



# Visvesvaraya National Institute of Technology, Nagpur

धातुकी एवं पदार्थ अभियांत्रिकी विभाग  
METALLURGICAL AND MATERIALS ENGINEERING

## Department of **Metallurgical & Materials Engineering** Placement Brochure (2025-26)

### Address

Training and Placement Department  
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# About

## Introduction

The Department of Metallurgical & Materials Engineering was founded in 1965, and the first batch of students graduated in 1969. The faculty and equipment facilities in the department have developed well over the last five decades for UG/PG programs in Metallurgical and Materials Engineering.



## Mission

- To link the human resource with the knowledge base in the field of Metallurgical and Materials Engineering in such a way that the challenges faced by the mankind in optimum utilization of the materials resources are successfully met with.
- To stride on every front of knowledge dissemination through teaching learning process, research and development and offering expert solutions to the technological problems.
- To integrate human resource with highest attainable level of knowledge on materials with various channels functioning for its efficient dissemination for the welfare of the mankind.

## Vision

A department, growing at a pace matching with global trends, emerging as one of the world's leading academic organizations for its advanced knowledge base and cutting edge research.

# From the HOD's Desk



## **Dr. Dilip R. Peshwe**

Head of the Department (HOD),  
Department of Metallurgical & Materials Engineering,  
Visvesvaraya National Institute of Technology Nagpur

Over the past 50 years, more than 3000 B.Tech. students from our department have graduated and are now contributing to organizations around the world in responsible roles—testament to the success of the Department of Metallurgical and Materials Engineering at VNIT Nagpur.

It is my privilege to invite your esteemed organization to participate in our upcoming training and recruitment process.

VNIT, one of the oldest RECs and declared an Institute of National Importance in 2007, has upheld its legacy of excellence. Since inception, our department has played a vital role in academic, research, and industrial growth.

Our faculty is actively engaged in nationally significant industrial research and guides students through live projects and technical services to industry. The curriculum is designed to align with industry needs, preparing students to meet challenges at all levels.

Our students have undertaken valuable projects in manufacturing, R&D, and academia—gaining hands-on experience in material design, lifecycle analysis, and process understanding. This exposure helps them integrate well into professional ecosystems. In addition, mandatory summer internships keep them in touch with the latest industry practices.

I look forward to your participation in our Training & Placement process and to building a lasting association with our department.

# From the T&P Faculty Coordinator



## **Dr. Chaitanya A. Joshi**

Training & Placement Faculty Coordinator,  
Department of Metallurgical & Materials Engineering,  
Visvesvaraya National Institute of Technology Nagpur

The Department of Metallurgical & Materials Engineering (MME) at Visvesvaraya National Institute of Technology (VNIT), Nagpur, was established in 1965. Originally known as the Department of Metallurgical Engineering, it was a part of the Visvesvaraya Regional College of Engineering (VRCE). Over the decades, the department has grown into a dynamic academic unit, keeping pace with evolving scientific knowledge and industrial innovation.

Our curriculum, teaching methodologies, and project-based learning are regularly updated to reflect the latest technological trends and industrial practices. This ensures that our students are industry-ready and capable of adapting to diverse professional environments.

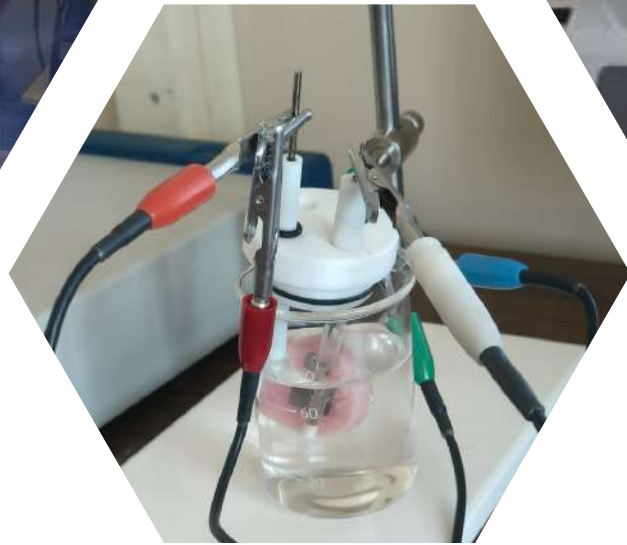
The consistent success of our students across sectors such as manufacturing, R&D, academia, software and IT, defence, and more recently, data analytics, reflects their strong foundation and versatility. Many of our students are also selected for prestigious internship programs both in India and abroad, which further enriches their exposure and readiness for future challenges.

