IARE
INSTITUTE OF
AERONAUTICAL ENGINEERING

Career Development Centre

Student Handbook
2026 - 27

Career Development Centre (CDC)

Empowering Skills. Enhancing Careers. Building Futures.

The Career Development Centre (CDC) at the Institute of Aeronautical Engineering (IARE), Hyderabad, stands as a cornerstone of holistic student development, serving as a powerful bridge between academic excellence and professional achievement. Established with the vision of transforming engineering graduates into globally competitive professionals, the CDC works alongside the Placement and Training Centre (PAT) to ensure every student is equipped with the skills, mindset, and exposure needed to succeed in today's dynamic industry landscape.

At IARE, career readiness is not an afterthought — it is integrated into the student journey from the very first year. Unlike conventional approaches that begin placement preparation only in the final year, the CDC follows a structured, multi-year framework that progressively builds technical competency, professional skills, and industry awareness across all four years of study. This proactive model has been instrumental in consistently placing over 80% of eligible students in reputed national and multinational organizations.

- **Programming and Coding Proficiency:** Developing strong foundations in programming logic, problem-solving, and algorithmic thinking to prepare students for technical challenges in the software industry.
- **Object-Oriented Programming (OOP)**: Training students in core OOP concepts and software design principles that form the basis of modern application development and engineering roles in IT organizations.
- **Database Management and Query Languages:** Equipping students with the ability to design, manage, and query databases effectively, covering both traditional relational and modern data storage approaches used across enterprise applications.
- **Data Structures and Algorithms (DSA)**: Building the analytical and computational skills needed to solve complex problems efficiently - a critical requirement for technical assessments and interviews at leading IT companies.
- **Web Technologies and Application Development:** Enabling students to understand and apply both front-end and back-end development concepts, preparing them to contribute to real-world software projects and pursue full-stack development roles.
- **Software Development Practices:** Familiarizing students with industry-standard development methodologies, collaborative workflows, and version management practices that define professional software engineering environments globally.
- **Artificial Intelligence and Emerging Technologies:** Introducing students to the fundamentals of Artificial Intelligence, Machine Learning, and data-driven technologies, enabling them to understand and contribute to intelligent systems that are reshaping the future of the software industry.
- **Cloud Computing and Modern Infrastructure:** Providing students with an understanding of cloud-based services, deployment models, and modern infrastructure practices that are increasingly essential across all sectors of the IT industry.

Industry-Integrated Skill Development and Placement Readiness

The Career Development Centre advances its employability mission through the **Careers and Employability Skills Training (CEST)** program — a comprehensive initiative purpose-built to bridge the enduring gap between academic preparation and industry expectation. CEST encompasses flagship training tracks including SkillUP and SkillNext, each meticulously designed to address specific stages of student development, ensuring a progressive and continuous skill-building journey from the foundational to the advanced level. All training interventions are developed in direct collaboration with industry partners, guaranteeing alignment with prevailing hiring standards, emerging technology trends, and domain-specific competency frameworks. Complementing this well-defined foundation, the CC2BCC - Career Camp to Build Candidates' Confidence — program delivers intensive, company-oriented preparation encompassing hiring process orientation, interview strategy development, aptitude strengthening, and communication enhancement, collectively fostering the professional confidence and readiness that today's competitive recruitment landscape demands. Students are further equipped through technical certification support, coding assessment preparation, and domain-specific tool proficiency, ensuring holistic readiness across all dimensions of the recruitment process. Regular coding assessments, hackathons, projects and mock tests are systematically conducted to ensure that every student is comprehensively prepared — technically, professionally, and personally — well in advance of the placement season. Industry expert sessions and curated workshop programs additionally expose students to emerging technologies, evolving market expectations, and contemporary professional best practices, creating a well-rounded and future-oriented preparation environment that reflects IARE's unwavering commitment to student success and career excellence.

Key Initiatives

Bootcamps and Top-up Programs — Intensive short-term training interventions designed to rapidly upskill students in high-demand technologies and competencies, bridging the gap between foundational academic knowledge and the evolving expectations of the software and IT industry.

