

23. EVENTS ORGANIZED BY THE DEPARTMENT OF MATHEMATICS

Department of Mathematics conducted four events in A.Y 2023-24.

(1).A One Week International Workshop on "**Enhancing Computational Skills of Mathematics in Various fields of Engineering**" (ECSMVFE-23) from **18-12-2023 to 23-12-2023**. **885 students** of Bapatla Engineering College & Bapatla Women's Engineering College attended for this Workshop.

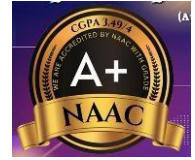
(2). 136th Birth Anniversary Celebrations of **Great and world famous Mathematician: Sri Srinivasa Ramanujan** on **22/12/2023**. More than 150 students were participated in this program. The Chief Guest of this program was Dr. Nazeer Shaik, Principal, Bapatla Engineering College.

(3).A Five Day International FDP on "**Applications of Mathematics in Various Fields with Innovative Approaches**"(AMVFIA-23) from **21-11-2023 to 25-11-2023**. **959 Faculty members** from throughout India were attended for this FDP.

(4). 103rd Birth Anniversary Celebrations of **A Great Mathematician: Prof. Komaravolu Chandrasekharan** from the soil of Bapatla on **21/11/2023**. More than 150 students were attended for this program. The chief Guest of this program was Dr. K. V. L. N Acharyulu, HOD of Maths, Bapatla Engineering College.



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136th Birth Anniversary Celebrations of A Great & World Famous Mathematician: Sri Srinivasa Ramanujan



(1887- 1920)

International Workshop on
“Enhancing Computational Skills of Mathematics in Various Fields of Engineering”
(ECSMVFE-23) through virtual mode.

(From 18/12/2023 to 23/12/2023)

Organising Team



Patron :

Dr. NAZEER SHAIK

Principal, Bapatla Engineering College, Bapatla.

Organising Committee

Convener:

Dr.K.V.L.N.Acharyulu

Associate Professor & Head, Dept. of Mathematics, BEC, Bapatla.

Co-Convener:

Dr. P. Vijaya Saradhi

Professor, Dept. of Mathematics, BEC, Bapatla.

Staff Coordinator:

Dr. M. Balaiah

Assistant Professor, Dept. of Mathematics, BEC, Bapatla.

Staff Organizers:

Sri I. Pothuraju

Assistant Professor, Dept of Mathematics, BEC, Bapatla.

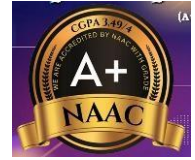
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Ms. K. Nagamani

Assistant Professor, Dept. of Mathematics, BEC, Bapatla.

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“Dept. of Maths promotes computational nature; Computational nature enriches the students’ future”



Summary Report of International Workshop on “Enhancing Computational Skills of Mathematics in Various Fields of Engineering” (ECSMVFE-23) through virtual mode.

Title: A One week Online International Workshop on “Enhancing Computational Skills in Mathematics for Various Fields of Engineering” (ECSMVFE-23)

Date: from 18/12/2023 to 23/12/2023

Objectives:

- (1).To foster a culture of continuous learning in student community by familiarizing the applications of Mathematics in various fields of Engineering.
- (2).To enhance the problem solving skills and logical thinking Capabilities of students through expert lectures of Resource persons from National and International Universities.
- (3).To Convert young engineers into strong individuals in order to face the real world challenges by exposing them to variety of lectures both in Mathematics and statistics in different domains.

Topics covered: The following domains in Mathematics are covered.

- (1).Support Vector Machine (SVM)
- (2).Mathematical Models in Engineering
- (3).Descriptive Statistics
- (4).Visualization of Mathematical Concepts
- (5).Statistical Inferences
- (6).Robust Computing

Resource persons:

On 18-12-2023:

Topic: Support Vector Machine-A Classifier

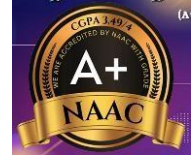
Dr. L. Jeganathan, Professor, School of Computer Science and Engineering, Vellore Institute of Technology, Chennai.

On 19-12-2023:

Topic: Mathematical Models in Engineering



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Dr. P. Nagarani,

Senior Lecturer, Dept. of Mathematics, The University of the West Indies, Mona Campus, Jamaica, West Indies.

On 20-12-2023:

Topic: Mathematics for Robust Computing

Dr. Y. N. Reddy, Professor Emeritus, Dept. of Mathematics, NIT, Warangal.

On 21-12-2023:

Topic: Visualization of Mathematical Concepts

Dr.M. A. S. Srinivas, Professor Emeritus, Dept. of Mathematics, JNT University College of Engineering, Science and Technology, Hyderabad.

On 22-12-2023:

Topic: Introduction to Statistical Inference

Dr. G. Y. Sagar, Professor, Dept. of Statistics, College of Natural and Computational Sciences, Gambelia University, Ethiopia.

On 23-12-2023:

Topic: Descriptive Statistics - Analyzing and Visualizing Data

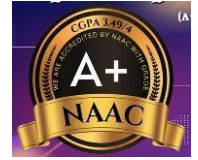
Dr. T. S. R. Murthy, Professor, Dept. of Mathematics & Statistics, Shri Vishnu Engineering College for Women, Bhimavaram, W.G. District, A. P

Description:

In view of 136 Birthday Celebrations of a Great Mathematician Sri Srinivasa Ramanujan, Department of Mathematics, Bapatla Engineering College, Bapatla organized A One week Online International Workshop on “Enhancing Computational Skills in Mathematics for Various Fields of Engineering” (ECSMVFE – 23) from 18th December to 23rd December 2023. We are pleased to inform you that **885 students** participated in this workshop. This One week Online Workshop was successfully performed as a bridge for reducing the gap between the theoretical knowledge in Mathematics and its practical applications. It also catered the needs of engineering students from all domains. Moreover, this workshop enlightened computational skills in students and also laid foundation for innovative problem-solving methods. In



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addition to it, Work Shop provided awareness on current developments in Mathematics from multiple domains. This program was fruitful to update existing knowledge in students and created a deeper interest in various fields of Mathematics.

