DEPARTMENT OF MATHEMATICS

GUEST LECTURES ORGANIZED BY THE DEPARTMENT

- Topic: **Applications of Ordinary and Partial Differential equations.**
- Date Conducted: **23.09.2017.**
- Name and Designation of the Resource person: **Dr J. Vijayasekhar,** Assistant professor, GITAM deemed to be University, Hyderabad.
- Report on the guest lecturer:

1. Objective

To create interest in learning the applications of differential equations in various fields

2. Notes on lecture

The speaker delivered a lecture on Applications of Ordinary and Partial Differential equations. In addition, he discussed how to use differential equations in physics, chemistry in daily life.

3. Outcome

Students were able to grasp the significance of Applications of Ordinary and Partial Differential. Improve and maintain their problem-solving abilities. Model real-world problems with mathematical concepts

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru

NAME OF THE EVENT: GUEST LECTURE

- Topic: **ADVANCED DEVELOPMENTS INREAL ANALYSIS.**
- Date Conducted: **07.09.2019.**
- Name and Designation of the Resource person: **Dr K. Naveen Kumar** Vice Principal, Department ofMathematics of K. B. N Degree College, Vijayawada
- Report on the guest lecturer:

Objective

To create interest in learning the applications of advanced developments in Real Analysis.

Notes on lecture

The speaker delivered a lecture about how Real Analysis is applied in real-life situations. In addition, he discussed the concept of Roll's theorem with geometrical representation and applications of the following concepts.

1. Sequences and Series 2.Limits with Examples 3.Continuous Functions

4. Differentiable Functions5.Riemann Integration.

Outcome

Students were able to grasp the significance of Real Analysis applications. Improve and maintain their problem-solving abilities. Model real-world problems with mathematical concepts.

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru

NAME OF THE EVENT: GUEST LECTURE

- Topic: **NUMERICAL ANALYSIS AND ITS APPLICATIONS.**
- Date Conducted: **10.03.2022.**
- Name and Designation of the Resource person: **Sri Ch. S. Harnadh,** Head department of Mathematics, V VGiri Govt. Degree Kalasala, Dumpagadapa, West Godavari District.
- Report on the guest lecturer:

Objective

To create awareness on applications of Numerical Analysis and to create interest to implementation of applications in various fields.

Notes on lecture

The speaker delivered a lecture about the concept of Numerical Analysis and its applications. What are the importance of these applicationsin various fields like Physics, Computer Science and Engineering.

Outcome

Students were able to learn and understand the concept of these topics and told them it is very useful in Computer programming.

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru

NAME OF THE EVENT: GUEST LECTURE

- Topic: **ADVANCED NUMERICAL ANALYSIS WITH 'C' PROGRAMMING.**
- Date Conducted:16.05.2022
- Name and Designation of the Resource person: **Sri A .Venkatesh,** Lecturer in Mathematics, P.B. Siddhartha Degree College of Arts and Science, Vijayawada.
- Report on the guest lecturer:

Objective

To create an interest on how to develop a computer program by using Numerical methods.

Notes on lecture

The speaker delivered a lecture on main advantages of Numerical Methods and how to use these methods are in C Program. Mainly discussed the concept of Numerical differentiation, Numerical Integration, RegulaFalsi method, Newton Raphson Method and Lagrange's method.

Outcome

Students were able to grasp the concept of Numerical methods and used these methods to create a Computer programme.

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru

NAME OF THE EVENT: MATHEMATICS WEBINAR

- Topic: **APPLICATIONS OF MATHEMATICS IN ENGINEERING AND PHYSICS**
- Date Conducted:**10.07.2020 to 11.07.2020**
- Name and Designation of the Resource person: **DrP.G.Siddheswar,** FIMA(UK), FNASC, Senior Professor of Mathematics, Christ(Deemed to be University), Bengaluru.

Day - 1

Report on the guest lecturer:

Objective

To create awareness on how to extract physics from the Mathematics.

Notes on lecture

The speaker delivered a lecture on the main concept extraction of Physics by using mathematics applications.Visco-elastic boundary layer flow and heat transfer over a stretching sheet in presence of viscous dissipation and non-uniform heat source have been discussed. Analytical solutions of highly non-linear momentum equation and confluent hypergeometric similarity solution of heat transfer equations are obtained. Here two types of different heating processes are considered namely (i) prescribed surface temperature (PST) and (ii) prescribed wall heat flux (PHF). The effect of various parameters like visco-elastic parameter, Eckert number, Prandtl number, and non-uniform heat source/sink parameter on temperature distribution is analyzed and effect of all these parameters on wall temperature gradient and wall temperature are tabulated and discussed.

