the traditional curriculum.

This course is designed to help students, to use recreational mathematics in their activities in meaningful and worthwhile ways. Participants will learn to appreciate what is available within the world of recreational mathematics. They will understand how this can capture the interest and motivation of people who find mathematics dull and uninteresting.

The course includes activities related to various topics from mathematics including problem-solving strategies, logic, number theory, and probability theory.

**Course objectives:**

On successful completion of the course, students will achieve the following

- Have confidence in their ability to explain mathematics.
- Understand how to break down advanced topics.
- Develop logical thinking and problem-solving skills.
- Understand recreational math research as a discipline.
- Understand methods of communicating math with non-mathematical audiences
- Get the opportunity to know the history and culture of the discipline

**Syllabus**

**Module 1**

**1.1 Problem-solving techniques**

Students will be exposed to the Pólya-style problem-solving process. They start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals.

## 1.2 Reasoning

Students make sense of quantities and their relationships in situations of problems and find solutions

## Module 2

### 2.1 Mathematical puzzles

It includes logical, number-theoretic, analytical, and graphical puzzles of various levels

### 2.2 Mathematical games

It includes solitaire games like instant insanity, soma cubes, brain vita, and group games

## Module 3

### 3.1 Modelling

Students learn to apply the mathematics they know, to solve problems arising in everyday life, society, and the workplace.

### 3.2 History of mathematics

Students learn the history of some mathematical discoveries and learn to appreciate the effort behind each discovery

## Course outcomes:

- Students will enjoy doing mathematics after exposing to several recreational type activities.
- Students will be able to talk about the beauty of doing mathematics
- Students will be able to communicate math with non-mathematical audiences.
- Creative thinking and logical reasoning will be developed.
- Students learn to appreciate others for their achievements.
- Students become able to apply mathematics to real-life problems.

Course Co-ordinator : Mini C

Assistant Professor

Head

Dept. of Mathematics