Benefited participants: 885 students from Bapatla Engineering College & Bapatla Women's Engineering College, Bapatla .

- **Dept. of Mathematics**

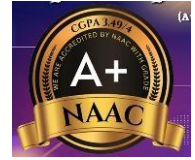


Photo gallery of International Workshop on “Enhancing Computational Skills of Mathematics in Various Fields of Engineering” (ECSMVFE-23) conducted from 18/12/2023 to 23/12/2023



Concept Illustration

Linearly Separable

A TRAINING DATA IS LINEAR. You are sharing your entire screen. Stop Sharing

For each class C_i , there exists a hyperplane H_i such that, all $x \in C_i$ lie on its positive side and all $x \in C_j, j \neq i$ lie on its negative side.

Dotted lines are the induced boundaries of the linear classifier.

Dr. L. Jeganathan(jeganathan.l@vit.ac.in) Linear Classifier

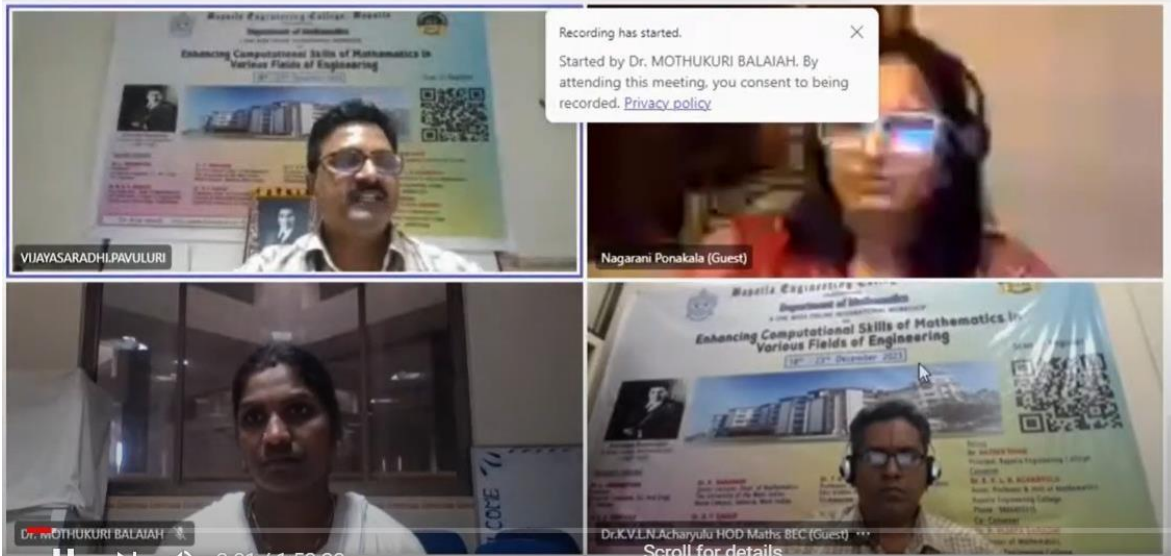
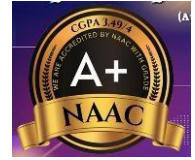
L. Jeganathan (Guest)

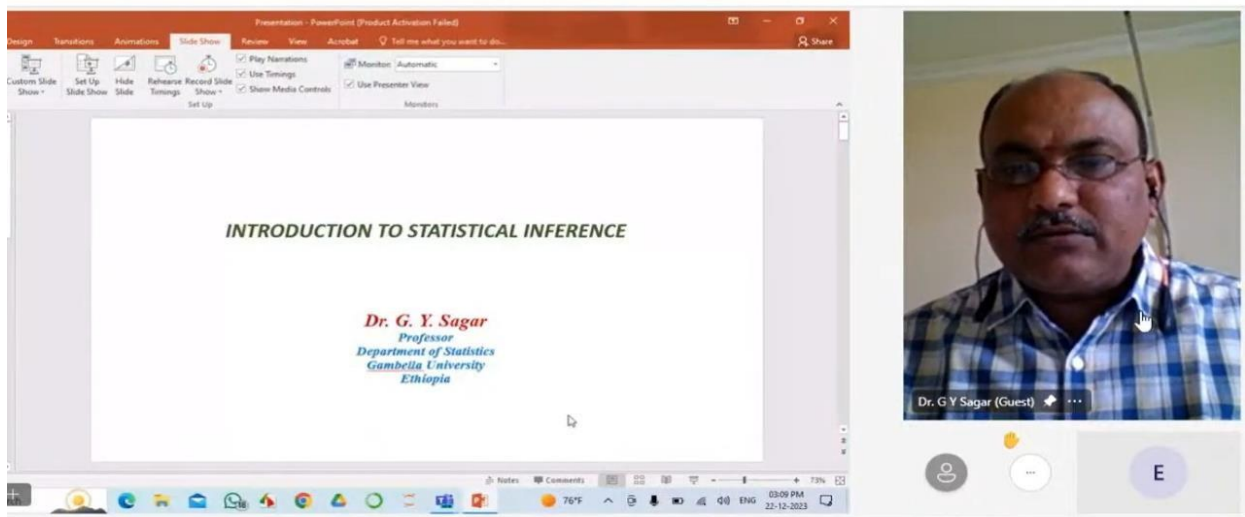
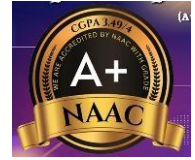
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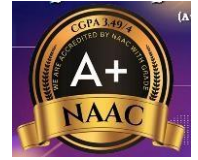
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 **Introduction**

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12/13/2023

DEPT. OF MATHEMATICS, BAPATLA ENGINEERING COLLEGE



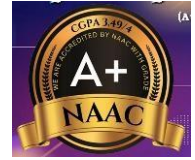


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Brochure of International Workshop on “Enhancing Computational Skills of Mathematics in Various Fields of Engineering” (ECSMVFE-23) conducted from 18/12/2023 to 23/12/2023