Outcome

All the participants were actively involved and grasp the concept of how to extract physics from the Mathematics.

Day - 2

- Name and Designation of the Resource person: **Dr N. Vamsi Krishna**, Assistant Professor, Dept of Mathematics, GITAM Deemed to be University, Hyderabad.

Report on the guest lecturer:

Objective

To create awareness on Semi – Analytical Methods for Solving Initial & Boundary value problems

Notes on lecture

The speaker delivered a lecture on Semi – Analytical Methods for Solving Initial & Boundary value problems with applications of ordinary and partial differential equations. In mathematics, in the field of differential equations, a boundary value problem is a differential equation together with a set of additional constraints, called the boundary conditions. A solution to a boundary value problem is a solution to the differential equation which also satisfies the boundary conditions. Boundary value problems arise in several branches of physics as any physical differential equation will have them. Problems involving the wave equation, such as the determination of normal modes, are often stated as boundary value problems. A large class of important boundary value problems are the Sturm–Liouville problems. The analysis of these problems involves the Eigenfunctions of a differential operator.

Outcome

All the participants were actively involved and understand the concept of Semi – Analytical Methods for Solving Initial & Boundary value problems.

A.G & SG Siddhartha Degree College of Arts & Science, Vuyyuru

NAME OF THE EVENT: GUEST LECTURE

- **Topic**: Innovative Themes and Career opportunities in Mathematics & Statistics
- **Date Conducted**: 15-12-2022
- **Name & Designation of Resource person**: G.Chakravarthi, HOD of Statistics in PB Siddhartha College,Vijayawada
- **Report on the guest lecturer**:

1.Objectives:

(i) To create awareness of students how to gain maximum marks in semester exams and what opportunities are available for a statistician.

(ii) What is the use of doing MSc in IITs or Central Universities.

2.Notes on Lecture:

Prepare your own notes by using Fundamentals of Mathematical Statistics, Applied Statistics text books and Google etc. Don't By heart. Learn one by one with the real life examples. More practice theorems & derivations etc.

Now the present situation so many jobs are available for the statistics students. They are Data analyst, Data scientist, Government, Banking sectors, Financial services, Insurance, Software development, Market researcher etc. They paid highest salary like 20Lpa to 50Lpa. The starting salary for a BSc statistics graduates ranges from 4Lpa to 10Lpa.

You will prefer for a job in many MNC companies after completing your MSc degree from IITs as compared to the other college students. Also, you will get good placement in top companies such as Tcs, Wipro, Microsoft etc. as IIT have high chances of landing a job in one of the best companies.

IIT jam, or the joint admission test for masters was first conducted in 2004 to give admission to science students in post graduate courses and has agained mush crowd in just the past few years.Thousands of lives have changed after qualifying for IITjam. The course design of IIT is also incomparable. You can even pursue an integrated MSc in just 5 years from IITs. Integrated MSc students enjoy a handsome stipend from their IITs. The study pattern of IITs makes students capable of qualifying for GATE or NET. Phd students get stipends up to 1Lakh per month, much higher than state universities stipends. College offer salary packages of 20k to 30k. Whereas IITjam receive an average of 100k to 150k easily.

IITJam Question paper pattern

Section-A contains a total of 30 Multiple Choice Questions(MCQ). Each MCQ type question has four choices out of which only one choice is the correct answer. Questions Q1-Q30 belongs to this section and carry a total of 50 marks. Q1-Q10 carry 1 mark each and Q11-Q30 carry 2 marks each.

Section-B contains a total of 10 Multiple Select Questions(MSQ). Each MSQ type question is similar to MCQ but with a difference that there may be one or more than one chioice(S) that are correct out of the four given choices. Q31-Q40 belong to this section and carry 2 marks each.

Section-C contains a total of 20 Numerical Answer Type(NAT). For those NAT type questions, the answer is a real number which needs to be entered using the virtual keyboard on the monitor. Q41-Q50 carry 1 mark & Q51-Q60 carry 2 marks each.

In all sections, questions not attempted will result in zero mark. In section-A (MCQ), wrong answer will result in Negative marks. For all 1 mark questions, 1/3 mark will be deducted for each wrong answer. For all 2 marks questions 2/3 marks will be deducted for each wrong answer. In section-B (MSQ), there is no Negative. There is no Negative marking in section-C (NAT) as well.

3.Out Come:

(i) Students gained the knowledge of what type of jobs are available for statistics students.

(ii) Almost all the students are understood the advantages of doing MSc in local universities and IITs.


Opportunities in Mathematics & Statistics