

MATHEMATICS CLUB

Activities conducted during the academic year 2020-21

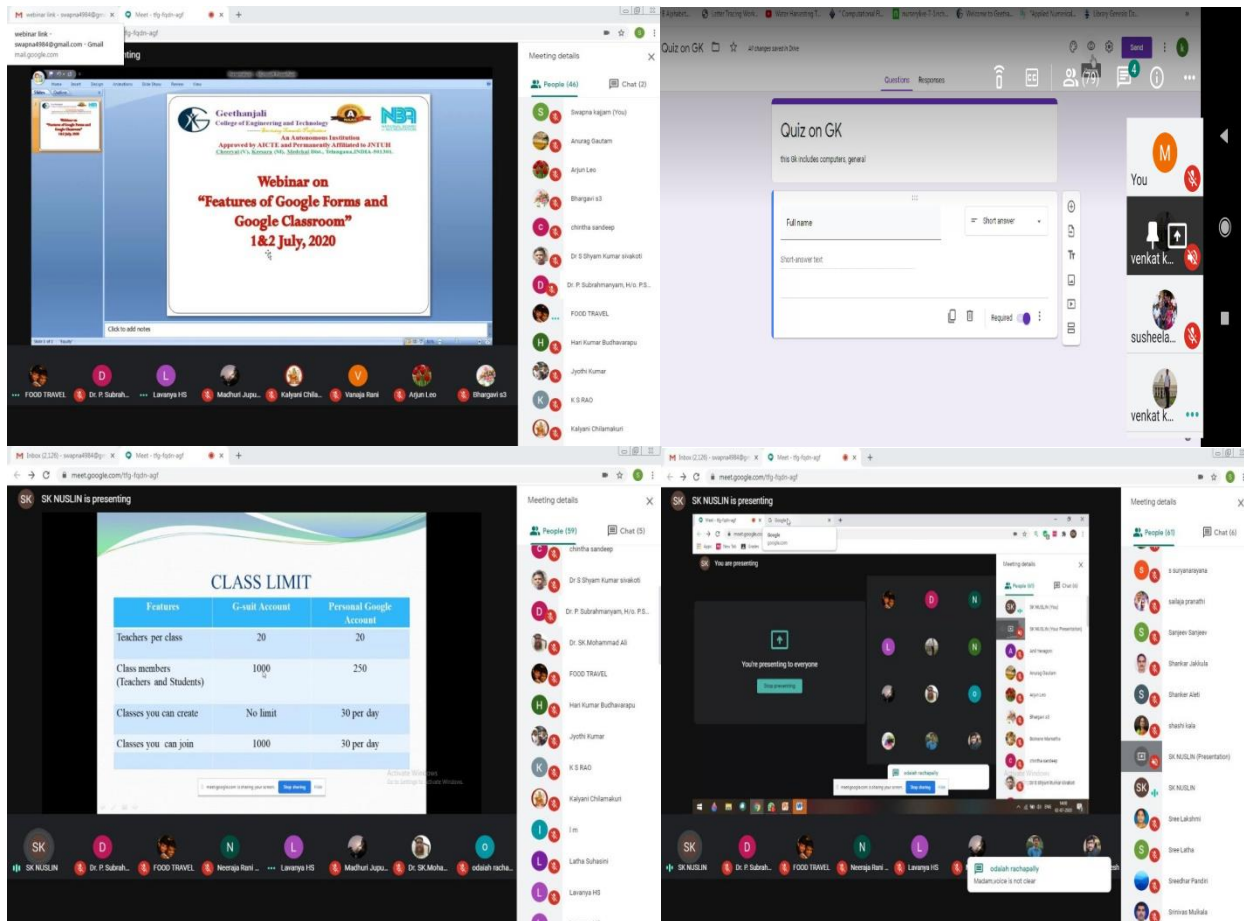
S. No	Name of the Event	Resource Person if any	Date(s)	No. of Participants
1	Two day Webinar on “Features of Google Forms and Google Classroom”	Dr. Venkateswarulu, Associate Professor and Dr. Nuslin, Associate Professor, GCET	01-07-2020 and 02-07-2020	104
2	Hands on training session on “Introduction to R-Software”	Dr. V.S. Triveni, Professor and Dr. N. Subhadra, Associate Professor, GCET	5-10-2020 to 10-10-2020	12
3	Guest lecture on “Mathematics behind Machine Learning”	Dr. C. S. Sastry, Professor, Department of Mathematics, IIT Hyderabad	22-12-2020	223
4	Guest lecture on “Internet of Things: Mathematical Relevance”	Dr. Peddoju Sateesh Kumar, Associate Professor, Department of Computer Science and Engineering, IIT Roorkee	02-02-2021	210
5	Quiz on Aptitude and Logical Reasoning		Round-1 03-02-2021	551
			Round-2 10-02-2021	145
			Round-3 12-03-2021 and 13-03-2021	22
6	Sudoku Puzzle competition		Round-I 22-05-2021	445
			Round-II 29-05-2021	