- **Hackathons and Competitive Challenges:** Organizing and facilitating participation in hackathons, coding contests, and problem-solving competitions that foster innovation, collaborative thinking, and the ability to develop practical solutions under real-world constraints.
- **Coding Proficiency Enhancement**: Structured and progressive programs aimed at strengthening students' programming abilities, logical reasoning, and problem-solving aptitude through regular practice, peer learning, and performance benchmarking aligned with industry recruitment standards.
- **Professional Certifications and Credentialing:** Guiding and supporting students in pursuing globally recognized certifications across domains such as software development, cloud computing, data science, and cybersecurity, thereby enhancing their professional credibility and employability.

- **Industry-Academia Collaborative Programs**: Facilitating meaningful partnerships between the institution and leading technology organizations to co-design curriculum interventions, deliver guest lectures, conduct joint workshops, and expose students to authentic industry practices and expectations.
- **Projects and Internships**: Providing structured opportunities for students to engage in real-world project work and industry internships, enabling experiential learning, practical application of technical knowledge, and the development of professional competencies essential for career readiness.

Talent8 Courses through Bootcamps and Top-ups

Bootcamps have emerged as a powerful alternative to traditional education, offering a fast-paced, hands-on approach to skill development. Top-up courses serve as the natural next step, helping students build a strong project portfolio, leverage online learning resources, sharpen problem-solving abilities, and pursue industry-recognized certifications that meaningfully boost their career profiles. Together, these programs play a pivotal role in shaping students into industry-ready professionals by bridging the gap between academic learning and real-world expectations. The Career Development Centre conducts bootcamps that provide intensive, structured training in core technical areas - including Object Oriented Programming, Programming for Problem Solving, Data Structures, Design and Analysis of Algorithms, and Database Management Systems - giving students the kind of deep, hands-on exposure that regular classroom sessions alone cannot offer. The CDC follows a progressive, semester-aligned approach that begins with foundational programming concepts such as Object Oriented Programming, Python Programming, and Data Structures in semesters I and II, before advancing to Design and Analysis of Algorithms and Database Management Systems in semester III. These subjects, in turn, become the building blocks for more advanced skills in competitive coding, full-stack development, DevOps, and Cloud Computing in the later semesters. Together, these programs cultivate not only technical proficiency but also analytical thinking, problem-solving agility, and workplace readiness.

S No.	Course Name	Bootcamp Hours	Top-Up Hours
1	Java Programming	45	18
2	Python Programming	45	18
3	Data Structures	45	18
4	Design and Analysis of Algorithms	45	18
5	Database Management Systems	45	18
6	Web Systems Engineering	45	18
7	Computer Networks	45	18
8	Operating Systems	45	18

Skill Enhancement Programs: SkillUP and SkillNext

Skill enhancement programs are designed for students to strengthen technical foundations, explore emerging technologies, and develop industry-ready skills aligned with evolving workforce demands. SkillUP and SkillNext form a comprehensive training framework within the Career Development Centre (CDC), enabling students to build strong technical competencies through progressive learning. The programs prepare students for advanced industry roles and enhance their readiness for recruitment by leading global organizations.