On behalf of the MME department, I invite your esteemed organization to participate in our campus placement process for final-year students, and to engage with our second- and third-year students through internship and training opportunities. We look forward to building a meaningful association with your organization.

# Major Laboratory Facilities

- XRD AND SEM
- HEAT TREATMENT
- MATERIAL TESTING
- CORROSION LABORATORY
- MINERAL PROCESSING
- WEAR AND TRIBOLOGY

- CONVENTIONAL AND SMALL PUNCH CREEP
- FATIGUE
- PHYSICAL METALLURGY
- POLYMER PROCESSING
- CHEMICAL ANALYSIS
- WELDING



# Conferences and Workshops



## Structural Integrity Conference and Exhibition (SICE) 2024 – VNIT, Nagpur

The 5th edition of SICE 2024 was a premier event that brought together leading researchers, industry experts, and academics to explore advances in structural integrity. With distinguished guests from DRDO, IIT Madras, and JNARDDC, and key lectures by R. Sunder, Andrew Rosenberger, B.K. Dutta, and Masahiro Endo, the conference addressed critical areas such as aerospace structural monitoring and environment-assisted cracking.

## IndiaTrib 2024 – Kolkata

IndiaTrib 2024 brought together tribology experts from across India to share innovations in material wear and surface engineering. VNIT faculty presented research on slurry abrasion and amorphous coatings, garnering attention for their scientific rigor and industrial relevance. The conference fostered industry-academia connections and opened avenues for joint research in tribology.



## NSRS'25 (National Symposium for Research Scholars) – IIT Kanpur

Four VNIT research scholars participated in NSRS'25, with two winning Best Presentation Awards for groundbreaking work in sustainable energy and biomedical alloys. The symposium featured vibrant technical sessions, keynote addresses, and research networking. VNIT's strong showing reflected its high-caliber graduate research output.

# Innovations & collaborations



## COLLABORATION WITH MINEX

On 24th March 2025, a VNIT MME delegation visited Minex Metallurgical Company's Nimji plant to explore industry-academia collaboration in areas like CuMg dross recycling, FeSi10% production, and Mg alloy manufacturing. Discussions focused on joint research, real-world internships, and converting Minex's technical challenges into UG/PG projects, marking a key step in fostering applied learning and innovation.

## Dr. Amrut Agasti – Aluminium–Air Battery Project

Dr. Agasti's project, funded by the Ministry of Mines, explores cost-effective energy storage using Al-air batteries. The initiative includes partnership with PROTO9 Materials Pvt. Ltd., Mumbai, showcasing VNIT's strong industry linkages. The project was formally launched at Vigyan Bhavan, adding prestige to the department's research profile.



## Patent Achievement – Electropolishing Module for SEM/TEM

A new patent was filed for an innovative electropolishing module designed to enhance SEM and TEM sample preparation. This device ensures high-quality surface finishing critical for nanoscale characterization. The invention positions VNIT at the forefront of analytical instrumentation development.

# Student Activities



## **IIM-ATM 2024 – Bengaluru**

Students presented posters on geopolymers bricks and green supercapacitors made from aquatic waste, sparking insightful discussions among academia and industry leaders. Accompanied by the HoD, the team benefited from exposure to leaders like Mr. Sajjan Jindal and Prof. B.S. Murthy. The event reinforced VNIT's vision of combining innovation with environmental responsibility.

## **Foundry Visit – Kapilandh Dhatu Udyog**

Third-year students gained practical exposure to every stage of metal casting, from mold design to quality inspection. They observed live melting and solidification processes. The visit enhanced classroom learning by anchoring it in real-world foundry operations. Students also interacted with plant engineers, gaining insights into industry standards, safety protocols, and career opportunities in metallurgical manufacturing.



## **Seminar on Trends in Iron and Steelmaking – VNIT**

Guest speaker Mr. Vipul Salve highlighted transformative trends in eco-friendly steel production. Students gained perspective on EAF and hydrogen-based steelmaking. The seminar bridged academic theory with contemporary industrial practices. It also encouraged students to explore emerging green technologies and their impact on the future of the steel industry.

