ST. XAVIER'S COLLEGE, MAPUSA GOA

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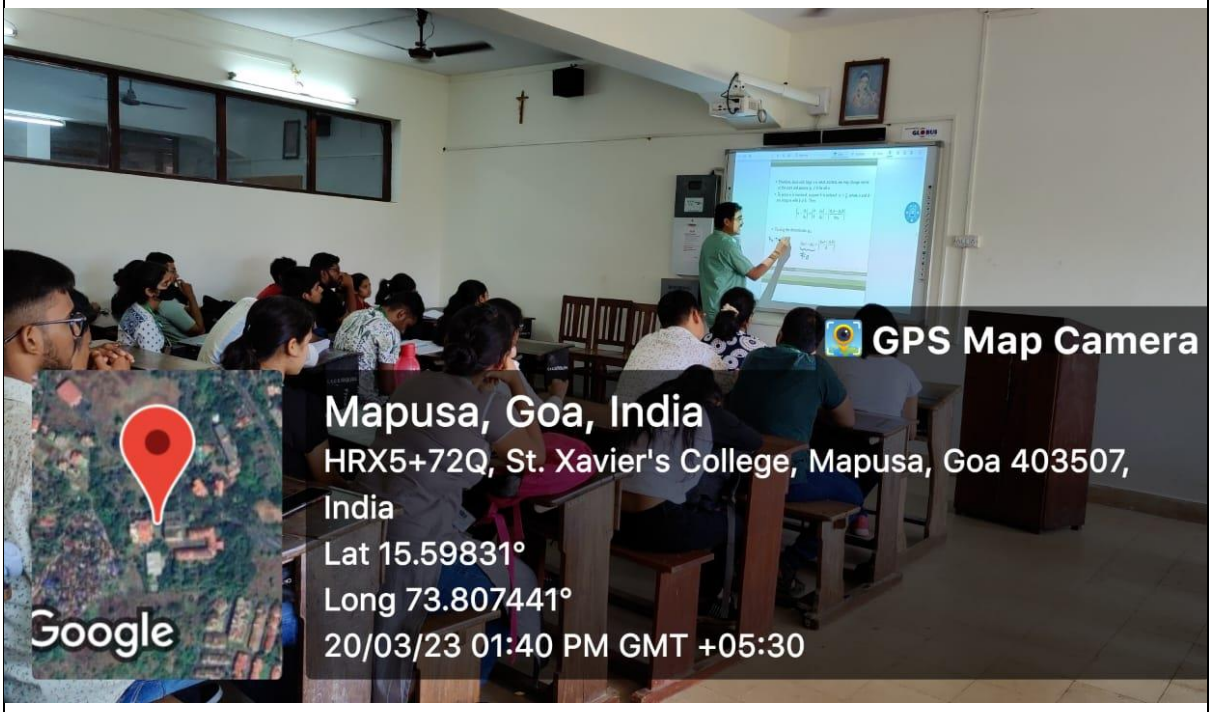
Nature of Event (Workshop, Guest Lecture, Add-on Course, Seminar, etc.)	A Talk
Name of Department	Mathematics
Faculty In-Charge	Mr. Gajanan Rama Parab
Stratum of Event (College, State, Regional, National)	College
Title of Event	Irrationality of pi and e and some applications
Date of Event	20 March 2023
Venue	Lecture Hall 212
Resource Person details	Dr. Sandipan De Assistant Professor in Mathematics Department of Mathematics Indian Institute of Technology ,Goa
Objective/ Scope of Event	To bring the attention of participants to two famous numbers in mathematics namely pi and e.
Particulars of Event	To motivate the participants, the resource person started by proving the irrationality of the square root of 2. He then informed the participants that the first proof of pi being irrational was given by Lambert in 1761. In his session for the students, he proved the irrationality of pi using a recursive sequence of polynomials. He then went on to prove the irrationality of e using an argument by Fourier in 1815. Later, a general strategy for proving the irrationality of numbers was demonstrated by Dr. De. The strategy consisted of showing that if a number 'a' admits a "very good" sequence of rational approximations, then 'a' must be irrational. This strategy was used to establish the irrationality of e^a for any positive integer 'a'. The session concluded with the application of Hermite's Lemma in proving the irrationality of positive integral powers of e.
Outcome of Event	Many myths about the numbers pi and e were brought to the notice of students.

Feedback	Participants appreciated the talk.
Total No. of Participants	70

Photographs

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