SNDT Women's University, Mumbai

Accredited by NAAC, with A+

Usha Mittal Institute of Technology

organizes

FACULTY DEVELOPMENT PROGRAM

under PM-USHA (MERU) PROJECT

on

High Performance Computing (HPC)

Case Studies and Application Domains

May 04 - May 08, 2026

(Face to Face mode)

Venue

HPC Lab, 5th Floor, UMIT, SNDT Women's University, Juhu Campus, Mumbai.

Empowering faculty with essential research skills to drive innovation and quality in higher education.

https://www.umit.ac.in/

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ABOUT US

SNDT Women's University

SNDT Women's University is the First Women's University in India as well as in South-East Asia. The University was founded by Bharat Ratna Maharshi Dr Dondho Keshav Karve in 1916 for a noble cause of Women's Education. The first five women graduated in 1921 from this university. The university headquarter is located at Churchgate Campus, Mumbai and the other four campuses of this University are at Juhu, Mumbai, Karve Road, Pune, Shrivardhan, Ratnagiri, and Chandrapur.

SNDT Women's University stands 32nd amongst multi-disciplinary universities of India and ranked fourth in Western India according to the Week-Hansa Research ranking of 2020.

UMIT

UMIT has been approved by the apex bodies like the All India Council for Technical Education (AICTE) and the Directorate of Technical Education (DTE). It envisages an educational complex with state of the art laboratories, workshops and computer center equipped with the latest equipment. It also envisions close liaison with the Industry and handling live Industry Projects as part of the curriculum.

The curriculum has been designed to embrace modern developments in the field of technology to equip the students to face the challenges of the Industry. The courses concentrate on the emerging fields of technology and are periodically updated in the light of the changes that are visualized to take place in the field of technology the world over. The Institute has academic tie-ups with renowned technological institutes and research laboratories in the country.

About PM-USHA

The "PM-USHA MERU project" refers to a component within the Pradhan Mantri Uchchatar Shiksha Abhiyan (PM-USHA) scheme, which aims to support the development of Multidisciplinary Education and Research Universities (MERUs) across India by providing funding to upgrade existing state universities and establish them as centers for advanced, multidisciplinary research and education, aligning with the vision of the National Education Policy 2020.

ABOUT FDP

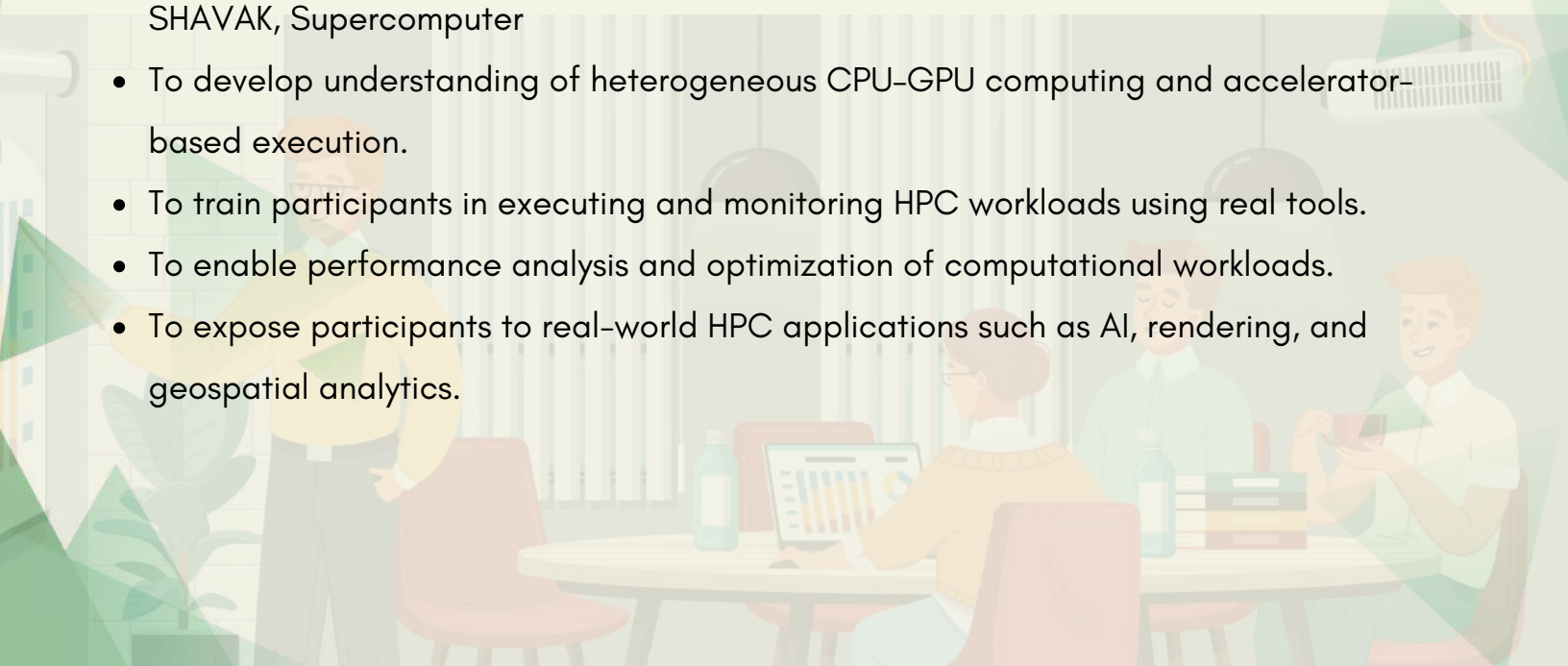
This Faculty Development Programme (FDP) is designed to provide in-depth knowledge and hands-on experience in **High Performance Computing (HPC)**. The programme is aligned with modern HPC practices.

