

About the Department of Mathematics



- The Department of Mathematics was formed in 2011, just after the formation of SOT in 2010.
- The Department has a strong academic base of 17 faculties all holding Ph.D. from various prestigious Universities / Institutions.
- All the faculties are involved in the cutting edge research in various specializations which caters all the needs of STEM in modern world.
- The faculties are very much approachable and friendly for the students to understand their ideas, views and difficulties.
- The faculties are engaged in publishing their research work in highly reputed International journals and conferences.
- The funded research projects are being carried out at the department by the funding agencies like SAC-ISRO, DST, etc.
- The national and international level conferences, workshops, seminars, webinars, industrial visits, hands-on-workshops, are being conducted at the department on regular basis.



Prof. Tajinder Pal Singh
Ph.D. Gujarat University,
Ahmedabad



Dr. Poonam Mishra
Associate Professor and
Head, PhD(Gujarat
University, Ahmedabad)



Dr Manoj Sahni
Associate Professor, M.Sc.,
Ph.D. (JIIT, Noida)



Dr. Brajesh Kumar Jha
Associate Professor,
M.Sc., Ph.D. (SVNIT, Surat)



Dr. Bhasha H. Vachharajani
Associate Professor,
Ph.D.(Gujarat University,
Ahmedabad)



Dr. Jwngsar Brahma
Associate Professor,
Ph.D.(PDEU,
Gandhinagar)



Dr. Md S Ansari
Assistant Professor,
(Ph.D., IIT (ISM) Dhanbad)



Dr. Shobhit Nigam
Assistant Professor,
Ph.D.(IIT(ISM) Dhanbad)



Dr. Dishant Pandya
Assistant Professor,
Ph.D.(MSU, Baroda)



Dr. Ankush Rajee
Assistant Professor,
Ph.D. (VNIT Nagpur)



Dr. Chandra Shekhar Nishad
Assistant Professor,
Ph.D. (IIT Kharagpur)



Dr. Neelam Singha
Assistant Professor,
Ph.D. (IIT Kharagpur)



Dr. Pritam Kocherlakota
Assistant Professor,
Ph.D.(BITS Pilani)



Dr. Priyanka Singh
Assistant Professor,
Ph.D.(IIT Kharagpur)



Dr. Punjit Jain
Assistant Professor,
Ph.D.(IIT Kharagpur)