7	Webinar on “Post COVID Fungi”	Dr. S. Parthasarathy, MD, General Medicine, Consultant, Navodaya Hospitals, Secunderabad	01-06-2021	105
8	Guest Lecture on “Importance of Probability and Statistics in Engineering”	Dr. Satya Prakash Singh, Assistant Professor Department of Mathematics, IIT- Hyderabad	12-06-2021	224
9	Mathematics Project Presentation	Judges are 1. Dr. A. Sri Lakshmi, HoD and Professor, CSE Department, GCET 2. Dr. L. Venkateswarulu, Professor, CSE Department, GCET 3. Dr. Pooja Prasad, Associate Professor, CSE Department, GCET 4. Mr. Y V N Phani Kishore, Test Engineer, AccelQ 5. Mr. Hare Krishna, Test Engineer, AccelQ	15-6-2021	123 (38 teams)

Webinar

A Two-day Webinar on “Features of Google Forms and Google Class Room” was organized on 1st and 2nd July, 2020 from 2.00 pm to 3:30 pm. On the first day, i.e., 1-7-2020 the Features of Google Forms were explained by Dr. L. Venkateshwarlu, Associate Professor, FE Department, GCET and on the second day, i.e., 2-7-2020 the Features of Google Class Room were explained by Dr. SK. Nuslin Bibi, Associate Professor, FE Department, GCET through Google meet platform. The session was for one and half hour. Feedback link was provided on the second day of the webinar in the Google meet chat box.

112 participants registered for the webinar, 104 E-certificates were issued to the participants who attended the webinar. Participants from different colleges also attended the webinar, they expressed their gratitude through feedback by appreciating the speakers and organizers. Program was a grand success.



Hands on training session

R is a programming language for statistical computing and graphics that can be used to clean, analyze, and graph your data. It is widely used by researchers from diverse disciplines to estimate and display results. Hands on training session was conducted on **“Introduction to R-Software”** by internal faculty Dr. V.S.Triveni and Dr. N. Subhadra to the faculty of mathematics. The hands on training was scheduled on 05-10-2020 to 10-10-20 through online mode from 5.30 pm to 7.00 pm.

Date and Day	Session addressed by	Topic covered
5-10-2020(Monday)	Dr V.S Triveni	History of R, Install R, R-console, R-Studio, R-Packages, R-commander, Merits and demerits of R
6-10-2020 (Tuesday)	Dr. V. S. Triveni	R as a Calculator Basic Math on R console, functions and loops, Commands of R, Syntax of R for read csv files
7-10-2020 (Wednesday)	Dr. N. Subhadra	Data Frames, Data Frames: Creation and Operation
8-10-2020 (Thursday)	Dr. N. Subhadra	Display using Print and Format Functions with Concatenate, Display Strings Using Paste Function and Splitting, Splitting and Substitution in Strings, Search in Strings and Other Data Operations
9-10-2020 (Friday)	Dr V.S Triveni	Statistical operations using R (Frequency Central Tendency, etc)
10-10-2020 (Saturday)	Dr. N. Subhadra	Plotting Graphs and programming in R

All the sessions were very interactive. Faculty members actively participated and cleared all the queries during the sessions. At the end of the training, members thanked the trainers.