# Student Activities



## **IIT Indore Faculty Interaction – VNIT**

Visiting professors introduced exciting topics in biomaterials, quantum materials, and sustainability. They also discussed research fellowships and collaborative projects. The event inspired students to consider interdisciplinary research careers. Faculty and students benefited from valuable guidance on higher education pathways and national research opportunities.

## **Institute Gathering 2025**

IG 2025 was a vibrant celebration of talent, creativity, and teamwork, held from March 1st to 10th at VNIT. Students from the Department of Metallurgical and Materials Engineering (MME) actively participated and excelled across multiple events. The department secured 1st place in Hindi Debate, Creative Writing (Hindi & Marathi), Street Play, Table Tennis, and CS2 Esports; 2nd place in Poetry and Boys' Kabaddi; and 3rd place in Tug of War. Their enthusiastic involvement showcased a perfect blend of literary, cultural, and athletic excellence, reflecting the spirit and unity of the department.



## **Department Gathering 2024**

DG was held from October 8th to 10th and served as a lively platform for students across all years to showcase their talents and strengthen bonds. The event featured vibrant cultural performances, games, a musical evening, and a thrilling treasure hunt that promoted teamwork and creativity. It fostered a strong sense of community within the Department of Metallurgical and Materials Engineering, leaving participants with lasting memories and renewed enthusiasm.

# Courses Offered

## Core Courses (DC)

- Introduction to Material Science & Engineering
- Engineering Physical Metallurgy
- Metallurgical Thermodynamics & Kinetics
- Numerical Methods and Computation
- Testing of Materials
- Mineral Processing Technology
- Polymeric Materials
- Transport Phenomena
- Ceramic Materials
- Theory and Technology of Heat Treatment
- Ferrous Extraction Metallurgy
- Principles of Non-Ferrous Extraction Metallurgy
- Metal Working Processes
- Characterization of Materials
- Composite Materials
- Steel Making Technology
- Environmental Degradation of Metallic Materials

# Courses Offered

## Departmental Electives (DE)

- Wear of Engineering Materials
- Electrical & Magnetic Materials
- Joining of Materials
- Foundry Technology
- Light Metal Alloys
- Introduction to Materials Informatics
- Introduction to Computational Materials Science
- Fundamentals of Defects in Materials
- Structure of Materials
- Process Optimization
- Cast Iron Metallurgy
- Bio Materials
- Chemical Characterization of Materials
- Alloy Steels & High Temperature Alloys
- Particulate Technology
- Kinetics of Metallurgical Processes
- Energy Materials
- Thermomechanical Processing of Metallic Materials
- Semiconductor Technology
- Hydro & Electro Metallurgy
- Financial Engineering
- X-ray Diffraction & Electron Microscopy
- Metallurgy of Nuclear Materials
- Selection of Materials
- Non-Destructive Testing
- Secondary & Special Steel Making
- Fracture Mechanics
- Rural Technology
- Deformation Behavior
- Continuous Casting of Steels
- Failure Analysis
- Nano Materials
- High Temperature Corrosion
- Surface Engineering
- Thin Film Technology
- Safety Management and Pollution Control

# Notable Alumni

**Dr. B.S.MURTHY**

Director, IIT Hyderabad

**Mr.Nikhil Balachander**

Camera & Depth Engineering  
Program Manager at Apple

**Dr. B.S. Rao**

Scientist, IGCAR Kalpakkam

**Dr. G.S. Gupta**

Professor, IISc Bangalore

**Dr. R.S. Chandel**

Professor, University of Utah, USA

**Dr. M. Thubrikar**

Professor of Surgery, USA

**Mr. P. Jayade**

CTO, UNISYS Corp, New York

**Mr. P.N. Joglekar**

GM (Tech.), EWAC Alloys, L&T

**Mr. P.V. Kulkarni**

CEO & VP, Star Wires, Ballabgarh

## COLLABRATING ORGANISATIONS



# Faculty Corner

## PROFESSOR



**DR. D.R. PESHWE**

**Areas of Interest:** physical metallurgy, welding, casting process, wear of engineering materials, tribology, polymers & composites.