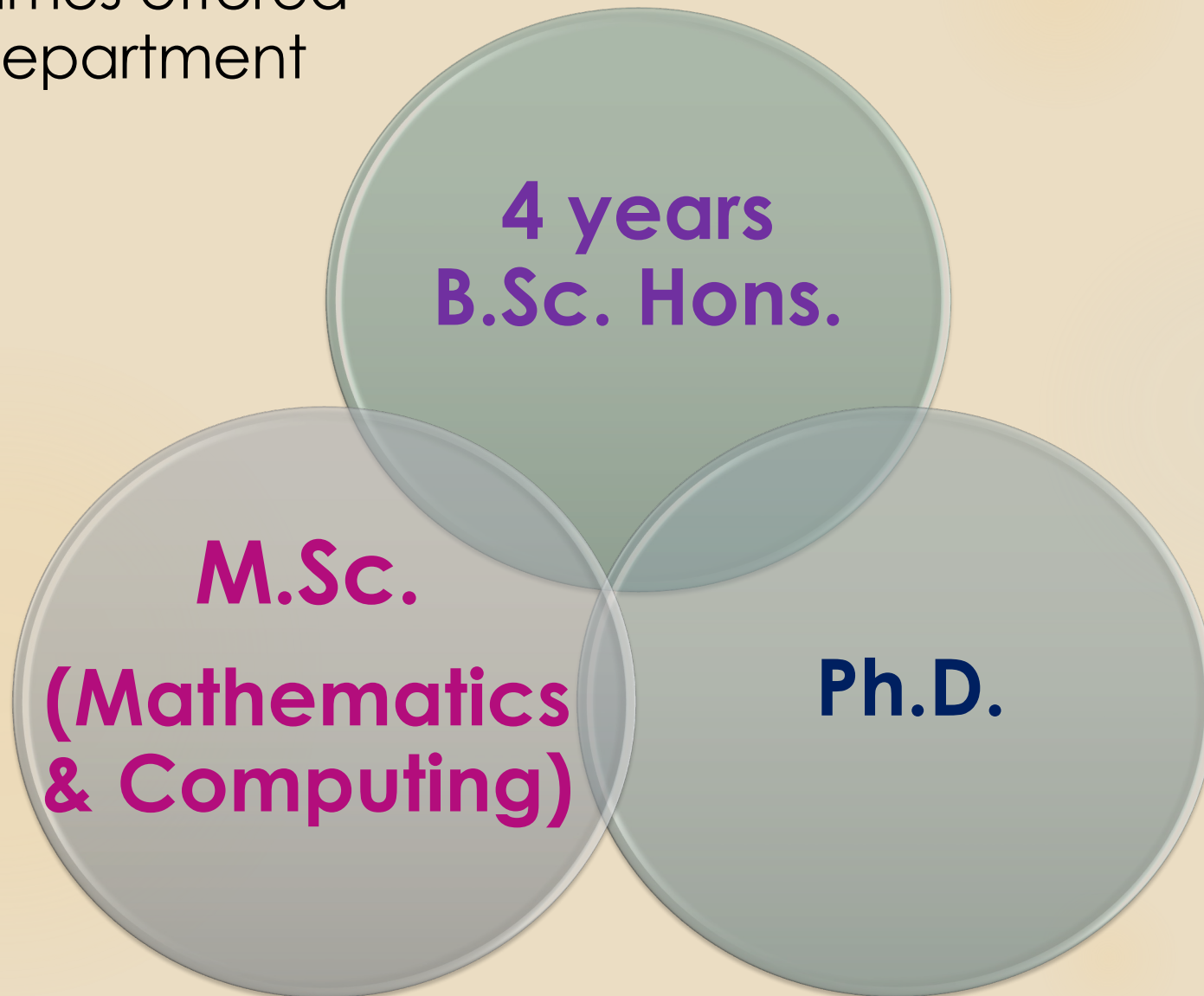


Dr. Shreekanth Varshney
Assistant Professor,
Ph.D.(BITS Pilani)



Dr. Ankur Singh
Assistant Professor,
Ph.D.(IIT(ISM)
Dhanbad)

Programmes offered
by the department



Why M.Sc. Mathematics and Computing over conventional M.Sc. Mathematics?

**Mathematical
problem**

**Step 1
Formulation**

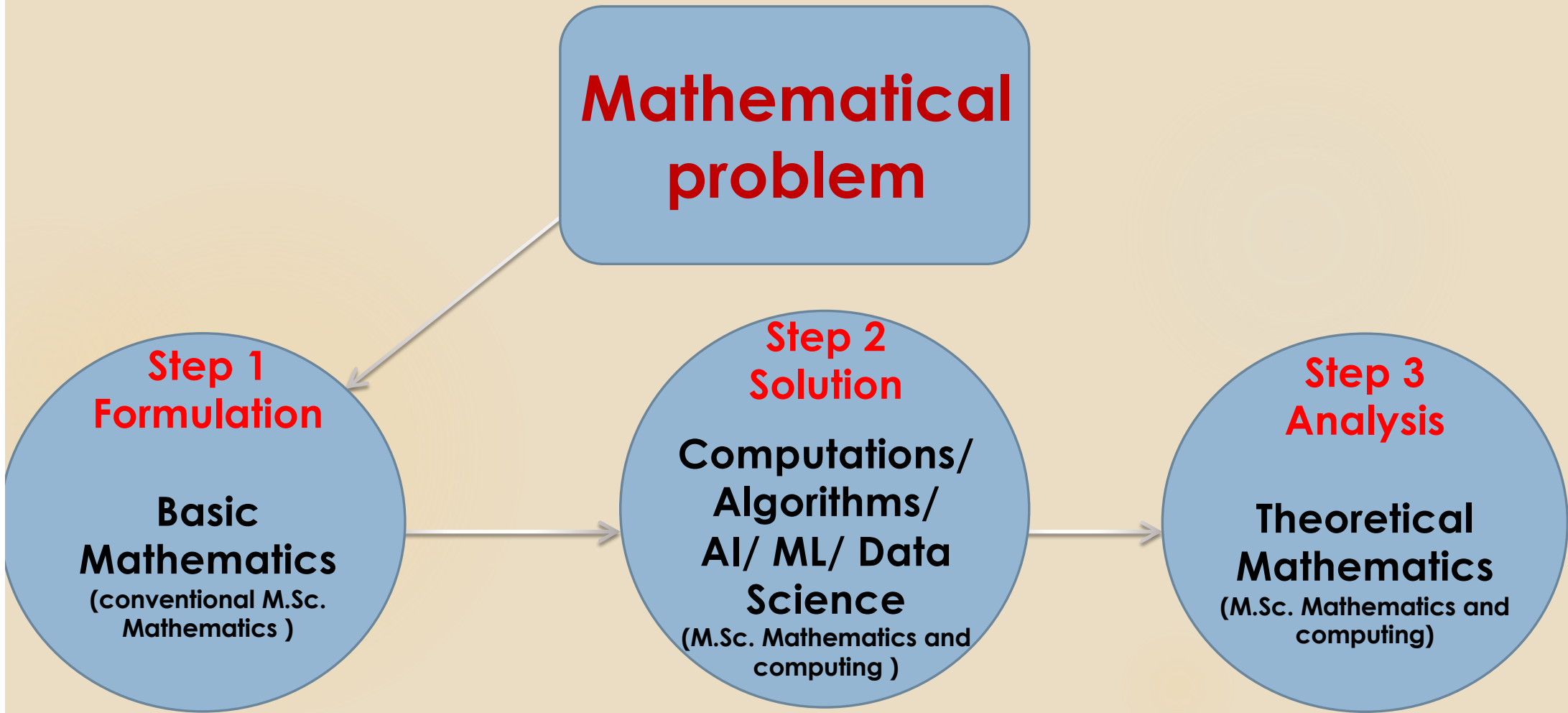
**Basic
Mathematics**
(conventional M.Sc.
Mathematics)