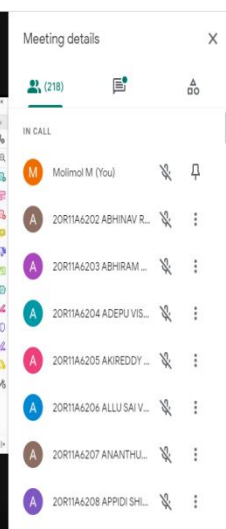
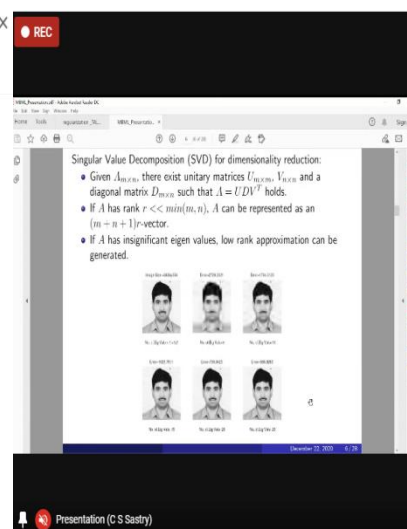
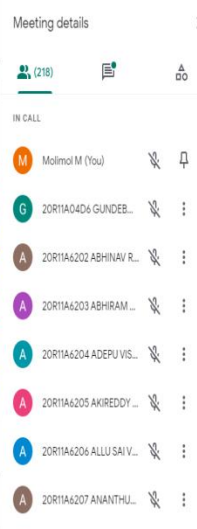
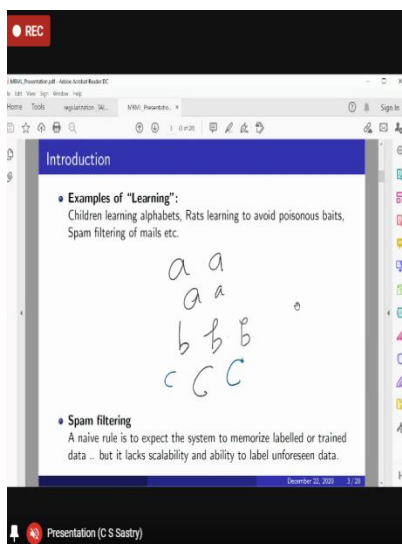
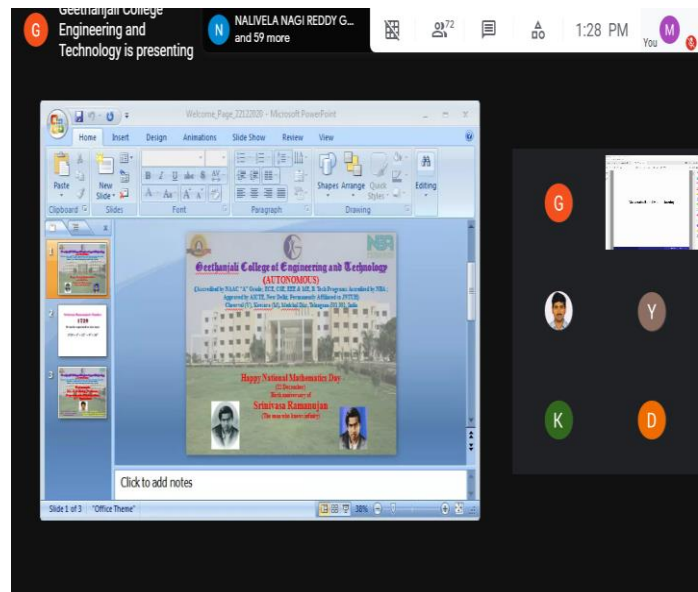
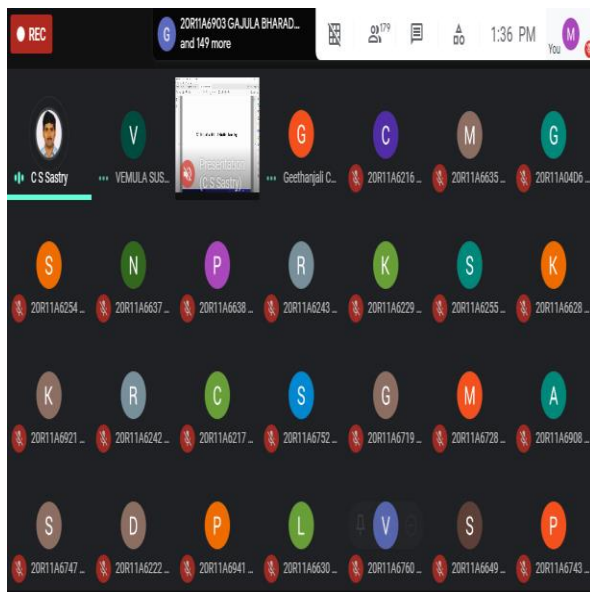
Guest Lecture

