



**Bapuji Educational Association (Regd.)  
Bapuji Institute of Engineering and Technology,  
Davangere-577004**

(Affiliated to VTU, Belagavi, Approved by AICTE, New Delhi)  
Accredited by NAAC with 'A' Grade



# Maths Newsletter

## A Half Yearly Newsletter of Department of Mathematics

Volume 1

January – June 2022



Chairperson	Editorial and Advisory Members		Department of Mathematics Bapuji Institute of Engineering and Technology, P.O. Box. No. 325, Shamanur Road, Davangere-577004 <b>mathsbietdvg@gmail.com</b>
Dr. K S Basavarajappa Prof. and Head	Dr. N S Basavarajappa Dr. Ashwini M Rao Dr. Anilkumar K N Smt. Mani K S	Dr. Vikas K Dr. Pradeepkumar J Mr. Sathisha S Ms. Pallavi G S	

### **Vision of the Institute**

To be a center of excellence recognized nationally and internationally, indistinctive areas of engineering education and research, based on a culture of innovation and invention.

### **Mission of the Institute**

BIET contributes to the growth and development of its students by imparting a broad-based engineering education and empowering them to be successful in their chosen field by inculcating in them positive approach, leadership qualities and ethical values.

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To aspire the Mathematical skills of teaching and logical tools, train them to cater the needs of solving problem in science, Engineering and Research.

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- M1:** To acquire competent mind among the faculty towards conveying best in teaching, learning and research, to develop Mathematical skills, to enhance the tools in solving Engineering problems.
- M2:** Encourage analytical, independent, rational thinking and enhance problem techniques of the students.
- M3:** Provide Knowledge based Research and collaborate with industries to address societal requirements.

## HOD's Desk



**Dr. K. S. Basavarajappa**

Greetings to all stakeholders. It is a matter of joy and pleasure to share a few things in the first issue of the "Maths Newsletter". The department of Mathematics has started functioning since 1979 to cater the needs of prerequisites of mathematics for the engineering curriculum. Our vision focuses on the effective utilization of mathematical concepts to tackle the engineering systems. Our mission is to provide broad-based knowledge by empowering the mathematical skills to students for future challenges of industry demand. The department has been taking all possible initiatives to train the students for progress and all-round development with strong fundamentals of mathematics. I am happy to express that, our faculty members are striving hard to maintain excellence in their academic records of teaching-learning, not only to cover the complete syllabus but also to motivate the students to learn beyond the syllabus. They are also actively involved in research with advanced and emerging areas of practical progression. From the research center of Department of Mathematics, 9(nine) candidates have been awarded Ph.D. under Kuvempu University and VTU Belgaum under the supervision of our faculty members as research guides. Faculty members with Ph.D. are continuing their research activities, such as guiding the Ph.D. scholars, in writing research papers and to update their knowledge with the latest innovations. All the faculty members are taking an active part in academic activities like organizing, attending workshops and presenting papers at conferences and seminars. I take this opportunity to wish "Maths Newsletters" be published with motivational contents for the students and faculty members.

Thank you

Dr. K. S. Basavarajappa

### **FDP/ Workshops Organized**

1. National Science Day was celebrated on 28<sup>th</sup> Feb 2022. Dr. Seema J Patel Chairman, Biotechnology, Davangere University was the chief guest.
2. Organized Mock CET Orientation program (Maths) for 2<sup>nd</sup> PUC students on 31<sup>st</sup> may to 4<sup>th</sup> June 2022. Sri Balaraja Yadav, Lecturer, Mathematics Department, Thimmareddy PU College, Davangere was the resource person.

### **FDP/ Workshops Attended/ Responsibilities**

#### **Dr. K S Basavarajappa**

1. Received certificate of Article indexed in scope database for the research article “Mathematical modeling on peristaltic transport of two layered viscous incompressible fluid in relation to varying wall moment in “International journal of engineering, science and Mathematics on 8<sup>th</sup> January 2022.

#### **Dr. Ashwini M Rao**

1. Received certificate of Article indexed in scope database for the research article “Mathematical modeling on peristaltic transport of two layered viscous incompressible fluid in relation to varying wall moment in “International journal of engineering, science and Mathematics on 8<sup>th</sup> January 2022.
2. Worked as DCS for VTU examinations June –July 2022 at GMIT, Davangere from 11<sup>th</sup> to 25<sup>th</sup> may 2022.
3. Worked as Internal Squad for VTU examinations June –July 2022 at BIET, Davangere.