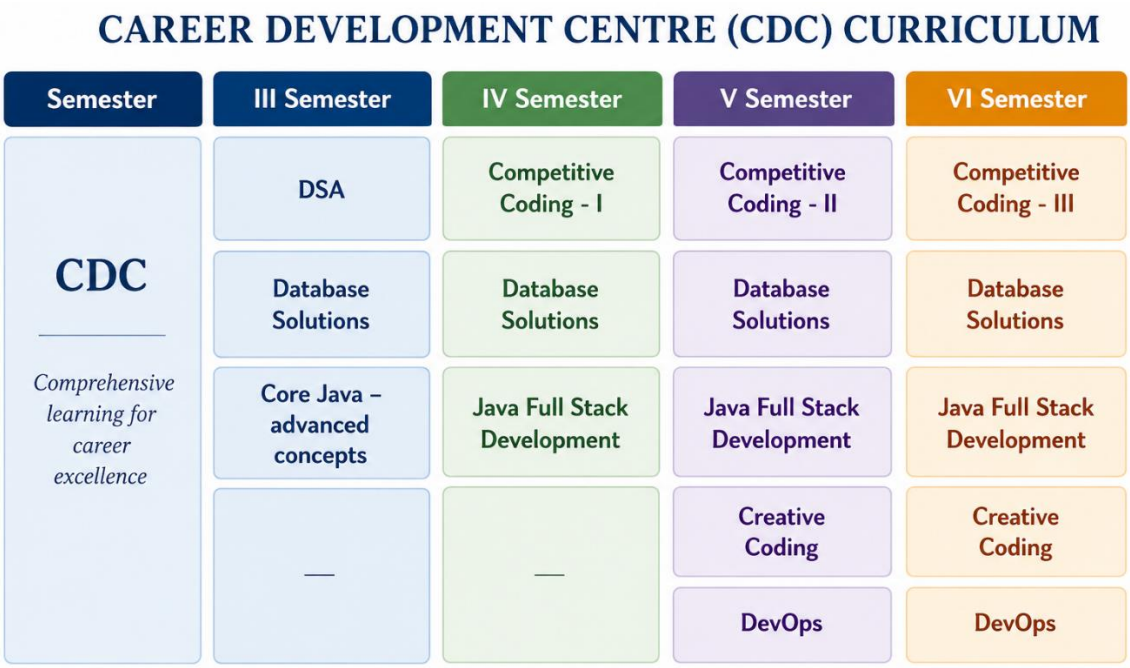
Programs	Training Hours	Duration	Type of Students	Coverage Semesters
SkillUP Batch	800+	2 Years	Advanced Learners	III, IV, V & VI
SkillNext Batch	600+	1 Year 6 Months	Active Learners	IV, V & VI

SkillUP Program

SkillUP is specifically designed for advanced learners from the III to VI semesters. The program offers more than 800 training hours, making it one of the most intensive skill-building initiatives in the institution. It begins in the III semester, where students are introduced to Data Structures and Algorithms through dedicated online coding platforms such as BuildIT, which provide an open coding environment for practice, problem-solving, and competitive programming. From the IV to VI semesters, the program progresses to Competitive Coding, Java Full Stack Development, Creative Coding, and Database Solutions.