On the occasion of “National Mathematics Day”, Mathematics Club of Freshman Engineering Department organized a guest lecture on “Mathematics behind Machine Learning” by **Dr.C.S. Sastry, Professor, Department of Mathematics, IIT, Hyderabad** on 22-12-2020 from 1:30 pm to 3:00 pm for I year B.Tech students through Google meet.

Dr. C.S. Sastry gave ideas about Machine Learning and explained about AI and ML. Artificial Intelligence is the broad science of mimicking human beings and machine learning is a subset of Artificial Intelligence that trains a machine how to learn. In this way the guest speaker explained real life applications which made the students understand the topics easily.

Sir has explained various optimization techniques and applications of vectors and matrices and also classification of clustering of data and some tricks based on kernel trick. The session was interactive and application oriented to the students. 223 students attended the session.

The feedback forms were collected from the students.

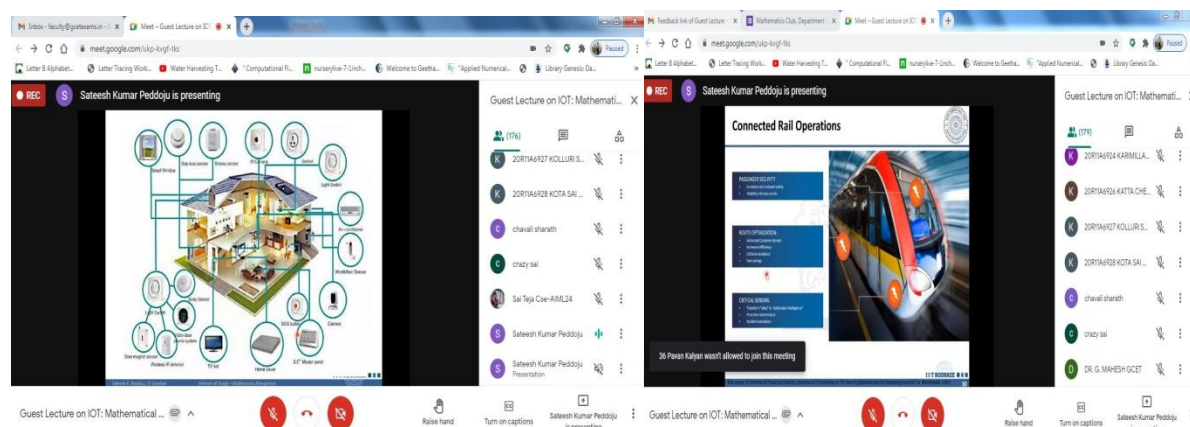
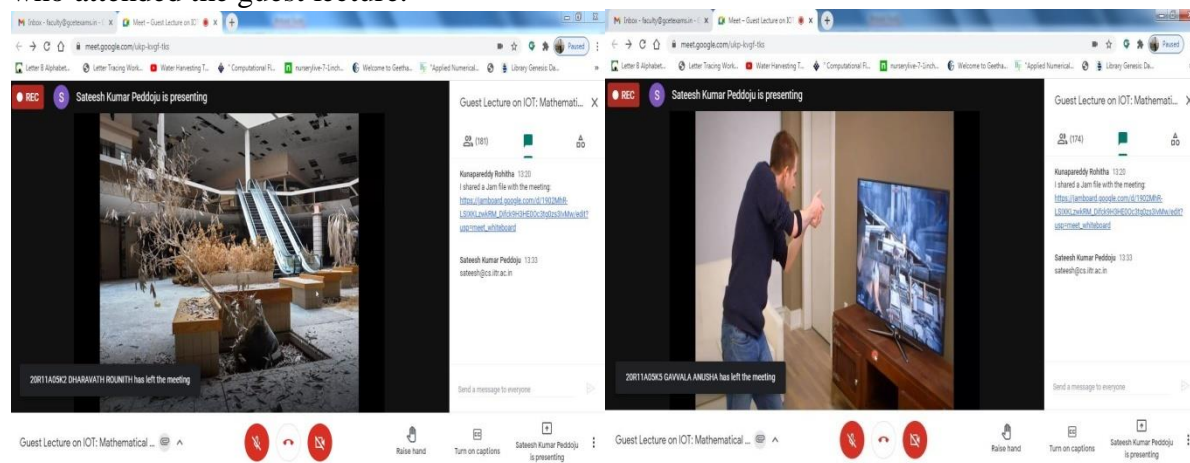