The FDP emphasizes practical exposure using **PARAM SHAVAK Supercomputer and GPU-Accelerated HPC System**, enabling participants to execute, monitor, and optimize real-world workloads such as deep learning, rendering, and geospatial analytics. The content is derived from a structured academic syllabus integrating theory, laboratory experiments, and application-driven case studies .

The programme also highlights multidisciplinary applications of HPC in AI, climate science, computer graphics, and large-scale data processing.

OBJECTIVES

- To introduce fundamental concepts and architecture of modern HPC systems, including GPU-accelerated environments.
- To provide hands-on exposure to centralized HPC infrastructure using PARAM SHAVAK, Supercomputer
- To develop understanding of heterogeneous CPU-GPU computing and accelerator-based execution.
- To train participants in executing and monitoring HPC workloads using real tools.
- To enable performance analysis and optimization of computational workloads.
- To expose participants to real-world HPC applications such as AI, rendering, and geospatial analytics.



OUTCOMES

After successful completion of the FDP, participants will be able to:

- Explain HPC architectures, execution models, and GPU-based computing environments.
- Execute and monitor workloads on centralized HPC systems using modern frameworks.
- Analyze performance bottlenecks related to computation, memory, and data movement.
- Optimize workloads using techniques such as batch tuning, mixed precision, and checkpointing.
- Apply HPC in real-world domains such as deep learning, climate modeling, GIS, and rendering.
- Design laboratory experiments and student projects using HPC infrastructure.

STRUCTURE

The FDP is structured as a on 5 days intensive offline session comprising a blend of expert lectures, hands-on demonstrations, and interactive discussions. The structure is designed to provide both conceptual clarity and practical exposure

Each session is curated to ensure active engagement and skill-based learning, aligned with the goals of the PM-USHA Scheme and NEP 2020.

PROGRAMME DELIVERY

The FDP will use face-to-face participative learning combining expert lectures, workshops, group discussions, and hands-on sessions. Participants will engage in experiential learning and collaborative activities to ensure practical application.

TARGET PARTICIPANTS

- National-level participants include Faculty members in Central, State, Deemed to be Universities, Private Universities, Institutions of National Importance, Polytechnics, Colleges and other HEIs.
- Faculty members from HEIs under various Professional Councils (AICTE, NMC, BCI, INC, PCI, ICAR etc.)
- Contractual, Ad-hoc, Guest faculty Teachers, Tutors and Demonstrators in HEIs, wherever applicable.

