

Course on Analysis and Thinking(CAT)

Course Objectives:

After completing the course, student will be able to

1. solve interesting puzzles
2. map puzzles to models
3. find generic solutions
4. find alternate solutions

Approach:

We will discuss a few puzzles/problems – reduce them to a mathematical model – solve them for some small size – Generalize the solution – Express the solution in some readable form.

Or

We may want the participants to follow a general solution – find errors if any

Or

We may want the participants to follow a general solution – suggest improvements

The course is all about thinking, thinking and thinking!!

Course Content:

Day 1: Playing with what 'remains'

- factors, prime, ...

Day 2: vectors and matrices

- magic, Pascal, Parallel ...

Day 3: letters and digits

- encode and decode ...

Day 4: logically speaking

- apply and analyze ...

Day 5: game playing

- winning strategies ...