SkillNext Program

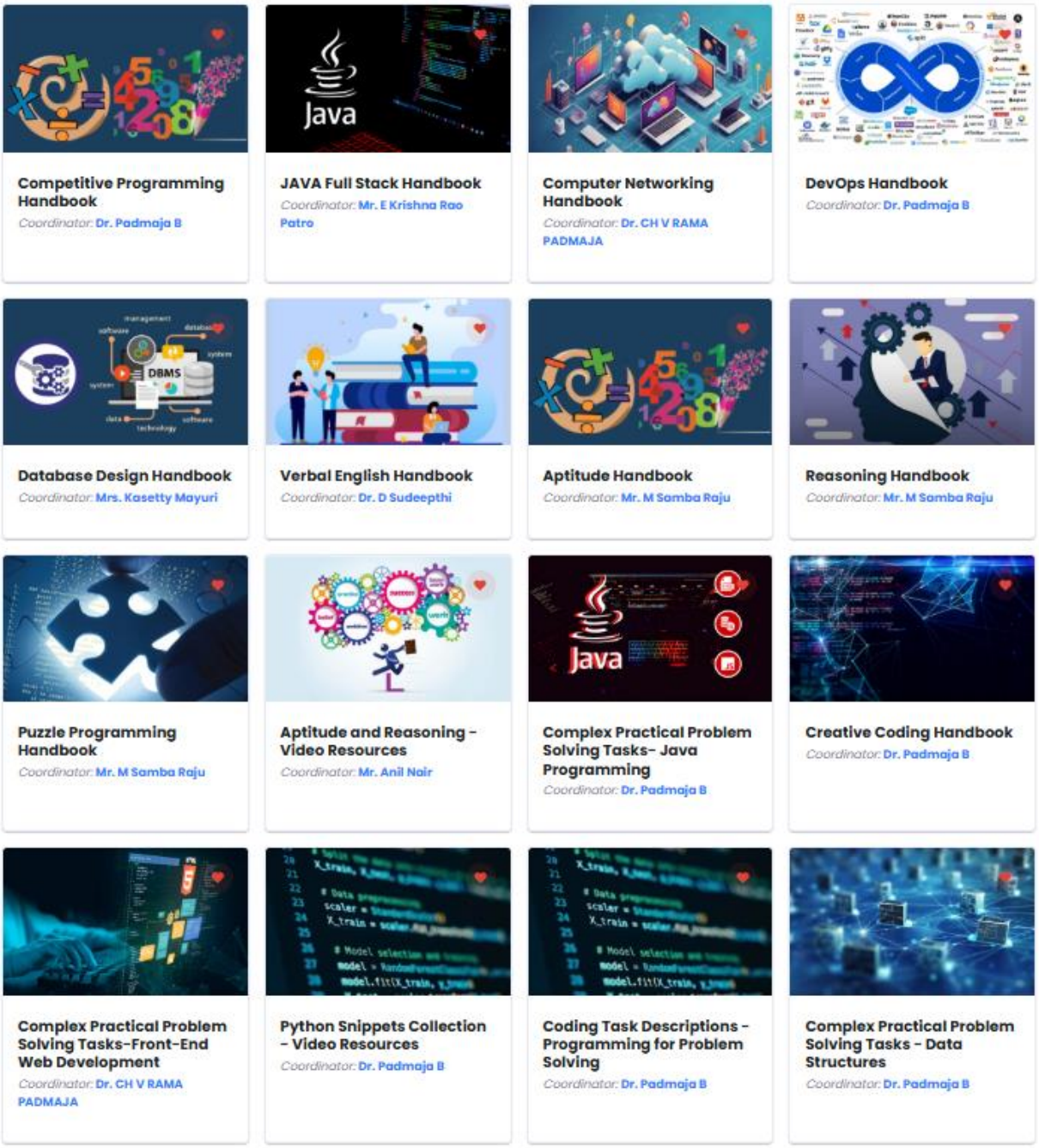
SkillNext follows a progressive learning model for active learners, beginning in the IV semester and extending over one and a half years with more than 600 training hours. The program goes beyond conventional academic learning by emphasizing practical implementation, analytical thinking, and career-focused competency development. From the IV to VI semesters, students engage in Competitive Coding, Java Full Stack Development, Database Design, and Cloud Application Development.



Learning Resources for Students

Learning resources play a vital role in enhancing student learning by providing structured, accessible, and self-paced educational support beyond the classroom. Through the Akanksha Learning Management Portal, students gain access to career readiness by supporting skill development in Competitive Programming, Java Full Stack Development, DevOps, Database Design, Aptitude and Reasoning, Creative Coding and other employability-focused areas. By integrating academic learning with practical and industry-relevant content, these resources help students develop the knowledge and competencies required for higher education, research, internships, and professional careers.

https://akanksha.iare.ac.in/index?route=course/index&category_id=57



Hackathons - Think Fast, Build Faster

Hackathons equip engineering students with the hands-on problem-solving, rapid prototyping, and team collaboration skills that classrooms alone cannot build. They simulate real-world development cycles, pushing students to think, build, and deliver under pressure exactly how the industry operates. The IT industry increasingly uses hackathons as a talent discovery and innovation pipeline, identifying hire-ready engineers who can think beyond theory.

The CDC brings this philosophy to life by designing hackathons that align with real industry challenges, bridging the gap between academic learning and professional readiness ensuring

every participant walks away not just with a solution, but with the confidence, competence, and career edge to thrive in a competitive world. Regular hackathons play a crucial role in enhancing students' technical proficiency, creativity, and problem-solving abilities. They provide a platform for students to apply theoretical concepts to real-world challenges, fostering innovation and teamwork. It help students to gain exposure to emerging technologies, improve coding efficiency, and develop project-building skills under time constraints.