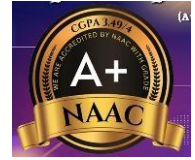
 <p>Srinivasa Ramanujan A Great Indian Mathematician (1887-1920)</p> <p>A One Week Online International Workshop on Enhancing Computational Skills of Mathematics in Various Fields of Engineering (ECSMVFE - 23)</p> <p>18th to 23rd December 2023</p>    <p>Organized by Department of Mathematics Bapatla Engineering College (Autonomous) Mahatmaji Puram :: BAPATLA - 522 102. ANDHRA PRADESH.</p>	<p>INTRODUCTION</p> <p>In view of 136th Birth Anniversary Celebrations of a Great Mathematician Sri Srinivasa Ramanujan, the Department of Mathematics, Bapatla Engineering College, Bapatla will be organizing A One week Online International Workshop on "Enhancing Computational Skills of Mathematics in Various Fields of Engineering(ECSMVFE - 23)" from 18th to 23rd December 2023.</p> <p>In this One week Online International Workshop we link between the theoretical knowledge in Mathematics and it's practical applications. It is designed to cater the needs of engineering students in various engineering branches. This programme aims to elevate the computational skills and also lays foundation for innovative problem-solving methods. This international workshop also provides awareness on current developments in different fields of Mathematics from multifarious domains.</p> <p>In the fast-growing field of Engineering, Computational skills have become the cornerstone of innovation and progress. Hence join with us for an immersive experience that goes beyond textbooks, equipping you with the tools to navigate real-world challenges through the lens of advanced Mathematics. This international workshop will definitely redefine the way in which the students perceive and apply mathematics in their engineering journey.</p> <p>Earn a prestigious certificate upon successful completion of the workshop, validating your enhanced computational skills and setting you apart in a competitive engineering landscape. The program is intended to enumerate the skill of applicability in students community. It also creates deeper interest in various fields of Mathematics.</p> <p>The workshop will provide a valuable opportunity for all Engineering Students to understand and enrich their knowledge of computational and logical skills in Mathematics and Statistics with the inspiring lectures of our Resource Persons.</p> <p>OBJECTIVES</p> <ul style="list-style-type: none">✦ To foster a culture of continuous learning in student community by familiarizing the applications of Mathematics in various fields of Engineering.✦ To enhance the problem solving skills and logical thinking capabilities of students through expert lectures of resource persons from National and International Universities.	<p>✦ To convert young engineers into strong individuals in order to face the real world challenges by exposing them with variety of lectures both in Mathematics and Statistics in different domains.</p> <p>TOPICS TO BE COVERED</p> <ul style="list-style-type: none">• Support Vector Machine (SVM)• Mathematical Models in Engineering• Descriptive Statistics• Visualization of Mathematical Concepts• Statistical Inferences• Robust Computing <p>CONTENT DELIVERY</p> <p>Renowned resource persons from various prestigious academic institutions will deliver lectures to motivate the students for enriching their computational and logical thinking skills in Mathematics & Statistics with their vast experience in the field of Engineering Education</p> <p>ABOUT THE COLLEGE</p> <p>Bapatla Engineering College (Autonomous) is one of the seven Educational Institutions founded and run by BAPATLA EDUCATION SOCIETY. The society was established in the year 1962 registered No:58/1962 under societies act XXI of 1860 with the objectives to ensconce and run the Educational & Cultural Institutions. The college was established in 1981 with a total of 42 years of service to nation.</p> <ul style="list-style-type: none">• The college runs 27 programs in both UG and PG.• The college is one of the "Oldest Institutions in the State of Andhra Pradesh".• The college is widely acclaimed for its meticulous planning, resource scheduling and Institutional management.• The college has autonomous status with ISO Certification and NAAC 'A+' accreditation. <p>ABOUT THE DEPARTMENT</p> <p>The Department was established in the year 1981 in which the college was started and have well qualified, experienced and motivated faculty in different specialized areas.</p>
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The Department was originally intended to cater the needs of Engineering, offered M.Sc (Mathematics) course with an intake of 40 students in 1989. The Department was recognized as a Research Centre by Acharya Nagarjuna University from Academic year 2003-04. So far 3 Ph.D's and 10 M. Phil's were awarded.

REGISTRATION PARTICULARS

- ✓ There is **NO REGISTRATION FEE** to attend the workshop.
- ✓ B. Tech Students of Bapatla Engineering College can attend this International Workshop.
- ✓ **Last date of Registration to Workshop is 16-12-2023 before 5 P.M.**

REGISTRATION

Please use the following link for registration
<https://forms.gle/hovQUKomUiuKXQop8>

CERTIFICATE

Upon successfully attending all the sessions and submitting daily feedback forms, participants will receive e-certificate.

RESOURCE PERSONS

Dr. L. Jeganathan

Professor, School of Computer Science and Engineering, Vellore Institute of Technology, Chennai.

Dr. P. Nagarani

Senior Lecturer, Dept. of Mathematics, The University of the West Indies, Mona Campus, Jamaica, West Indies.

Dr. T. S. R. Murthy

Professor, Dept. of Mathematics & Statistics, Shri Vishnu Engg. College for Women, Bhimavaram, W.G. District, A. P.

Dr. M. A. S. SRINIVAS

Professor Emeritus, Dept. of Mathematics, JNT University College of Engineering, Science and Technology, Hyderabad.

Dr. G. Y. SAGAR

Professor, Dept. of Statistics, College of Natural and Computational Sciences, Gambelia University, Ethiopia.

Dr. Y. N. REDDY

Professor Emeritus, Dept. of Mathematics, NIT, Warangal.

Dr. K.V.L.N. ACHARYULU

Convener, ECSMVFE-2023
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Bapatla Engineering College, Bapatla-522102,
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Phone: 9866455315
Mail Id: dr.kvlna@gmail.com

Dr. P. Vijaya Saradhi

Co-Convener, ECSMVFE-2023
Professor,
Department of Mathematics,
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PATRONS OF THE FDP

Chief Patrons :

Sri. MUPPALANENI SRINIVASA RAO

President, Bapatla Education Society, Bapatla

Sri. DOPPALAPUDI RAMA MOHANA RAO

Vice President-1, Bapatla Education Society, Bapatla

Sri. GELLI DILEEP KUMAR

Vice President-2, Bapatla Education Society, Bapatla

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Joint Secretary, Bapatla Education Society, Bapatla

Sri. THALLURI RAMAKRISHNA RAO

Treasurer, Bapatla Education Society, Bapatla

Patron :

Dr. NAZEER SHAIK

Principal, Bapatla Engineering College, Bapatla

ORGANISING COMMITTEE

Convener

Dr.K.V.L.N.ACHARYULU

Associate Professor & Head,
Dept of Mathematics, BEC, Bapatla.

