IIIT Delhi – RAM Maths Circle

(Organized by the Department of Mathematics, IIIT Delhi)

IIIT - Delhi January 4th, 2026

Session Report

This session was a special one conducted by Vinay Sir. While waiting for all the students to arrive, he interacted informally with some of the participants. He began the session by introducing the Epsilon India Camp, followed by a short video about the program.

The topic of the session was **Magic Squares**. A magic square is a square grid of numbers in which the sum of the numbers in each row, each column, and both main diagonals is the same. This common sum is known as the *magic constant* of the square. A *pan diagonal magic square* is a special type of magic square in which the broken diagonals also add up to the same magic constant.

During the session, the following two magic squares were discussed and analysed.

1	8	13	12
15	10	3	6
4	5	16	9
14	11	2	7

7	12	1	14
2	13	8	11
16	3	10	5
9	6	15	4

The following questions were explored in relation to magic squares:

1. What would be the magic constant of a magic square if the numbers used ranged from 101 to 116 instead of 1 to 16?
2. What would be the magic constant if the first 16 even numbers were arranged to form a magic square?
3. What would be the magic constant of a magic square formed using the first 16 odd numbers?
4. Construct a magic square whose magic constant is 2026.
5. Is there any other way to obtain the magic constant 34 using a magic square formed from the numbers 1 to 16?
6. Why do special magic squares, such as pan-diagonal magic squares, work?