Hackathons aligning Sustainable Development Goals (SDGs)

SDG	Name of the Hackathon
9	Data science and analytics challenge: from data to insights
3	Code for care: AI and tech for preventive healthcare
13	Code storm eco: solutions for sustainability
3	Hack4health: digital solutions for good health and well-being
11	Hack4good: tech solutions for a sustainable planet
17	Youth speak: the global goals hackathon
4	Eduempower hack: creating tools to improve learning outcomes
9	Techsprint hackathon
5	Inclusive smart villages: empowering women through technology
6	Problem-solving hackathon: computing solutions for water and sanitations

Coding Hackathons

S No.	Name of the Hackathon
1	CodeSurfers
2	CodeQuest
3	FrostHacks
4	HackRush
5	CodeVita

Hackathons Leading to Hiring Opportunities

The Career Development Centre (CDC) plays a pivotal role in identifying, and preparing students for many prestigious hackathons. Through targeted training, coding practice, mentorship, and

industry-oriented skill development programs, CDC enhances students' competitiveness and employability. The hackathons showcased in this diagram provide students with opportunities to solve real-world problems, demonstrate innovation, and compete on national and global platforms. Participation in hackathons organized by leading companies such as Google, Microsoft, Amazon, JPMorgan Chase, Goldman Sachs, and IBM helps students strengthen their technical, analytical, and teamwork skills. These events often serve as direct pathways to internships, mentorship programs, and full-time employment opportunities.

Company Name	Hackathon Name
Google	Google Girl Hackathon
Microsoft	Imagine Cup / Gen AI Hackathon
Amazon (AWS)	AWS Hackathon
IBM	Data Science & AI Hack
Meta	Meta Hacker Cup
Samsung	Solve for Tomorrow Hackathon
TCS	CodeVita
Infosys	HackWithInfy
Wipro	Topcoder
JPMorgan Chase	Code for Good
L&T Technology Services	L&T Techgium

Complex Practical Problem Solving Tasks

Complex Practical Problem Solving Tasks are designed to strengthen students' problem-solving abilities, logical thinking, and programming proficiency through regular hands-on practice. Aligned with the outcome-based learning approach of the Institute of Aeronautical Engineering (IARE), these tasks encourage students to apply theoretical concepts to solve real-world computational problems. Participation in these tasks fosters continuous learning, enhances technical confidence, and prepares students for internships, hackathons, industry certifications, and campus recruitment opportunities.

S No.	Complex Practical Problem Solving Tasks
1	Java Programming
2	Programming for Problem Solving
3	Front-end Web Development
4	Knowledge Representation and Reasoning

5	Python Programming
6	Data Structures
7	Design and Analysis of Algorithms
8	Database Management Systems

Industry-Academia Collaboration Programs

Wipro TalentNext

Wipro TalentNext is an industry-academia initiative aimed at developing industry-ready skills through project-based learning and training in emerging technologies. The program focuses on enhancing students' employability through training in emerging technologies, project-based learning, problem-solving, and digital skills. The program is aligned with current IT industry requirements and enhances their employability through structured learning pathways. It also trains faculty members and academic leaders to deliver industry-aligned learning experiences. Wipro has trained thousands of students through TalentNext and related digital-skilling initiatives, with a long-term goal of reaching one million students by 2030.

Key focus areas include:

- Java Full Stack
- Dot Net Full Stack
- Artificial Intelligence (AI)
- Data Science
- Big Data Analytics
- Cloud Computing
- Cybersecurity

Wipro Certified Faculty (WCF) @ IARE

S No.	Faculty Name	Course Name(s)
1	Dr. B Padmaja	Java Full Stack, Cloud Computing, Artificial Intelligence
2	Dr. Ch V Rama Padmaja	Dot Net Full Stack
3	Mr. E Krishna Rao Patro	Dot Net Full Stack
4	Ms. S Aswani	Dot Net Full Stack
5	Ms. G Nagamani	Dot Net Full Stack
6	Ms. K Praveena	Dot Net Full Stack

Virtusa Jatayu Program

Virtusa Jatayu is a national-level innovation ideathon that enables students to solve real-world industry challenges through design thinking, emerging technologies, and collaborative problem-solving. The program provides mentorship from industry experts, enhances innovation and

product development skills, and creates opportunities for internships, pre-placement offers, and full-time employment in the technology sector.