Guest Lecture

A guest lecture titled “**Internet of Things: Mathematical Relevance**” was organized on 2nd February, 2021 by Mathematics Club of FE department. Eminent speaker Dr. Peddoju Sateesh Kumar, Associate Professor, Department of Computer Science and Engineering, IIT Roorkee, delivered the guest lecture.

After the speaker's formal introduction, the session began with the importance of what IOT is? Detailed rundown of future smart phone and intelligent gadgets. Components, IOT negatives, and IOT work have also been clarified. Finally, the emphasis was on the IOT's mathematical significance.

210 students from CSE (all sections), CSE-CS, CSE-DS, CSE-AIML, CSE-IOT branches attended the session from 1.30 pm to 3.30 pm. The feedback forms were also collected from the students who attended the guest lecture.



Quiz

Mathematics Club issued a circular on 29/03/2021 for conducting quiz on aptitude and reasoning. 551 students had participated in Round-I, which was conducted on 3/2/2021, 145 students were selected out of 551 for Round-II, which was conducted on 10/2/2021. After the result of Round-II, 22 students were qualified. Mathematics Club members decided to conduct one more round for those 22 students that was on two different dates, i.e., on 12/3/2021 and 13/3/2021. Feedback was collected from the participants regarding quiz. After evaluation, the club members had chosen three winners, they are as follows.

S. No.	Roll No.	Name of the student	Branch	Prize
1	20R11A05A3	Rama Rahul	CSE-B	I
2	20R11A0580	G.Bhanu Sri	CSE-B	II
3	20R11A0568	B. Sharath Kumar	CSE-B	III

Quiz

Mathematics Club has organized Online Sudoku Puzzle Competition for all B.Tech students. Registration link was shared in the circular through Whatsapp group. 445 students registered for the competition. 108 students submitted the solutions for Sudoku Round-I which was conducted on 22-5-2021 and 26 out of 108 were selected for Round-II which was conducted on 29-5-2021. After Round-II three winners were finalized and the list is given below

S. No.	Roll No.	Name of the student	Branch	Prize
1	20R11A6729	M. ChaithanyaLahari	CSE(DS)	I
2	20R11A05K9	Hari Sarada	CSE-D	II
3	20R11A1254	ShivaniGitti	IT-A	III