**Step 2
Solution**

**Computations/
Algorithms/
AI/ ML/ Data
Science**
(M.Sc. Mathematics and
computing)

**Step 3
Analysis**

**Theoretical
Mathematics**
(M.Sc. Mathematics and
computing)



USP of M.Sc. Mathematics and Computing at PDEU



- Master's programme in Mathematics and Computing blends relevant mathematics and computer science courses covering theoretical, computational, and practical aspects.
- Students are trained in basic mathematics, numerical computation, and computer science.
- The computing training gives the students expertise in advanced IT skills such as Python, MATLAB, R, C, C++, data structures, algorithms, etc.
- Apart from this, it also provides the mathematical methods to formulate, analyze and to solve the problems of engineering and management through the higher level and elective courses.

Career opportunities after master's in Mathematics and Computing @PDEU

A post-graduate student in Mathematics and Computing has n number of paths for choosing his/her career.

Here is a list of a few of them:

- Financial Analyst
- Data Scientist
- Research & Development in Industries
- IT Job at MNC
- Researcher in academic institutions like IIT, NIT, IISC, IISER
- Scientist in research organizations like ISRO, DRDO, BARC, etc.
- Academician

Courses offered in M.Sc.(M & C) @PDEU

Semester 1

Real analysis

Differential Equations

Linear Algebra

Programming Language
C(Theory)

Programming language
C lab

Discrete Mathematics

Semester 2

Modern Algebra

Probability and
Statistics

Data Structures

Data Structures lab

Optimization
Techniques

Complex Analysis

Semester 3

Numerical Analysis

Elective 1

Elective 2(core computer)

Elective 3

Project-I

Semester 4

Project-II

Elective 1

Fluid Mechanics

Calculus of variation and Integral Equations

Modelling and Simulation

Numerics of Partial Differential Equations

Number Theory and Cryptography

Random variables and Stochastic processes

Functional Analysis

Topology

Elective 2 (core computer)

Design and Analysis of Algorithms

Formal Languages and Automata Theory

Graph Theory

Object Oriented and Python Programming

Theory of Computing

Elective 3

Boundary element method

Advanced Abstract Algebra

Measure Theory and Integration

Theory of Operators

Finite Element Method

Numerical Linear Algebra

Financial Portfolio Theory and Risk Analysis

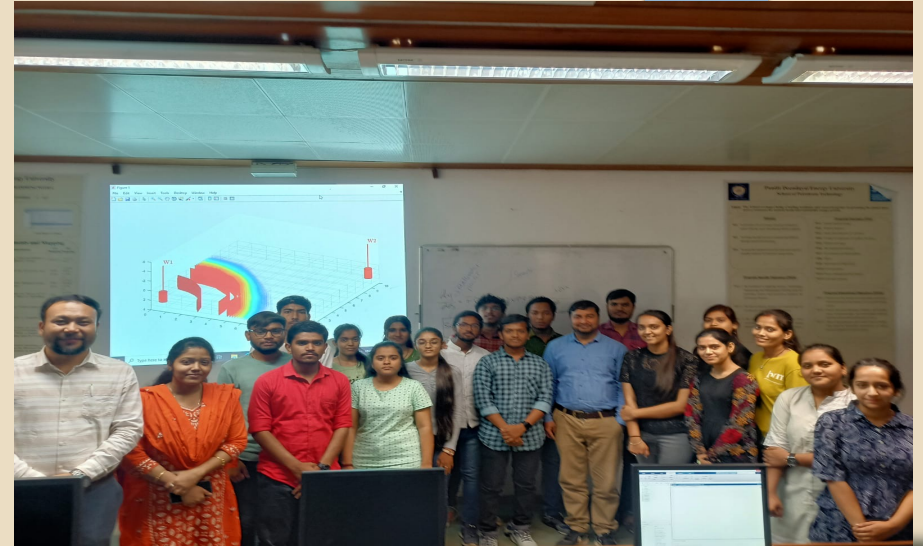
Research opportunities in terms of overall faculties, overall environment, exposure and computational labs @PDEU

- As all the faculty members are Ph.D. qualified from various institutes of national and international repute, students get the strong fundamental guidance for research.
- This able guidance from faculty enables students of B.Sc. and M.Sc. to work on the research topic and publish their work in International journals/conferences.
- Many of the our B.Sc. and M.Sc. students have published the research papers in the past.
- Almost every faculty from the department have national and international collaborations which enable students to work with the people across the world.
- Excellent state-of-art labs for students to perform hands-on sessions for learning the computing skills.

Some unique features of M.Sc.(M & C) @PDEU

- Travel grant for paper presentation in National/International conferences
- Funding for students research projects
- Research assistantship of 25000 per semester
- Guidance for competitive exams like GATE, CSIR-NET
- Placement assistance
- Global exposure and funding opportunities for start-up programs

A Glimpse of computational labs @PDEU





Presentation prepared by: Dr. Ankush Rajee