Co - Convener

Dr. P. Vijaya Saradhi

Professor, Dept of Mathematics,
BEC, Bapatla.

Staff Coordinator

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Assistant Professor, Dept of Mathematics,
BEC, Bapatla.

Staff Organisers

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Assistant Professor, Dept of Mathematics, BEC

Ms. K. Nagamani

Assistant Professor, Dept of mathematics, BEC

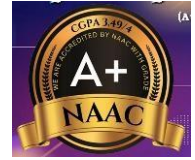


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Banner of International Workshop on “Enhancing Computational Skills of Mathematics in Various Fields of Engineering” (ECSMVFE-23) conducted from 18/12/2023 to 23/12/2023



Bapatla Engineering College: Bapatla

(Autonomous)

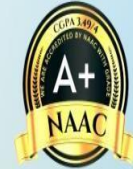
Department of Mathematics

A ONE WEEK ONLINE INTERNATIONAL WORKSHOP

on

**Enhancing Computational Skills of Mathematics in
Various Fields of Engineering**

18th - 23rd December 2023



Scan to Register



Srinivasa Ramanujan
A Great Indian Mathematician
(1887-1920)



RESOURCE PERSONS

Dr. L. JEGANATHAN

Professor
School of Computer Sci. and Engg.
VIT, Chennai

Dr. M. A. S. SRINIVAS

Prof. Emeritus, Dept. of Mathematics
JNT University College of Engineering
Science and Technology, Hyderabad

Dr. P. NAGARANI

Senior Lecturer, Dept. of Mathematics
The University of the West Indies
Mona Campus, Jamaica, West Indies

Dr. G. Y. SAGAR

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For more details : <http://www.becbapatla.ac.in/>

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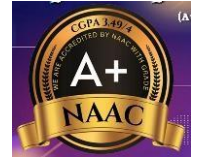


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**136th Birth Anniversary Celebrations of
A Great & World Famous Mathematician:
Sri Srinivasa Ramanujan**



Organising Team



Organising Committee

Convener:

Dr.K.V.L.N.Acharyulu

Associate Professor & Head, Dept. of Mathematics, BEC, Bapatla.

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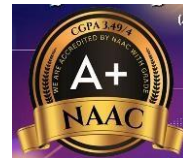
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Summary report of 136th Birth Anniversary celebrations of Sri Srinivasa Ramanujan (National Mathematics Day) in the Department of Mathematics, Bapatla Engineering College on 22-12-2023

Dept. of Mathematics has conducted 136th Birth Anniversary celebrations of great mathematician Sri Srinivasa Ramanujan on 22-12-2023 in GEB Conference Hall, Bapatla engineering College, Bapatla-522102. Dr. K.V.L.N. Acharyulu, HOD of Mathematics has addressed the gathering, Contributed Akshara Neerajalu and delivered speech on Special works of World Famous Mathematician-Sri Srinivasa Ramanujan. Smt. K. Nagamani delivered his speech on Life Sketch of Sri Srinivasa Ramanujan. Welcoming Address & Compering the Program by Smt. S.V.Vasavi. Dr. P. V. Saradhi gave Brief Report on 'A One Week International Online workshop' which is being conducted to all B.Tech Students and he was felicitated by all Faculty, Dept. of Mathematics. Dr. T. Srinivasarao, Sri. N. Karunakar and Sri. Md. Abdul Khadar gave their speeches on special features in marvellous contribution of Sri Srinivasa Ramanujan in the field of mathematical research. This event was enriched with the participation of more than 150 1/4 B.Tech students. Vote of Thanks was given by Sri I. Pothuraju. Dr. Shaik Nazeer, Principal, BEC has blessed this function as a chief guest and enlightened the students with his valuable message.

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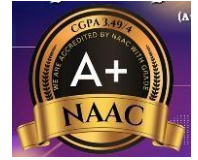
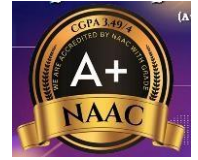


Photo gallery of **136th Birth Anniversary celebrations of Sri Srinivasa Ramanujan (National Mathematics Day)** in the Department of Mathematics, Bapatla Engineering College on 22-12-2023



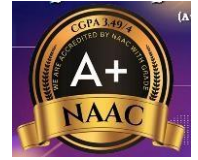


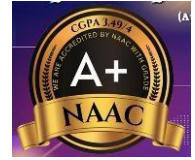
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Title: A Five Day International FDP on “Applications of Mathematics in Various Fields with Innovative Approaches” (AMVFIA – 23).

Date: From 21/11/2023 to 25/11/2023

Objectives:

- (1).To foster a culture of lifelong learning process among faculty members by motivating them to remain up to date on cutting-edge research, educational needs, and creative approaches to teach mathematics.
- (2).To promote interdisciplinary methods among faculty members, showing how mathematical ideas may be used in a variety of academic fields and real-world situations.
- (3).To serve as corner stone of the continuous improvement and enriching the knowledge in faculty members with innovative teaching methodologies.

Topics covered: The following domains in Mathematics are covered .

- (1).Linear Algebra
- (2).Differential Equations
- (3).Graph Theory
- (4).Functional Analysis
- (5).Machine Learning
- (6).Number Theory etc

Resource persons:

On 21-11-2023:

Topic: Machine Learning Models

Dr. N. Sudhakar, Professor, Dept. of Computer Science, Bapatla Engineering College, Bapatla.

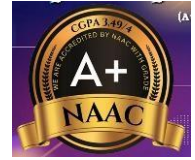
On 22-11-2023:

Topic: On the Problem of discontinuity at fixed point

Dr. K. N. V. V. Vara Prasad, Assistant Professor, Dept. of Mathematics,



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Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur, C.G.

