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Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

DEPARTMENT OF ARTIFICIAL INTELLIGENCE & DATA SCIENCE

Detailed Report

On

Industrial Visit

Academic Year 2024-25

Name of the Event: Industrial Visit at Center of Development and Advanced Computing (C-DAC Pune)

Date of the Event: 23-05-2025

Class: SY & TY

Faculty Coordinator: Prof S.S.Date, Prof.M.A.Khan, Prof.S.V.Moin

Objective:

➢ To gain practical exposure to cutting-edge technologies like High Performance Computing, AI, and Cybersecurity.

➢ To understand the role of CDAC in national R&D and technology development initiatives.

➢ To inspire innovation and research-oriented thinking among students.

About Company:

The **Centre for Development of Advanced Computing (C-DAC)** is India's premier R&D organization under the Ministry of Electronics and Information Technology (MeitY). Headquartered in Pune, C-DAC was established in 1988 in response to the U.S. denial of supercomputing technology to India, leading to the indigenous development of the PARAM series of supercomputers.

Pioneering Supercomputing: Developed India's first indigenous supercomputer, PARAM 8000, in 1991, positioning India among the elite nations in supercomputing.

Research & Development: Engages in cutting-edge research areas including High Performance Computing (HPC), Artificial Intelligence, Cybersecurity, Blockchain, Health Informatics, and Quantum Computing. **Multilingual Computing**: Promotes Indian language computing through the GIST (Graphics and Intelligence based Script Technology) group, enhancing IT accessibility across diverse linguistic populations.

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Education & Training: Offers specialized postgraduate diploma courses in areas like Embedded Systems, VLSI, Big Data Analytics, and Artificial Intelligence through its Advanced Computing Training School (ACTS).

Global Collaborations: Has established Centres of Excellence in Information Technology in countries such as Namibia, Armenia, and Myanmar, extending its training and development initiatives globally.

Innovative Projects: Recently collaborated with the Pimpri Chinchwad Municipal Corporation to develop a state-of-the-art Rainfall and Flood Forecasting Early Warning System, enhancing urban climate resilience and disaster preparedness.

Activities undertaken during the Visit:

Introductory Session:
A briefing about CDAC's mission, history, and its contributions to India's technological advancement.

Technology Demonstrations:
Live demonstrations of key technologies developed by CDAC such as PARAM supercomputers, AI models, language computing tools, and cybersecurity frameworks.

Laboratory/Facility Tour:
Guided tours of specialized labs and data centers, showcasing ongoing research in High Performance Computing, Embedded Systems, IoT, and VLSI.

Expert Interaction:
Interactive Q&A sessions with CDAC scientists and engineers discussing real-world projects and career paths in advanced computing.

Outcome:

➢ Gained insights into advanced technologies such as supercomputing, AI, cybersecurity, embedded systems, and multilingual computing.
➢ Inspired to pursue research, innovation, and development in the field of high-end computing and IT solutions.
➢ Learned about the architecture and functioning of PARAM supercomputers and how CDAC manages large-scale computation.

Concluding Remarks:

The industrial visit to CDAC Pune was a highly enriching and insightful experience for all participants. It provided a rare opportunity to witness the nation's pioneering work in advanced computing technologies firsthand. From understanding the development of PARAM

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supercomputers to exploring cutting-edge innovations in AI, cybersecurity, and multilingual computing, the visit bridged the gap between academic learning and practical application.

The interaction with experienced professionals and exposure to real-time R&D projects offered valuable perspectives on current industry trends and future career prospects. This visit not only enhanced our technical knowledge but also ignited a deeper interest in research, innovation, and contributing to India's technological growth.

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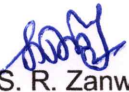
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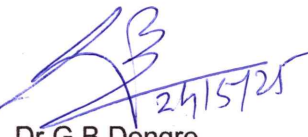Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

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