Registration Fee: Nil

GUIDELINES FOR PARTICIPANTS

No Objection Certificate (NOC): Participants must submit an NOC from the Head of Institution/Department prior to the FDP. (Draft format is provided in the brochure.)

Travel & Accommodation: No TA/DA will be provided by the organizers. Outstation participants may request accommodation at their own expense, subject to availability.

Refreshments: Tea, snacks, and lunch will be provided by the organizers during the FDP.

Registration: Registration is free and mandatory for all participants.

Use the official Google Form link to register. Participation is restricted to 50 registered candidates. Last Date to Register: April 27, 2026

Scan to Register

CLICK HERE

Eligibility: Preference will be given to the faculty members from all disciplines of SNDT Women's University and its affiliated colleges.

Mode of Programme: The FDP will be conducted offline at the HPC Lab, 5th Floor, UMIT, SNDT Women's University, Juhu Campus, Mumbai.

Certificate of Participation: A certificate will be issued only to those participants who attend all sessions and actively participate in assessments (if applicable). Late entry or early exit may affect eligibility for certification.

Timings & Attendance: Sessions will begin at 9:00 AM and end by 05:15 PM. Attendance in all sessions is mandatory. Participants are advised to be seated 15 minutes before the first session.

CHIEF PATRON

Professor (Dr) Ujwala Chakradeo
Hon'ble Vice Chancellor, SNDT Women's University, Mumbai.

PATRONS

Professor Ruby Ojha
Pro Vice Chancellor, SNDT Women's University, Mumbai.
Professor Vilas Nandavadekar
Registrar, SNDT Women's University, Mumbai.

ADVISORY COMMITTEE

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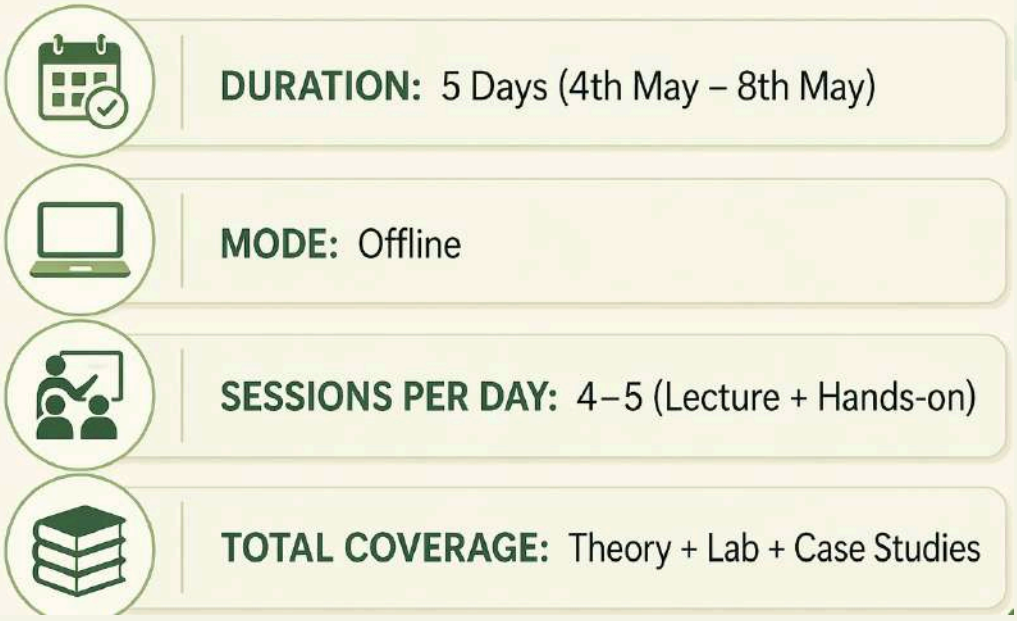
PROGRAM STRUCTURE



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UMIT

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