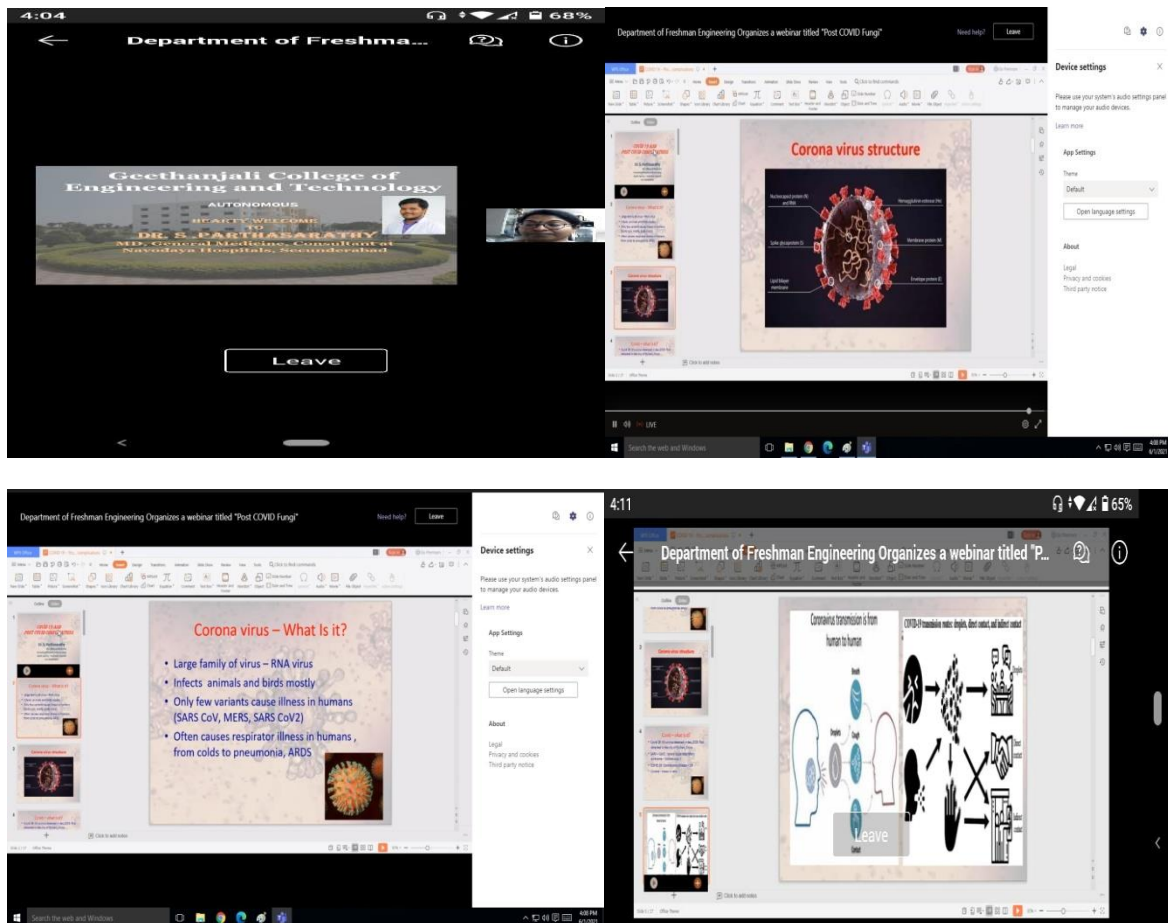
Participation certificates were given to the qualifiers of Round-I and the winners were awarded with merit certificates. Students participated enthusiastically and all the faculty members cooperated for the smooth conduct of the competition.

Webinar

Department of Freshman Engineering, Mathematics Club and Outreach Cell organized a Webinar on “**Post COVID Fungi**” by eminent speaker **Dr S. Parthasarathy, MD, General Medicine, Consultant, Navodaya Hospitals, Secunderabad** on June 1st, 2021 (Tuesday) from 4.00 pm to 5.00 pm through Online (Microsoft Teams) for Students of B. Tech, MBA, parents and faculty. The link was shared in the respective whatsapp group.

He started the session with the origin of COVID-19 i.e., what is Corona virus? He explained COVID diagnosis and the risk group. Sir discussed various aspects of Post COVID complications such as fungal infections, Risk factors. He explained the treatment procedure of COVID-19 as well. Sir concluded the session by mentioning the precautions to be followed as the statement says: “Prevention is better than cure”.

105 members attended the session. Feedback link was posted in the chat box and responses were collected.