### **Papers Presented/Published**

#### **Dr. Basavarajappa N S**

1. Basavarajappa N S, Niranjana K M, & Shilpa K C published the article entitled “Computation of Degree-Based Numerical Descriptors of Porous Graphene”, Letters in Applied Nano Bioscience, Volume 12, Issue 4, 2022, 117.

**Dr. Anil kumar K N**

1. Shanmukha M C and Anil Kumar K N published the article entitled “Neighborhood Topological Indices of Metal Organic Networks”, Jnanabha, 52(1), 2022, 174-181.

**Dr. Shanmukha M C**

1. Shanmukha M C and Anil Kumar K N published the article entitled “Neighborhood Topological Indices of Metal Organic Networks”, Jnanabha, 52(1), 2022, 174-181.



**Inauguration of Science Forum Activities and celebration of National Science Day 2022**



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**National Science Day 2022**



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# Maths Newsletter

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**Volume 2**

**July-December 2022**



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Dr. K S Basavarajappa Prof. and Head	Dr. Basavarajappa N S Dr. Ashwini M Rao Dr. Anilkumar K N Dr. Shanmukha M C	Dr. Vikas K Dr. Pradeepkumar J Mr. Punith Gouda R J Mrs. Pallavi G S Mrs. Reshma M T Ms. Malavika M D Ms. Pallavi G H	

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- M3:** Provide Knowledge based Research and collaborate with industries to address societal requirements.

## **Hod's Desk**



Dr. K S Basavarajappa

The department has been successfully performing the multiple roles of creating new knowledge of Mathematical concepts applicable to Engineering needs. The department has always been on a high growth path and has qualified, experienced and dedicated faculty members with strong commitment for imparting Mathematics knowledge required for Engineering education. The periodically updated curriculum shares the application-based contents of Mathematics for engineering problems.

Thank you

Dr. K S Basavarajappa



### **FDP/ Workshops organized**

1. VTU Student Induction Program (SIP) for First Year BE newly admitted students from 1<sup>st</sup> to 12<sup>th</sup> Dec 2022.
2. National Mathematics Day on 22<sup>nd</sup> Dec 2022 at Department of Mathematics, BIET, Davangere. Dr. Shivakumar M E, HOD, Department of Mathematics, STJIT, Ranebennur was the chief guest.

### **FDP/Workshops Attended/Responsibilities**

#### **Dr. K S Basavarajappa**

1. Attended "Meeting with principals of all affiliated, autonomous engineering and architecture colleges" at hotel Atria, Bangalore to discuss about new scheme and Syllabus of first year UG programme on 17-11-2022.
2. Delivered an invited talk on "The role of Mathematics for various disciplines" on the event of National Mathematics Day at Department of Mathematics, AVK College for women, Davangere on 22<sup>nd</sup> Nov 2022.
3. Resource Person for One day Faculty Orientation Programme for VTU affiliated college teachers on revised mathematics syllabus - 2022 at BMS College of engineering, Bangalore on 24<sup>th</sup> Nov 2022.
4. Resource Person for One day Faculty Orientation Programme for VTU affiliated

college teachers on revised mathematics syllabus - 2022 at Vidhya Vardhaka College of Engineering (VVCE), Mysore on 26-11-2022.

5. Resource Person for One day Faculty Orientation Programme for VTU affiliated college teachers on revised mathematics syllabus - 2022 at Rural Engineering College, Hulkoti Engineering College on 29-11-2022.
6. Worked as Chief Superintendent for NEET (UG) 2022 Exam at BIET, Davangere held on 17<sup>th</sup> July 2022.

#### **Dr. Basavarajappa N S**

1. One day orientation program for VTU Affiliated College Teachers on Revised Mathematics syllabus 2022 at BMS College of engineering, Bangalore on 24<sup>th</sup> Nov 2022.

#### **Dr. Ashwini M Rao**

1. International Conference on recent Advances in Fluid Mechanics (ICRAFM-2022) held at Manipal Institute of Technology, MAHE, Manipal from 4<sup>th</sup> to 6<sup>th</sup> October 2022.

