

#### !! सिध्दिरनेकान्तात् !! Anekant Education Society's



# Tuljaram Chaturchand College of Arts, Science and Commerce, Baramati

- Affiliated to Savitribai Phule Pune University, Pune (M.S.) India
  - Empowered Autonomous •
  - Religious Minority Institution •
  - NAAC REACCREDITED 'A+' Grade (CGPA 3.55)
    - Website: www.tccollege.org •

### **Department of Mathematics**









#### **Department Profile**

Mathematics has wider scope in many areas. Today there is no area in which you cannot discover Mathematics. In every branch of science stream there are plenty of applications of Mathematics. Mathematics has given new direction of research even in the area of Biology and Medical. The Department of Mathematics is established in the year 1962 with the establishment of the college. This was the only department in the rural area of Baramati region having B.Sc. (Mathematics) course until year 2014. Many former students are working in different fields such as Education, IT, Research. This is the only college in rural area of Pune district having M.Sc. (Mathematics) course.

#### Vision

Fostering a culture of mathematics empowerment and innovation to up lift rural communities through education and practical applications.

#### Mission

Empowering rural learners with a robust foundation in mathematics, fostering critical thinking, problem-solving and promoting a culture of quantitative literacy for sustainable growth and development.

#### **Key Features**

- Qualified Faculty: A team of qualified and experienced faculty members specializing in different areas of
  mathematics.
- Curriculum: A well-designed curriculum that covers both theoretical and applied aspects of mathematics, including topics such as calculus, algebra, differential equations, discrete mathematics, computer programming, etc.
- Laboratories: Well-equipped mathematics laboratories to facilitate practical learning and experimentation.
- Library: A comprehensive library with a wide range of books, journals, and online resources related to mathematics.
- **Seminar and Conference Participation:** Opportunities for students and faculty to participate in seminars, workshops, and conferences to stay updated with the latest developments in the field.
- Student Support Services: Academic advising, tutoring, and mentoring programs to support students in their academic and professional development.
- Alumni Success: A significant number of alumni who have pursued higher education at prestigious institutions
  such as IITs, and who have become faculty members at central universities, state universities, and reputed
  colleges, contributing to the academic and research excellence of the department.

#### **Programme and Courses Offered**

Sr.No.	Name of the Programme	Date of Establishment	Duration
1.	B.Sc (Mathematics)	1962	3
2.	M.Sc (Mathematics)	2011	2

#### **Skill Development Courses**

- Programming for Mathematics: Introduction to programming languages such as Python or MATLAB with a
  focus on applications in mathematics, including numerical analysis, data visualization, and symbolic
  computation.
- Mathematical Finance: An introduction to mathematical concepts used in finance, including time value of money, portfolio theory, option pricing, and risk management.
- Mathematics in Cryptography: An introduction to cryptographic techniques, including encryption, decryption, and digital signatures, with a focus on the underlying mathematical principles.
- Mathematical Problem Solving: A course focused on developing problem-solving skills in mathematics, including techniques for approaching and solving complex mathematical problems.
- Numerical Methods and Algorithms: Advanced numerical techniques for solving mathematical problems, including numerical optimization, numerical linear algebra, and numerical solutions to differential equations.

Mathematical Software Tools: Usage of mathematical software tools such as Scilab, Latex, and SageMath for symbolic and numerical computation.

#### **Facilities**

- Departmental Library
- Mathematical Models
- Central Lab of computers
- Competitive exam guidance

#### **Activities**

#### • 1. Organization of workshops for students on applications of Mathematics:

The department offers workshops that show how mathematics is used in real-world fields like physics, engineering, computer science, finance, etc. It helps students see the practical value of their studies and potential career paths.

#### • 2. Employability skill training program:

This program equips students with skills needed to find jobs after graduation. These skills might include communication, teamwork, and problem-solving, critical thinking, and using software relevant to mathematics.

#### • 3. Poster presentation:

This activity allows students to research a mathematical topic, summarize their findings visually, and present them to others (like at a conference). It develops research, communication, and presentation skills.

#### • 4. Participation of students in Avishkar competition:

Avishkar is a national competition where students present innovative solutions to social problems using science and technology. Participating in Avishkar allows students to apply their math skills creatively and make a positive impact.

#### • 5. Guidance for competitive exams such as SET, NET, IIT-JAM etc.:

These exams are for students who want to pursue research or teaching careers in mathematics. The department offers resources and advice to help students prepare for these exams.

#### • 6. Enrichment activity Learn to study maths for any person:

This is a unique program offered by the department, open to anyone interested in learning math, regardless of age or background. It could be a series of workshops, online courses, or a community learning program that promotes lifelong learning and enjoyment of mathematics.

- 8. Collaborations and MoU- The department has collaboration and MoU with
  - a) Edu-bridge Learning private Ltd, Pune
  - b) Aspiring Careers, Pune

#### **Students Achievements**

Sr. No.	Name of Student	Achievements	
1	Dr. Sachin Ballal	Associate Professor at Central University of Hyderabad (2022)	
2	Shreyash Dhumal	IIT-JAM All India Rank 11 (2022), Doing PG at IIT-Guwahati	
3	Dr. Ghanwat Abhijit	A Completed Ph.D. at Chennai Mathematical Institute and doing Pos t -Doc at TIFR, Mumbai	
4	Savitra Kadam	PSI at Mumbai	
5	Pragati Shinde	Sales Tax Assistant	
6	Pratima Bhapkar	SET (2023)	
7	Sachin Jadhav	SET (2022)	
8	Sharwari Markale	Selected for Avishkar Competition at state level (2023)	
9	Dr. Machchhindra Gophane	Associate Professor at Shivaji University, Kolhapur	
10	Rahul Girme	Completed Ph. D. form IIT Madras	
11	Numerous students from the department have secured prominent positions in the IT, education, and industry sectors.		

#### **Best Practices**

- a) Enrichment Activity: Learn to Study Maths
- b) Mathematical Models

- b) Great Minds in maths
- c) Mathematician of the day

#### CONTACT US •

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#### **Empowered Autonomous**

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