On 23-11-2023:

Topic: Applications of Linear Algebra in Machine Learning

(1).**Dr. C. Pavan Kumar**, Faculty in Mathematics, APEX Math Excel Center, North Carolina, USA.

Topic: Introduction to Mathematical modelling in Ecology and Epidemiology

(2).**Dr. N. Phani Kumar**, Professor & Head, Dept. of Mathematics, Vignan Institute of Technology and Science, Hyderabad.

On 24-11-2023:

Topic: Solving minimal solution of Pell's equation using Lattice Reduction

Dr.P. Anuradha Kameswari, Professor, Dept. of Mathematics, Andhra University, Visakhapatnam.

On 25-11-2023:

Topic: Topological indices of Molecular Graphs and drug design

(1).**Dr.J.Bhasar Bapuji**, Professor, Dept. of Mathematics, Anna University, Chennai.

Topic: On Graph labellings of type magic, bimagic and antimagic

(2).**Dr. D. Prathap**, Associate Professor, Dept. of Mathematics, CMR Institute of Technology, Bangalore.

Description:

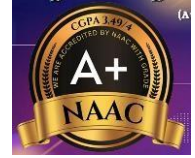
This international FDP: A Five Day International FDP on “**Applications of Mathematics in Various Fields with Innovative Approaches**” (AMVFIA – 23) was conducted in view of 103rd Birthday Celebrations of a Great Mathematician: **Dr.Komaravolu Chandrasekharan** garu from the Soil of Bapatla. We are pleased to inform you that **959 faculty members** participated in this FDP. This FDP provided awareness on current developments in Mathematics from multiple domains. The program was mainly intended to update existing knowledge in faculty members and

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create a deeper interest in various fields of Mathematics. Moreover, This FDP provided insight into applications of Number Theory, Differential Equations, Machine Learning, Functional Analysis, Linear Algebra and Graph Theory. In addition to it, This FDP also enlightened the basic concepts of Machine Learning which helps the faculty for data analysis and to build analytical models that understand data. On over all, Various Applications of Mathematics with conceptual approaches in above mentioned domains enriched the faculty members for enhancing their knowledge in multifarious fields.

Benefited participants: 959 Faculty members from Various AICTE recognized Institutions and UG/PG Colleges affiliated to various Universities throughout the India.

- **Dept. of Mathematics**

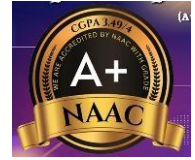
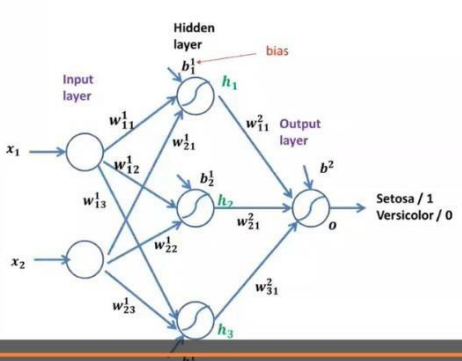


Photo gallery of International FDP Program on “Applications of Mathematics in Various Fields with Innovative Approaches (AMVFIA-23)” conducted from 21/11/2023 to 25/11/2023




A ML Problem

- A simplified dataset with Sepal length and Petal length as features.



SL	PL	Class	Label
5.1	1.4	Iris-Setosa	1
4.9	1.4	Iris-Setosa	1
4.7	1.3	Iris-Setosa	1
4.6	1.5	Iris-Setosa	1
5	1.4	Iris-Setosa	1
7	4.7	Iris-Versicolor	0
6.4	4.5	Iris-Versicolor	0
6.9	4.9	Iris-Versicolor	0
5.5	4	Iris-Versicolor	0
6.5	4.6	Iris-Versicolor	0



DR M

Dr N CH ... MuthuKa...

KS AS

K Sweth... A. Srijidevi

D K

Dr.A.Kal... KARUNA...

ST AS

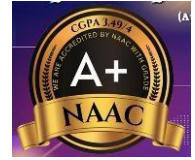
sachin tri... ANTIN ...

RL NC

R.Naga S... Nayaha ...



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Example 3.2. Let $X = [0, 2]$ be the set and $d(x, y) = \begin{cases} \min\{x + y, 2\}, & \text{if } x \neq y. \\ 0, & \text{if } x = y \end{cases}$ and T be the self map on X defined by $Tx = \begin{cases} 1, & \text{if } x \leq 1. \\ 0, & \text{if } x \geq 1 \end{cases}$

In the next theorem, we replace the weakly orbitally continuous of the mapping T by continuity on T^p , where p is a positive integer ≥ 2

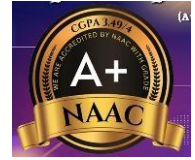
Theorem 3.3. Let (X, d) be a complete b -metric space. Let T be a self mapping on X such that T^p is continuous and for any $x, y \in X$ ans satisfying the condition (i) and (ii). Then T has a unique fixed point, say z and $T^n x \rightarrow z$ for each $x \in X$. Moreover, T is continuous at z if and only if $\lim_{x \rightarrow z} M(x, z) = 0$.

The following result extends Theorem 2.1 to pair of ovc maps.

