



PEDAGOGICAL TRAINING FOR MATHEMATICS TEACHERS (PTMT)

Organized under the aegis of **MTTS Trust**
in **collaboration** with Vishnu Educational Development
and Innovation Centre (VEDIC), Hyderabad – 500075



THEME OF THE PROGRAMME

Optimization Techniques with Applications to Machine Learning

December 21–26, 2026

Funded by the National Board for Higher Mathematics (NBHM)

Ascent from theory to practice

FOUNDATIONS

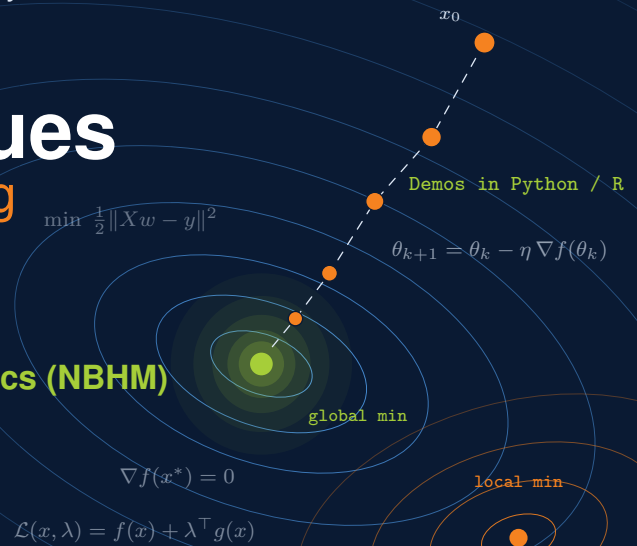
Local and global extrema
Lagrange multipliers
KKT conditions

NUMERICAL OPTIMIZATION

Gradient Descent · Newton's Method
Conjugate Gradient Methods
BFGS · L-BFGS
Powell's · Nelder–Mead

MACHINE LEARNING

Linear Regression
Least-Squares Problems
PCA · LDA · SVM



ABOUT THE PROGRAMME

The Mathematics Training and Talent Search (MTTS) and PTMT programmes are organized under the aegis of the MTTS Trust, which is funded by the National Board for Higher Mathematics (NBHM). The MTTS programme has been very successful over the last three decades and has motivated a large number of students to pursue a career in mathematics. We believe that even more students would benefit if mathematics teachers were acquainted with the methodology adopted in the MTTS programme. PTMT attempts to familiarize mathematics teachers teaching at undergraduate and postgraduate levels with the methods followed in the MTTS programme. Faculty well versed in the MTTS programme will share the pedagogy of teaching mathematics with participants. This year's programme introduces optimization techniques and their applications in machine learning through lectures and hands-on Python/R sessions.

ELIGIBILITY

Mathematics teachers working in any arts & science college, university department or engineering college in the country can apply. Research scholars / postdoctoral fellows may also apply. Preference will be given to early-career teachers with knowledge of calculus of several variables and linear algebra. Basic knowledge of programming languages such as R/Python will also be an added advantage.

SELECTION

- Only selected candidates will be informed of their selection by November 23, 2026. The list of selected candidates will also be posted on the programme page of the MTTS website.
- Candidates selected for the programme will receive free boarding and lodging (on a sharing basis) for the duration of the programme.
- Participants must bear their own travel expenses.
- Any other instructions and guidelines for the participants will be published on the programme page.

ABOUT VEDIC

VEDIC (Vishnu Educational Development and Innovation Centre) is a centre founded by Shri Vishnu Educational Society (SVES) to serve as a think tank for learning and innovation. It is a residential centre providing a holistic platform for interdisciplinary and inter-institutional collaboration and sharing of best practices in education, research, innovation and academic leadership. Its core objective is to foster collegiality and collaboration among faculty across institutions providing them avenues for continuous learning and helping them keep up to date with advances in various academic disciplines. It is the first training centre in India accredited by IGIP (International Society for Engineering Pedagogy) and offers the International Engineering Educators certification programme. For more details, visit <https://vedic.edu.in/>.

IMPORTANT DATES

- Oct 20, 2026** Start of online applications
- Nov 20, 2026** Last date for online applications
- Nov 23, 2026** Publication of selection list
- Dec 21–26, 2026** Programme dates

HOW TO APPLY

- Please read the application procedure at <https://mtts.org.in/d4q2> before applying.
- Details can be found on the programme webpage <https://mtts.org.in/programme/ptmt2026te>

ACADEMIC COORDINATOR

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ABOUT MTTS TRUST

MTTS Trust is a non-profit educational trust committed to building mathematical skills and nurturing mathematical talent across India. It organizes activities under the MTTS umbrella, along with other mathematical initiatives aimed at strengthening mathematics education and sustaining India's eminence in mathematics. Institutions interested in hosting or supporting an MTTS programme are encouraged to visit the MTTS Trust website <https://mtts.org.in/mtts-trust> for further information.