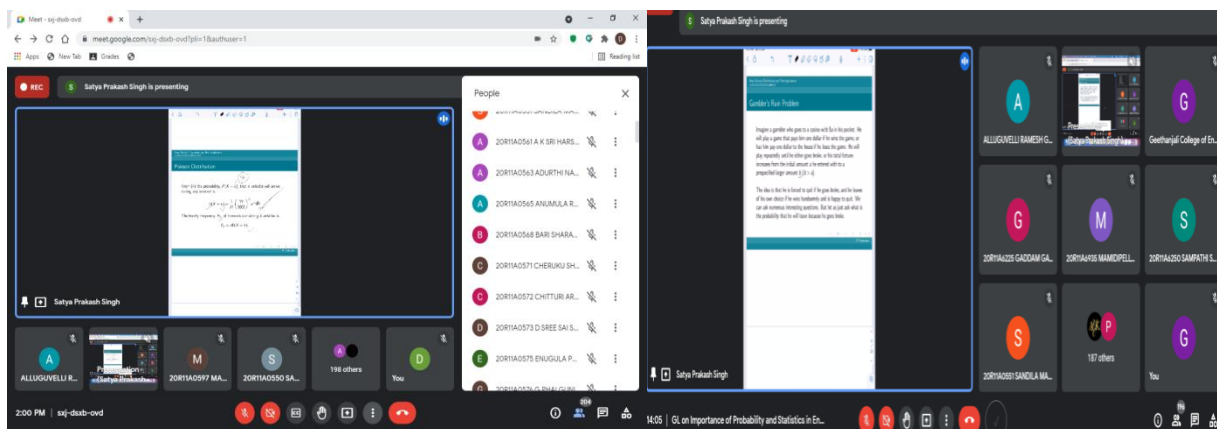
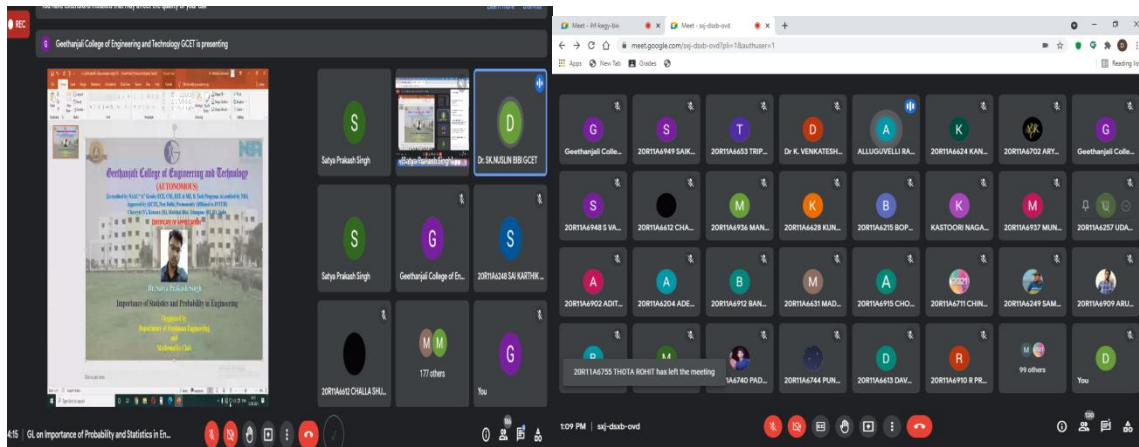


Guest Lecture

A guest lecture titled “**Importance of Probability and Statistics in Engineering**” was organized on 12th June, 2021 by Mathematics club of FE department. Eminent speaker **Dr. Satya Prakash Singh, Assistant Professor Department of Mathematics, IIT- Hyderabad**, delivered the guest lecture for B. Tech I year students.

The speaker started the session with basic examples of the topic Probability and asked certain logical questions to the students. He explained real life examples with the concept like Binomial Distribution, Normal Distribution, Hyper Distribution, and Poisson Distribution and also explained these distributions with examples like evaluation of fishes in a pound, tigers in forest and so on. Explained statistics as prerequisite for Machine Learning, Data Science and Artificial Intelligence and how it plays a vital role in Big Data and Data Analysis with examples.