**Email:** drpeshwe@mme.vnit.in



**DR. A.P. PATIL**

**Areas of Interest:** corrosion engineering, surface engineering, simulation and modeling, alloy steel making

**E-mail:** appatil@mme.vnit.ac.in



**DR. S.G. SAPATE**

**Areas of Interest:** Erosion, Abrasion behaviour of Engg Materials, Weld Hardfacing Alloys, Selection of Materials

**E-mail:** sgsapate@mme.vnit.ac.in



**DR. J.G. BHATT**

**Areas of Interest:** Nano and Biomaterials, Metallurgical Thermodynamics and Kinetics, Non Equilibrium Materials Processing and Technology

**Email:** jatinbhatt@mme.vnit.ac.in



**DR. A.A. LIKHITE**

**Areas of Interests:** Austempered Ductile Iron, Metal Casting, Process Optimization Failure Analysis

**E-mail:** aalikhite@mme.vnit.ac.in



**DR. R.K. KHATIRKAR**

**Areas of Interest:** Microstructure and texture development in materials, Electron microscopy, Diffraction analysis of materials, Electron backscattered diffraction

**E-mail:** rajeshk@mme.vnit.ac.in



**DR. A.R. BALLAL**

**Areas of Interest:** Mechanical Metallurgy – Low cycle Fatigue, Creep, Ceramic Engineering, Fuel Cells

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# Faculty Corner

## ASSOCIATE PROFESSOR



**DR. R.C. RATHOD**

**Areas of Interest:** Polymer, Corrosion Science

**E-mail:** rameshrcrathod@mme.vnit.ac.in



**DR. M.M. THAWRE**

**Areas of Interest:** fatigue behaviour of composites, Metals (High Cycle Fatigue ), joining of metals, testing of metals, mechanical metallurgy, NDT.

**Email:** mduragkar@mme.vnit.ac.in



**DR. R.V. TAIWADE**

**Areas of Interest:** Corrosion, Welding, Mineral Processing, Sensors and Actuators, Biomaterials

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## ASSISTANT PROFESSOR



**DR. C.A. JOSHI**

**Areas of Interest:** Mathematical modeling of microstructure evolution

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**DR. Y. MADHAVI**

**Areas of Interest:** Surface Engineering, Fatigue, Corrosion, Wear and Tribology.

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**DR. A.B. RATHOD**

**Areas of Interest:** Wear, Steel and Iron Making, Physical Metallurgy, Particulate Technology

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# Faculty Corner

## ASSISTANT PROFESSOR



**DR. Y.Y. MAHAJAN**

**Areas of Interest:** Physical Metallurgy, Welding, Non Destructive Testing Aluminium Metal matrix Composite  
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**DR. A.K. SRIVASTAVA**

**Areas of Interest:** Non-equilibrium processing, Phase transformations, Thermally stable nanoscale materials, Nanomagnetism  
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**DR. A.V. AGASTI**

**Areas of Interest:** Solar Cells, Energy Materials, Electrochemistry, Batteries and Extraction of non-ferrous metals  
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**DR. S. R. REDDY**

**Areas of Interest:** Thermomechanical Processing of Metallic materials, Steel Making, Mechanical Behavior of Materials, Physical Metallurgy of Alloys, Creep and Superplasticity, Additive Manufacturing  
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**DR. ABHINAV ARYA**

**Areas of Interest:** Crystallographic Texture, Additive Manufacturing, Hydrogen Embrittlement, Severe Plastic Deformation, Wire Drawing, Machine Learning for materials research  
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**DR. ANIL KUMAR**

**Areas of Interest:** Wear & Tribology, Corrosion, Thermal Spraying Coatings, Metallic glass coating, Nanomechanical properties, Process-Structure-Property relationship, Composite Materials.  
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# Collective Skillset

## Metallurgical & Materials Science

Testing of Materials, Material Characterization, Casting, Iron & Steel Making, Heat Treatment, Welding, Metallography, Microstructural Study, Sample Preparation, Thin Film Synthesis, Material Synthesis, Material Testing, Foundry Technology, Ferrous Extraction Metallurgy

## Analytics

MS Excel, Advanced Excel, SQL, Power BI, Tableau, Data Modelling, Financial Analysis, Financial Modelling, Statistics