On the problem of discontinuity at fixed point

By
Koti N. V. V. Vara Prasad
Assistant Professor
Department of Mathematics
Guru Ghasidas Vishwavidyalaya
(A Central University)
Bilaspur (C. G.), India-495009

Participants in the video conference:
- Dr.K.V.L.N.Acharyulu HOD Maths BEC (Guest)
- phani kumar (Guest)
- KARUNAKAR.NALAM
- Venkata (Guest)



Handwritten notes on linear transformations:

- Linear Transformation:** $\begin{bmatrix} 1 & -1 \\ 0 & 0 \end{bmatrix} \begin{bmatrix} 2 \\ 3 \end{bmatrix} = 2 \begin{bmatrix} 1 \\ 0 \end{bmatrix} + 3 \begin{bmatrix} -1 \\ 0 \end{bmatrix} = \begin{bmatrix} -1 \\ 0 \end{bmatrix}$
- Under Standing Shearing:** A diagram shows a vector $\begin{bmatrix} x \\ y \end{bmatrix}$ being transformed to $\begin{bmatrix} x \\ y + kx \end{bmatrix}$. The transformation matrix is $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} x \\ y + kx \end{bmatrix}$.
- Rotation:** If $\theta = 90^\circ$, the rotation matrix is $\begin{bmatrix} \cos \theta & -\sin \theta \\ \sin \theta & \cos \theta \end{bmatrix} = \begin{bmatrix} 0 & -1 \\ 1 & 0 \end{bmatrix} \begin{bmatrix} 2 \\ 3 \end{bmatrix} = \begin{bmatrix} -3 \\ 2 \end{bmatrix}$.
- Shear:** A shear transformation matrix is $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} x \\ y + kx \end{bmatrix}$.

Rational Approximation via Lattice reduction

Rational approximation via Lattice reduction is introduced in the following in this context the concept of Lattices corresponding to a quadratic form and quadratic form associated to Lattice is described [10].

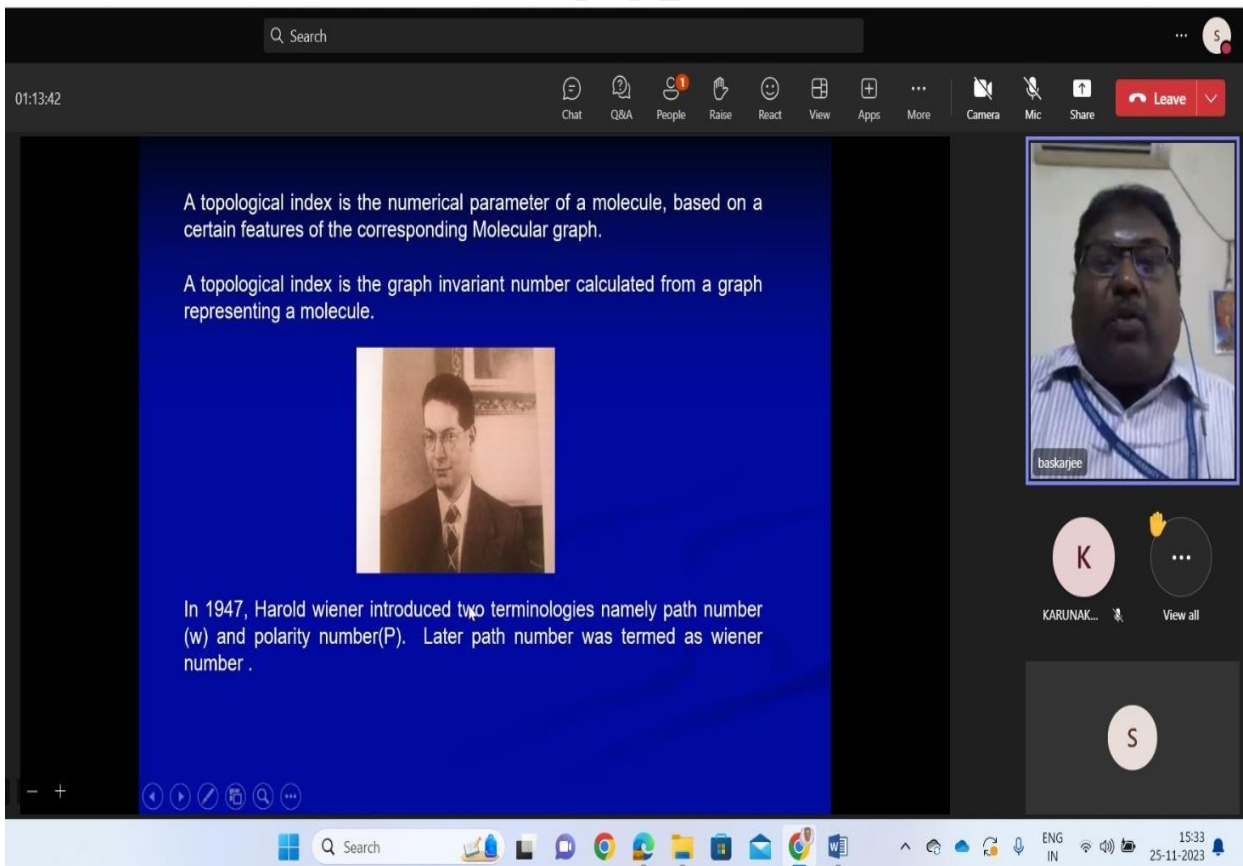
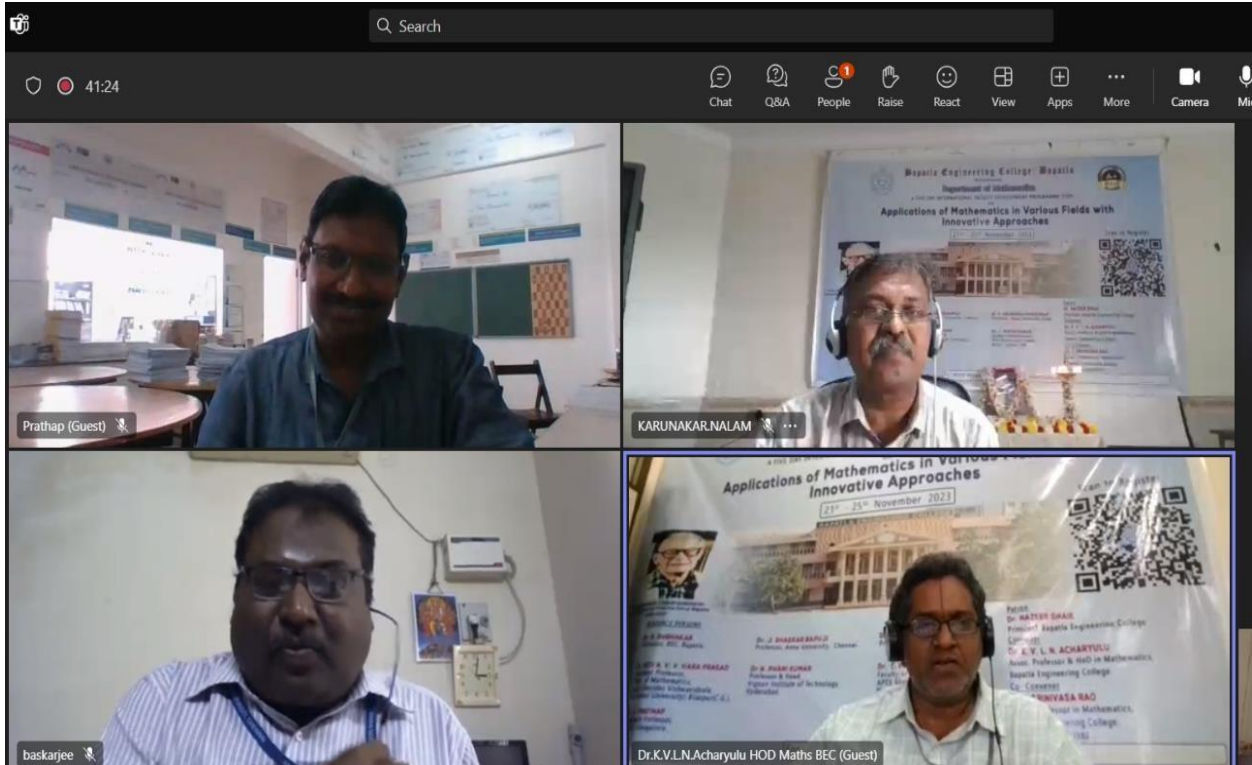
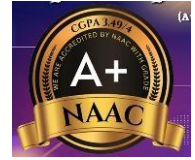
Definition
Let K be a field of characteristic $\neq 2$, and let V be a vector space over K . We say that a map q form V to K is a quadratic form if the following two conditions are satisfied.