#### **Dr. Anilkumar K N**

1. Three Days Workshop for VTU Affiliated College Faculty on Mathematics Using Python organized by Department of

information science and technology, BIET, Davangere from 12<sup>th</sup> to 14<sup>th</sup> of December -2022.

**Dr. Shanmukha M C**

1. Three Days Workshop for VTU Affiliated College Faculty on Mathematics Using Python organized by Department of information science and technology, BIET, Davangere from 12<sup>th</sup> to 14<sup>th</sup> of December -2022.

**Dr. Vikas K**

1. Three Days Workshop for VTU Affiliated College Faculty on Mathematics Using Python, Organized by VVCE, Mysore and VTU Belagavi from 8<sup>th</sup> to 10<sup>th</sup> Dec 2022.

**Dr. Pradeepkumar J**

1. National Conference on “Advances in Geometry, Analysis and Fluid Mechanics” at Shivamogga from 8<sup>th</sup> to 10<sup>th</sup> of December - 2022.
2. National Conference on “Advances in Geometry, Analysis and Fluid Mechanics” at Bangalore from 12<sup>th</sup> to 14<sup>th</sup> of December - 2022.

**Mrs. Pallavi G S**

1. Three Days Workshop for VTU Affiliated College Faculty on

Mathematics Using Python organized by Department of information science and technology, BIET, Davangere from 12<sup>th</sup> to 14<sup>th</sup> of December -2022.

**Mr. Punith Gowda R J**

1. Three Days Workshop for VTU Affiliated College Faculty on Mathematics Using Python held at Mysore from 8/10/2022 to 10/10/2022.

**Mrs. Reshma M Totager**

1. Three Days Workshop for VTU Affiliated College Faculty on Mathematics Using Python organized by Department of information science and technology, BIET, Davangere from 12<sup>th</sup> to 14<sup>th</sup> of December -2022.

**Ms. Malavika M D**

1. Three Days Workshop for VTU Affiliated College Faculty on Mathematics Using Python, Organized by VVCE, Mysore and VTU Belagavi from 8<sup>th</sup> to 10<sup>th</sup> Dec 2022.

**Ms. Pallavi G H**

1. Three Days Workshop for VTU Affiliated College Faculty on Mathematics Using Python, Organized

by VVCE, Mysore and VTU Belagavi from 8<sup>th</sup> to 10<sup>th</sup> Dec 2022.

### **Papers Presented/Published**

#### **Dr. K S Basavarajappa**

1. "A mathematical study on behaviour of Epinephrine in glucose tolerance Test", Junikhyat, vol.12, Issue 11, No.2, ISSN: 2278-4632. [Nov 2022], PP. 136-141.
2. "Mathematical approach on effect of Discharge of Industrial and household organic pollutants into water bodies", Junikhyat, vol.12, Issue 11, No.2, ISSN: 2278-4632. [Nov 2022], PP. 155-160.
3. "Mathematical study on effect of community diseases on human population, Int Journal of Research and analytical Reviews", Vol.9, Issue 4, E. ISSN: 2348-1269, [Dec 2022] PP 686-690.
4. "Mathematical study of growth of Tumor cells with reference to self-immune system. Int. Journal of Research and analytical Reviews", Vol.9, Issue 4, E. ISSN: 2348-1269, [Dec 2022], PP 691-695.
5. "Mathematical study on palatable diet administration with a reference to diabetic mellitus on varying body

frames- ANOVA test with PFC Ratio" at (International conference on Recent Advance in Fluid mechanics (ICRAFM-2022) held at Manipal Institute of Technology", MAHE, Manipal from 4<sup>th</sup> to 6<sup>th</sup> October 2022).

6. Attended and presented a paper entitled "Mathematical Modeling Approach for Administration of Palatable Diet to Quantify blood glucose level – A Reference to Systolic Blood Pressure" at International Conference on recent Advances in Fluid Mechanics (ICRAFM-2022) held at Manipal Institute of Technology, MAHE, Manipal from 4<sup>th</sup> to 6<sup>th</sup> October 2022.

#### **Dr. Basavarajappa N S**

1. "Molecular structure investigation of anticancer drug by topological indices", Italian Journal of Pure and Applied Mathematics, (2022), 970.
2. "Computation of Degree-Based Numerical Descriptors of Porous Graphene", Letters in Applied Nano Bioscience, Volume 12, Issue 4, 2023, 117.
3. "Neighbourhood Topological Indices of Metal-Organic Networks", Jnanabha, 52 (1), (2022), 174-181.