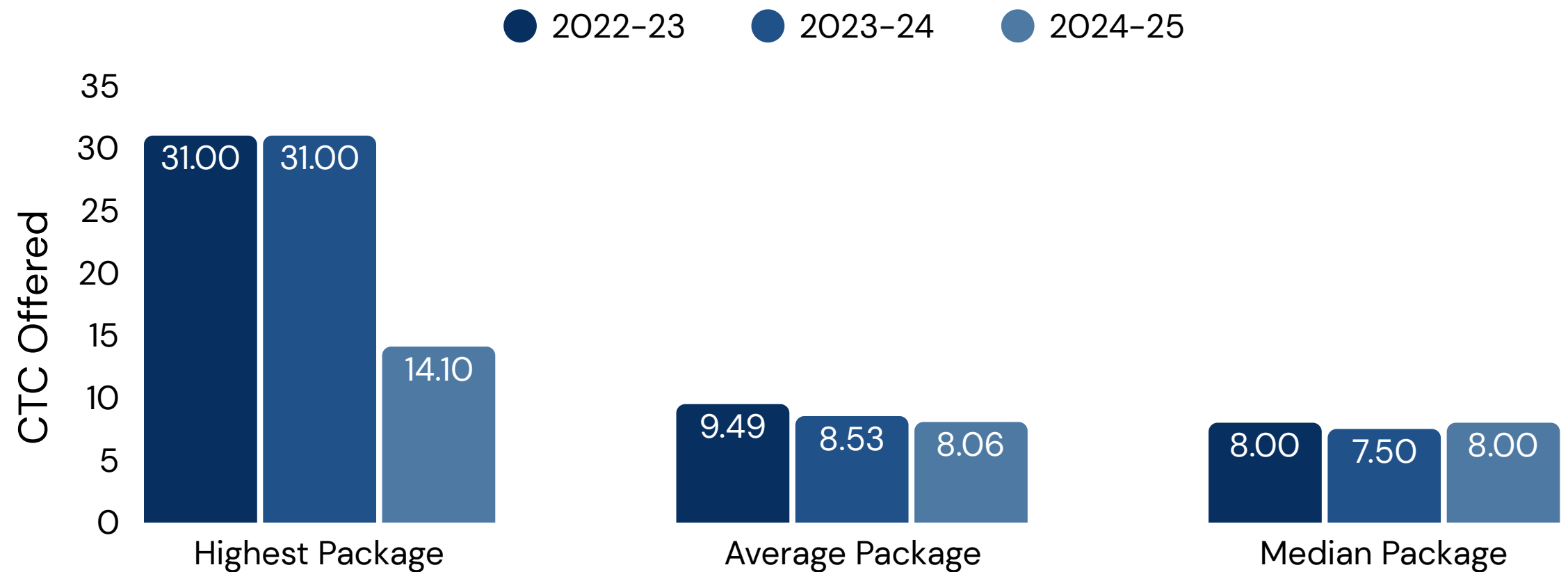
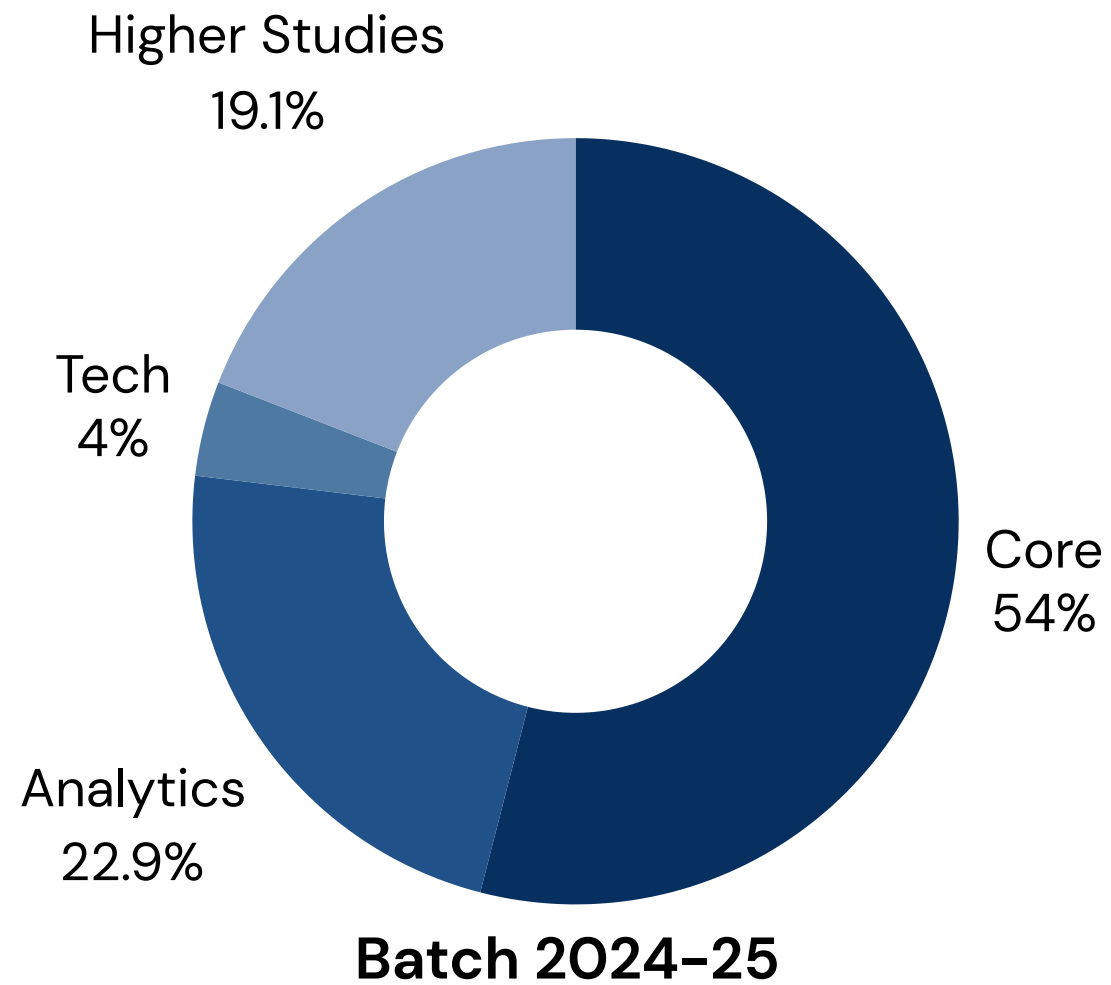
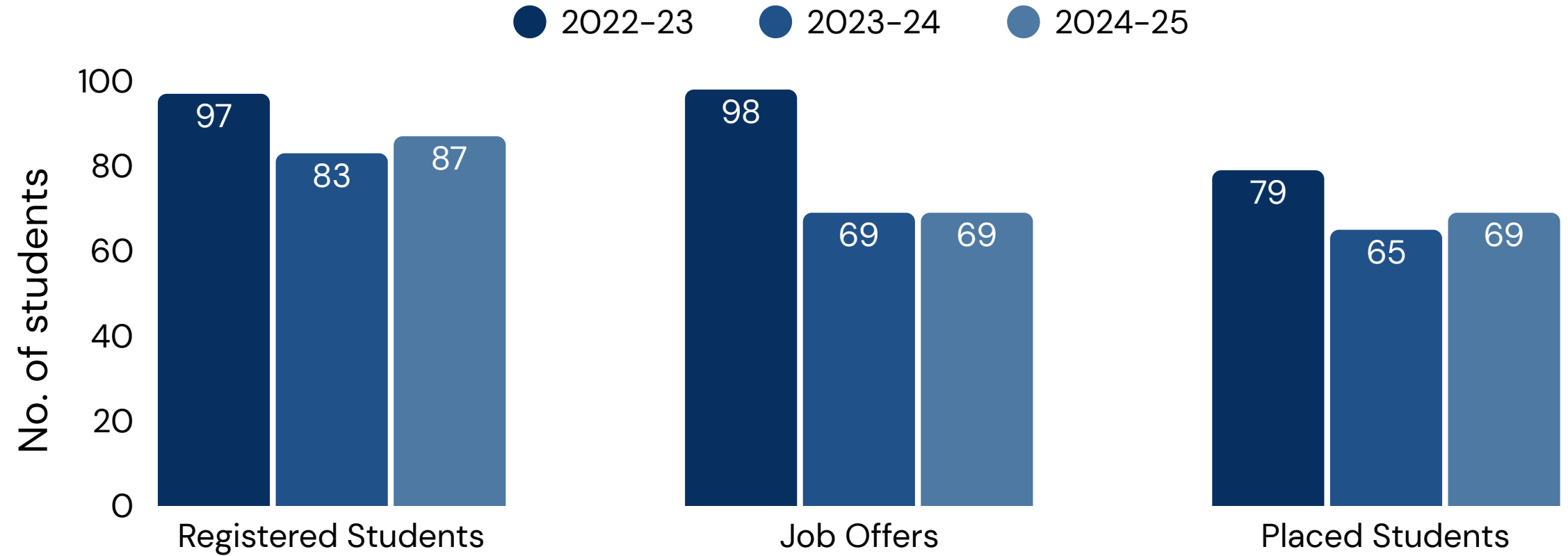
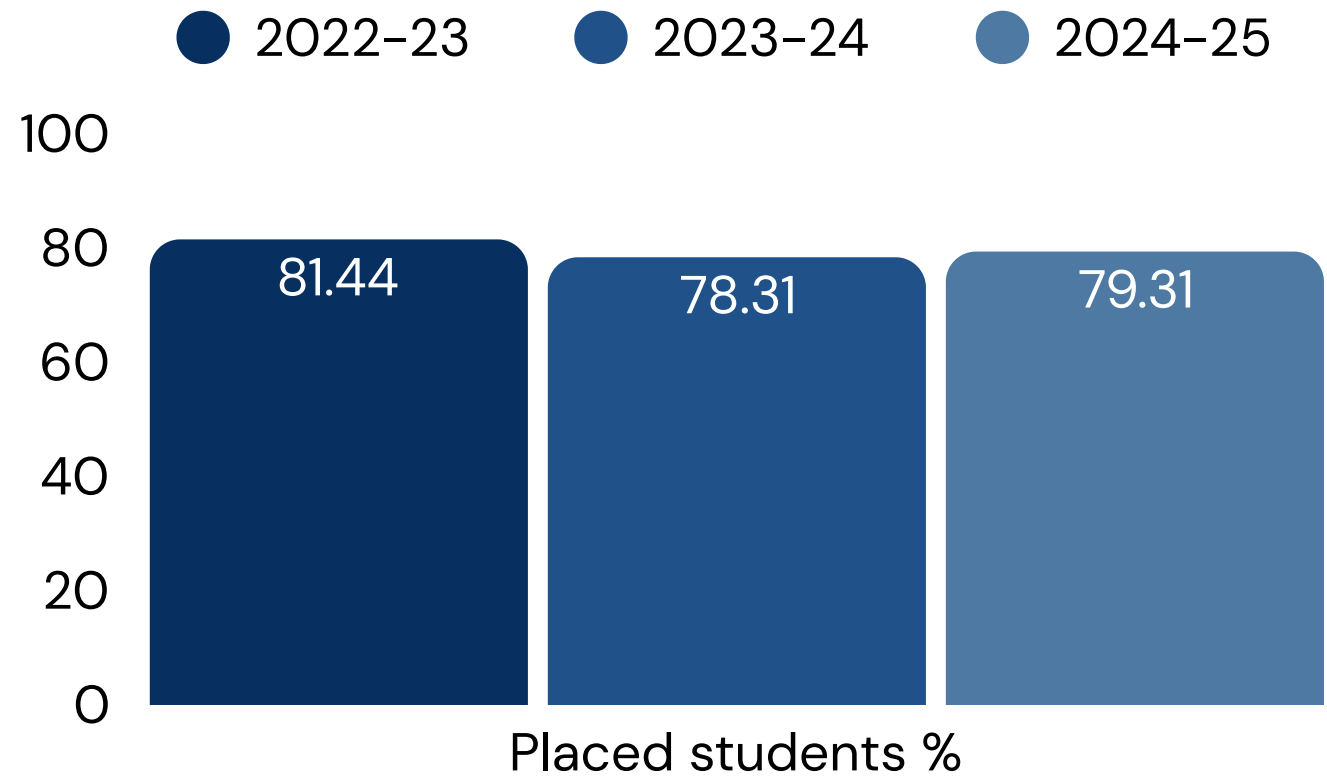
## Data Science & AI

Python, NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, TensorFlow, Keras, Jupyter Notebook, Machine Learning, Deep Learning, NLP, LangChain, Big Data, EDA, LLMS, Generative AI, Python Libraries

## Software Development & Engineering

C, C++, Java, HTML, CSS, JavaScript, React, React.js, Node.js, Express.js, MERN stack, Django, Flask, Web Development, Frontend Development, Backend, Full Stack Web Development, Docker, AWS, Apache Kafka

# Placement Report



# Past Recruiters



ADITYA BIRLA GROUP



KALYANI  
DRIVING INNOVATION



varroc



MUKAND



Jayaswal Neco  
Industries Limited



Axxela



accenture



MICROLAND®



# Contact Us

## Placement Cell

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Training & Placement Manager

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## Department Faculty

### **Dr. Dilip R. Peshwe (HAG)**

HOD, MME Department

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### **Dr. C. A. Joshi**

Faculty coordinator, MME Department

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## Student Coordinators

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