- (1) For every $\lambda \in K$ and $x \in V$, $q(\lambda \cdot x) = \lambda^2 q(x)$.
- (2) If we set $b(x, y) = \frac{1}{2}(q(x+y) - q(x) - q(y))$, then b is a (symmetric) bilinear form; i.e., $b(x+x', y) = b(x, y) + b(x', y)$ and $b(\lambda \cdot x, y) = \lambda b(x, y)$ for all $\lambda \in K$, x, x' and $y \in V$.

Handwritten note: $q: V \rightarrow K$



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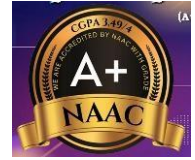


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Brochure of International FDP Program on “Applications of Mathematics in Various Fields with Innovative Approaches (AMVFIA-23)” conducted from 21/11/2023 to 25/11/2023



Prof. Komaravolu Chandrasekharan
A Great Mathematician from the Soil of Bapatla
(1920-2017)

A Five Day International FDP on

**Applications of Mathematics
in Various fields with
Innovative Approaches
(AMVFIA - 23)**

21st - 25th November 2023



Organized by

**Department of Mathematics
Bapatla Engineering College
(Autonomous)**

Mahatmaji Puram :: BAPATLA - 522 102.
ANDHRA PRADESH.



INTRODUCTION

In view of 103rd Birthday Celebrations of a Great Mathematician: Dr.Komaravolu Chandrasekharan garu from the Soil of Bapatla, the Department of Mathematics, Bapatla Engineering College, Bapatla will be organising A Five Day International FDP on "Applications of Mathematics in Various Fields with Innovative Approaches" (AMVFIA – 23).

This FDP provides awareness on current developments in Mathematics from multiple domains. The program is intended to update existing knowledge in faculty members and create a deeper interest in various fields of Mathematics. This FDP will provide insight into applications of Number Theory, Differential Equations, Machine Learning, Functional Analysis, Linear Algebra and Graph Theory. This FDP also includes concepts of Machine Learning which helps us for data analysis and to build analytical models that understand data. In many aspects, Applications of Mathematics with conceptual approaches definitely enrich the faculty members for enhancing their knowledge in multifarious fields.

It will provide an opportunity for faculty working in AICTE approved engineering colleges and UG/PG colleges affiliated to various Universities to learn about the current state of research and techniques in mathematical sciences.

OBJECTIVES

- ♣ To foster a culture of lifelong learning process among faculty members by motivating them to remain up to date on cutting-edge research, educational needs, and creative approaches to teach mathematics.
- ♣ To promote interdisciplinary approaches among faculty members, showing how mathematical ideas may be used in a variety of academic fields and real-world situations.
- ♣ To serve as corner stone of the continuous improvement and enriching the knowledge in faculty members with innovative teaching methodologies.

DOMAINS TO BE COVERED

- ✓ Linear Algebra
- ✓ Differential Equations
- ✓ Graph Theory
- ✓ Functional Analysis
- ✓ Machine Learning
- ✓ Number Theory

CONTENT DELIVERY

Renowned resource persons from various prestigious academic institutions would be delivering lectures and sharing their knowledge with the participants.

ABOUT THE COLLEGE

Bapatla Engineering College (Autonomous) is one of the seven Educational Institutions founded and run by BAPATLA EDUCATION SOCIETY. The society was established in the year 1962 registered No:58/1962 under societies act XXI of 1860 with the objectives to ensconce and run the Educational & Cultural Institutions. The college was established in 1981 with a total of 42 years of service to nation.

- The college runs 27 programs in both UG and PG.
- The college is one of the "Oldest Institutions in the State of Andhra Pradesh".
- The college is widely acclaimed for its meticulous planning, resource scheduling and Institutional management.
- The college has autonomous status with ISO Certification and NAAC 'A+' accreditation.

ABOUT THE DEPARTMENT

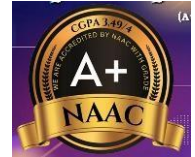
The Department was established in the year 1981 in which the college was started and have well qualified, experienced and motivated faculty in different specialized areas.