224 students from CSE, CSE-AIML, CSE-DS, CSE-IOT, CSE-CS and IT branches attended the session from 1.00 pm to 02.30 pm. The feedback forms were also collected from the students who attended the guest lecture.



Mathematics Project Presentation

Benchmark:

Remark: Few topics of first year engineering mathematics were assigned to students to do projects either by programming languages like C/C++/ java/python or as a case study.

Action Plan:

Remark: Based on the performance in the class test, slip tests and classroom response, students were identified and made as teams to work on the project by their respective faculty. All mathematics faculty guided their students in making these projects with some applications either by coding or survey.

Implementation Details:

Remark: Each mathematics faculty acted as facilitator and guided minimum three teams. They reviewed three to four teams once in ten days and suggested them to update/modify their codes/projects for the completion of their task. Rubrics were prepared to assess the student's projects by judges. Points of the rubrics assigned are as follows: Content (10), Application (10)

and Presentation (10). Total assessment was done for 30 points for each team based on their topic, presentation and scope for future work.

An event on “**Mathematics Project Presentation**” by B. Tech, I year II Semester students was conducted on 15th June, 2021 by Mathematics Club of Freshman Engineering Department from 9.00 am to 1.40 pm through Google meet. The following judges were identified with sound knowledge in coding and mathematics.

Judges were:

1. Dr. A. Sri Lakshmi, Hod and Professor, CSE department, GCET
2. Dr. L. Venkateswarulu, Professor, CSE department, GCET
3. Dr. Pooja Prasad, Associate Professor, CSE department, GCET
4. Mr. Y V N Phani Kishore, Test Engineer, AccelQ
5. Mr. Hare Krishna, Test Engineer, AccelQ

Total 123 students participated in 38 teams. Each team was given 10 mins for presentation of their project and five minutes for Q&A session and suggestions by the judges.

Students performed their projects in various areas like: Finding rank of a nxn matrix using C++ language, Eigenvalues using C Language, Gamma Function, Complex Numbers related to Coding, Newton’s Law of Cooling Using C Language and C++ language, Natural Growth or Natural Decay Calculator, Gauss Elimination Method Using C and C Program to find Inverse of a non-singular matrix, integration of polynomial using C language, harmonograph, cryptography using matrices, and calculation of centre of mass using double and triple integrals.

Suggestions by the judges were as follows:

1. Judges appreciated the efforts of I B.Tech students in the preparation of Mathematics Projects Presentations.
2. Judges posed questions related to their projects to each and every member of the team.
3. Suggested them to improve C/C++/python-language and logical thinking in developing codes by taking the help of Computer Science faculty.
4. Advised to include Pictures and Diagrams in the project to present the concept more effectively.
5. Directed students to go through the applications of Laplace Transforms for Cyber Security which plays a vital role in cyber-attacks.
6. Motivated students to come forward and involve in projects which will help them in their career.
7. Suggested that OOPs concepts should not be used in C++ programming and can use generic variables rather than hard coding the values in functions.
8. Judges had given valuable suggestions and advised them to extend their work to the generalized form.

All students of each and every team participated with enthusiasm and expressed their gratitude to the faculty whomsoever helped them in the completion of their projects.

List of Winners for Mathematics Project Presentations

Prize	Team No.	Title of the project	Team Members	Roll Number	Branch
I	32	Newton's Law of Cooling Case Study: Estimation of Time of Death in Murder	Asifa Anjum Shaik	20R11A0405	ECE-A
			A Venugopal	20R11A0403	ECE-A
II	3	Gamma Function	D Sree Sai Soujanya	20R11A0573	CSE-B
III	28	A Stepwise Procedure for Solving Newton's Law of Cooling	Deepana	20R11A1208	IT
			M. Rajesh	20R11A1244	IT
Consolation	23	Cryptography Using Matrices	Chinthala Shivani	20R11A6711	CSE-DS
			Hema Manogna	20R11A6720	CSE-DS
			Abid Hussain	20R11A6730	CSE-DS