**Dr. Ashwini M Rao**

1. "A mathematical study on behaviour of Epinephrine in glucose tolerance Test", Junikhyat, vol.12, Issue 11, No.2, ISSN: 2278-4632, [Nov. 2022], PP. 136-141.
2. "Mathematical approach on effect of Discharge of Industrial and household Organic pollutants into water bodies", Junikhyat, vol.12, Issue11, No.2, ISSN: 2278-4632, [Nov. 2022], PP. 155-160.
3. "Mathematical study of growth of Tumor cells with reference to self-immune system\_ Int Journal of Research and analytical Reviews", Vol.9, Issue4, E. ISSN: 2348-1269, [Dec. 2022], PP 691-695.
4. "Mathematical study on effect of community diseases on human population, Int Journal of Research and analytical Reviews", Vol.9, Issue4, E. ISSN: 2348-1269, [Dec 2022] PP 686-690.
5. "Mathematical study on palatable diet administration with a reference to diabetic mellitus on varying body frames- ANOVA test with PFC Ratio" at (International conference on Recent Advance in Fluid mechanics (ICRAFM-2022) held at Manipal Institute of technology",MAHE, Manipal from 4<sup>th</sup> to 6<sup>th</sup> October 2022).

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7. **Published a book** entitled "A first course in Real Analysis" with ISBN 978-93-5628-658-0 by Blue Rose publishers private limited on Nov 10, 2022.

**Dr. Anil Kumar K N**

1. Neighborhood Topological Indices of Metal-Organic Networks", Jnanabha Journal, 52 (1) (2022), 174-181.
2. "Molecular structure investigation of anticancer drug by topological indices", Italian Journal of Pure and Applied Mathematics, (2022), 970.

**Dr. Shanmukha M C**

1. "Molecular structure investigation of anticancer drug by topological indices", Italian Journal of Pure and Applied Mathematics, (2022), 970.

2. "Degree-based molecular descriptors and QSPR analysis of breast cancer drugs" *Journal of Mathematics*, 2022, 1-13.
3. "Degree-based molecular descriptors of guar gum and its chemical derivatives", *Journal of chemistry*, 2022, 1-14.
4. "Variation of Adriatic and Wiener indices for Different Cycle lengths and Paths, *Discrete Mathematics*", *Algorithms and Applications*.
5. "Neighborhood Topological Indices of Metal-Organic Networks", *Jnanabha Journal*, 52 (1) (2022), 174-181.
6. Presented a Paper entitled "Degree-based Topological indices of Top Ranked Zinc Data based Inhibitors of SARS-CoV-2", 7th international conference on Combinatorics, Cryptography, Computer Science & Computing on November 16-17th 2022, Iran
- nanofluid: An application of Cattaneo-Christov heat flux model" *Journal of Magnetism and Magnetic Materials* 567, 170329.
3. "Effects of heat source/sink on Darcy-Bènard triple-diffusive convection in a porous-fluid system".
4. "Magnetized flow of sutterbynanofluid through cattaneo-christov theory of heat diffusion and Stefan blowing condition", *Applied Nan science* 13 (1), 585-594.
5. "A three-dimensional non-Newtonian magnetic fluid flow induced due to stretching of the flat surface with chemical reaction", *Journal of Heat Transfer (ASME)*, 144 (11), 113602.
6. "Time-dependent flow of water-based ternary hybrid nanoparticles over a radially contracting/expanding and rotating permeable stretching sphere", *Thermal Science and Engineering Progress* 36, 101521.
7. "An efficient analytical approach with novel integral transform to study the two-dimensional solute transport problem", *Ain Shams Engineering Journal* 14 (3), 101878.

### **Mr. Punith Gowda R J**

1. Published two papers in Reputed Q1 Journals: *Thermal Science and Engineering Progress* with Impact factor 4.56 and *Scientific Reports* with Impact factor 4.996.
2. "Three-dimensional coupled flow and heat transfer in non-Newtonian magnetic



**Inauguration of Student Induction Program 2022-23 Phase I**



**Student Induction Program 2022-23 Phase I**



**Inauguration of National Mathematics Day - 2022**



**Prize Distribution for Sports and Cultural Events**



**National Mathematics Day - 2022**