



OUT OF THE BOX THINKING - THROUGH MATHEMATICS



An Initiative of IITM PRAVARTAK TECHNOLOGIES FOUNDATION to nurture young minds
Courses at 4 different Independent Levels

ABOUT

Mathematics is not just mechanical calculations of numeracy or mere plugging of borrowed formulas existing for ages. It is a study of facts of numeracy and logic, where logic is interwoven in the study of mathematics. It provides an opportunity to explore self-assessment, data processing, validation, to develop broader thinking by dealing with a variety of problems which lead to multiple solutions. The joy of discovery of this process, helps realize the powerful applications of mathematics in various fields from Anthropology, Archaeology, Astronomy, Biology and so on.

OUT OF THE BOX THINKING THROUGH MATHS

Logic being the undercurrent in the study of mathematics, it is essential to develop a broader thinking, through its applications in the expanding world of technology. From solving a fun sudoku puzzle to completing an important scheduled project, the logic of working is much more important than the arithmetic involved in it. This requires creative thinking and a broader perception that is often known as Out of the box thinking. Out of the box thinking or lateral thinking is solving problems through an indirect and creative approach, using reasoning that is not immediately obvious, and involving ideas that may not be obtainable by using only traditional step-by-step logic. In this unique course, out of the box thinking is emphasized through rediscovering the known and unknown facts of mathematics logically, with an interesting broader perception of the manner of doing it.

FOR WHOM

These courses are easily accessible to your school children, professionals and researchers. The four graded independent levels of the courses present multiple approaches to problem solving, debunking the myth that problem solving is for the elite. It introduces new techniques in a easy to understand fashion; prepare them to face real life projects with confidence and ease.

HOW IS THAT?

A kid says to his mother that he observed in a computer: "AUGUST 2020 followed by DECEMBER 2020 followed by FEBRUARY 2020." Mother said "No. It must be FEBRUARY 2021 not 2020. Check!" Kid said: "I have checked. Its FEBRUARY 2020 only in the mentioned order" Kid is right and how is that?!

In a Maths lab, two boys were given an abacus having four rods with few beads in it. Teacher asked her students to read the number from the abacus setup. Vidharth says: "Its 1729." Viraj says: "Its 9271". Both are right and how is that?!

Kaveri says to her father: "I cut a square piece out of a rectangular A4 sheet of paper." Father asked her: "Did you fold the paper?" Kaveri replied: "No!" Father: "Did you measure by ruler and cut the paper?" Kaveri replied: "No!" Kaveri continued: "I used two A4 sheets of paper and my birthday greeting card (that you gave to me last month)". She is correct and how is that?!

In a petrol bunk, a filler asks a car owner: "Normal petrol costs Rs.100 per litre and Power petrol costs Rs.110 per litre. Which one do you need?" Owner says: "Fill my car tank with Power petrol for Rs.2200. It may be economical and cheaper when I drive 360 km and I could save 30 km. It's happened before too" Owner is right and how is that?!

Courses

(School Class 5 & above)
Lecture duration 20 hours

(School Class 7 & above)
Lecture duration 20 hours

(School Class 9 & above)
Lecture duration 30 hours

(School Class 11 & above)
Lecture duration 30 hours

All the lectures will be recorded lectures. The courses are planned to be repeated every academic year.

Process

Apart from recorded lecture sessions, each level provides periodic assignments, evaluation, assessment and answers.

Registration and Certification

1. Course is free online.
2. **Course Registration** will be open in the months of April / November every year for the June and January sessions, respectively.
3. Registered Students should take up assignments online.
4. Students desiring certification must opt for the final exam during the **Exam Registration** process that carries a nominal fee.
5. Final exam will be a proctored one and conducted at centres in select cities across India.
6. Certification is based on evaluation of the same.
7. Grade certification will be issued by IITM Pravartak only for students who take the examinations and get grades.

For more details, please check
<https://www.pravartak.org.in/out-of-box-thinking>
Designed and to be conducted by
Sadagopan Rajesh (Mathematics Educator)



IITM Pravartak Technologies Foundation,
B5-01, 5th Floor, Block B,
Kanagam Road, IIT Madras Research Park,
Taramani, Chennai - 600 113