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The Department was originally intended to cater the needs of Engineering, offered M.Sc (Mathematics) course with an intake of 40 students in 1989. The Department was recognized as a Research Centre by Acharya Nagarjuna University from Academic year 2003-04. So far 3 Ph.D's and 10 M. Phil's were awarded.

REGISTRATION PARTICULARS

- ✓ There is **NO REGISTRATION FEE** to attend the FDP.
- ✓ Faculty from Various AICTE recognised Institutions and UG/PG Colleges affiliated to various Universities can attend the FDP
- ✓ **Last date of Registration to FDP is 19-11-2023**

REGISTRATION

Please use the following link for registration

<https://qrco.de/beVbx8>

CERTIFICATE

Upon successfully attending all the sessions and submitting daily feedback forms, participants will receive e-certificate.

RESOURCE PERSONS

Dr. N. SUDHAKAR

Professor, Dept. of Computer Science,
Bapatla Engineering College, Bapatla.

Dr.P. ANURADHA KAMESWARI

Professor, Dept. of Mathematics,
Andhra University, Visakhapatnam.

Dr. J. BHASKAR BAPUJI

Professor, Dept. of Mathematics,
Anna University, Chennai.

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Professor & Head, Dept. of Mathematics,
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Bilaspur, C.G.

Dr. C. PAVAN KUMAR

Faculty in Mathematics,
APEX Math Excel Center, North Carolina, USA.

Dr. D. PRATHAP

Associate Professor, Dept. of Mathematics,
CMR Institute of Technology, Bangalore.

FOR FURTHER DETAILS CONTACT

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Sri. DOPPALAPUDI RAMA MOHANA RAO

Vice President-1, Bapatla Education Society, Bapatla

Sri. GELLI DILEEP KUMAR

Vice President-2, Bapatla Education Society, Bapatla

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Joint Secretary, Bapatla Education Society, Bapatla

Sri. THALLURI RAMAKRISHNA RAO

Treasurer, Bapatla Education Society, Bapatla

Patron :

Dr. NAZEER SHAIK

Principal, Bapatla Engineering College, Bapatla

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Dept of Mathematics, BEC, Bapatla.

Co - Convener

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BEC, Bapatla.

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BEC, Bapatla.

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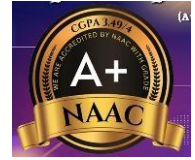
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Ms. K. SUNEETHA

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Bapatla Engineering College: Bapatla

(Autonomous)

Department of Mathematics

A FIVE DAY INTERNATIONAL FACULTY DEVELOPMENT PROGRAMME (FDP)

on

Applications of Mathematics in Various Fields with Innovative Approaches

21st - 25th November 2023



Scan to Register



Prof. Komaravolu Chandrasekharan
(1920-2017)

RESOURCE PERSONS

Dr. N. SUDHAKAR
Professor, BEC, Bapatla.

Dr. KOTI N. V. V. VARA PRASAD
Assistant Professor,
Dept. of Mathematics,
Guru Ghasidas Vishwavidyala,
(A Central University), Bilaspur (C.G.).

Dr. D. PRATHAP
Associate Professor,
CMRIT, Bangalore.



Patron
Dr. NAZEER SHAIK
Principal, Bapatla Engineering College

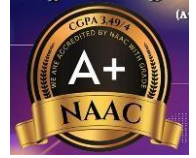
Convener
Dr. K. V. L. N. ACHARYULU
Assoc. Professor & HoD in Mathematics,
Bapatla Engineering College.

Co- Convener
Dr. T SRINIVASA RAO
Assoc. Professor in Mathematics,
Bapatla Engineering College.
Phone : 9490170392

For more details : <http://www.becbapatla.ac.in/news/>



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103rd Birth Anniversary Celebrations of A Great Mathematician:
Prof. Komaravolu Chandrasekharan garu
from the soil of Bapatla



(1920-2017)

Organising Team



Organising Committee

Convener:

Dr. K. V. L. N. Acharyulu

Associate Professor & Head, Dept. of Mathematics, BEC, Bapatla.

Co-Convener:

Dr. T. Srinivasa Rao,

Associate Professor, Dept of Mathematics, BEC, Bapatla.

Staff Coordinator:

Sri N. Karunakar,

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Staff Organisers:

Ms. I. Rajeswari,

Assistant Professor, Dept of Mathematics, BEC, Bapatla

&

Ms. K. Suneetha,

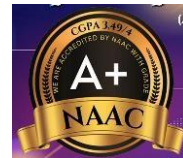
Assistant Professor, Dept of Mathematics, BEC, Bapatla

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Summary report of 103rd Birth Anniversary Celebrations of A Great Mathematician: Prof. Komaravolu Chandrasekharan garu from the soil of Bapatla conducted on 21-11-2023

Dept. of Mathematics has conducted 103rd Birth Anniversary celebrations of a Great Mathematician: Prof. Komaravolu Chandrasekharan garu on 21-11-2023 in GEB Conference Hall, Bapatla engineering College, Bapatla-522102. Dr.K.V.L.N.Acharyulu enriched the program with the prayer. Dr. K. V. L. N Acharyulu addressed the gathering and delivered speech on Great Mathematician: Prof. Komaravolu Chandrasekharan. Ms. I. Rajeswari delivered her speech on Life Sketch of Prof. Komaravolu Chandrasekharan. The Program was compered by Sri. N.Karunakar. Ms. K. Sunitha gave Brief Bio-datas of resource persons of 'A Five Day International Online FDP' which was being conducted to all B.Tech Students . Dr. P. V. Saradhi and Sri. Md. Abdul Khader gave their speeches. Vote of Thanks was given by Dr. T. Srinivasa Rao. This event was enriched with the participation of more than **150 1/4 B.Tech students**.

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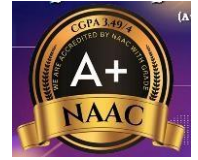


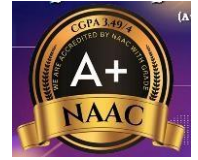
Photo gallery of 103rd Birth Anniversary celebrations of a Great Mathematician: Prof. Komaravolu Chandrasekharan garu in the Dept. of Mathematics, BEC on 21-11-2023.



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