Key focus areas include:

- Promote innovation and entrepreneurship among students.
- Solve real-world business problems using emerging technologies.
- Develop industry-ready skills in AI, Cloud, Data Engineering, Software Development, and Digital Transformation.
- Provide mentorship from Virtusa technology leaders and domain experts.
- Create pathways to internships, training, and full-time employment opportunities.

Program Structure

- Problem statement release by Virtusa.
- Team formation and idea submission.
- Prototype development and mentoring.
- Evaluation by industry experts.
- Final product demonstration and presentation.
- Selection of winners for internships, mentoring, and hiring opportunities.

Benefits for Students

- Industry mentorship.
- Exposure to emerging technologies.
- Hands-on product development experience.
- Internship opportunities.
- Potential pre-placement offers (PPOs) and full-time job offers.

Samsung Innovation Campus

Samsung Innovation Campus (SIC) is Samsung's global industry-academia skilling initiative aimed at preparing students for careers in future technologies. It is a global technology skilling program that develops industry-ready competencies in Artificial Intelligence, Internet of Things, Big Data, and Coding & Programming. The program equips learners with technical knowledge, hands-on experience, capstone projects, mentorship, and industry-relevant certifications. It is currently offered in more than 40 countries and focuses on developing both technical and professional skills.

Key focus areas include:

- Artificial Intelligence (AI)
- Internet of Things (IoT)
- Big Data Analytics
- Coding and Programming

Program Features

- Instructor-led online and classroom training
- Hands-on laboratory activities
- Industry-oriented capstone projects
- Expert mentoring sessions
- Soft-skills and employability training
- Industry-recognized certification
- Hackathons and innovation challenges

Benefits for Students

- Exposure to cutting-edge technologies
- Practical problem-solving experience
- Portfolio-building through projects
- Enhanced employability and career readiness
- Opportunities to participate in innovation competitions and hackathons

Samsung launched SIC in India in collaboration with the Electronics Sector Skills Council of India (ESSCI). The program initially targeted 3,000 students and has scaled the initiative to train tens of thousands of students across multiple states in India. IARE initially started with 200 students for the Artificial Intelligence (AI) Course and Mr. Adluri Raviteja is selected as a state topper in the AI course.

Faculty Development Programs

Faculty Development Programs (FDPs) play a crucial role in enhancing faculty knowledge, teaching effectiveness, and research capabilities by exposing educators to emerging technologies, modern pedagogical practices, and industry trends. At IARE, the Career Development Centre conducts FDPs twice a year to equip faculty members with advanced technical skills, strengthen their expertise in emerging domains, and enhance their confidence in delivering industry-relevant education.

S No.	Name of the FDP
1	Object Oriented Programming with Java
2	Essentials of Problem Solving
3	Data Structures and Algorithms
4	Java Full Stack Development
5	Graph Theory
6	Cloud Computing
7	React JS
8	DevOps

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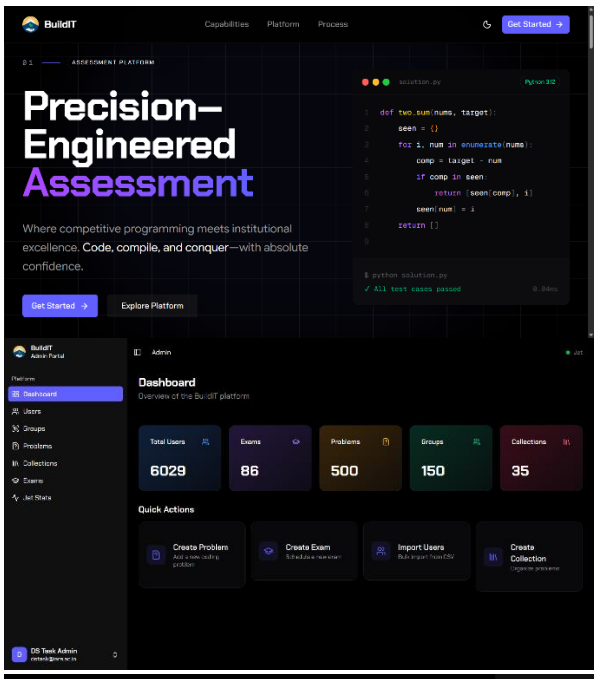
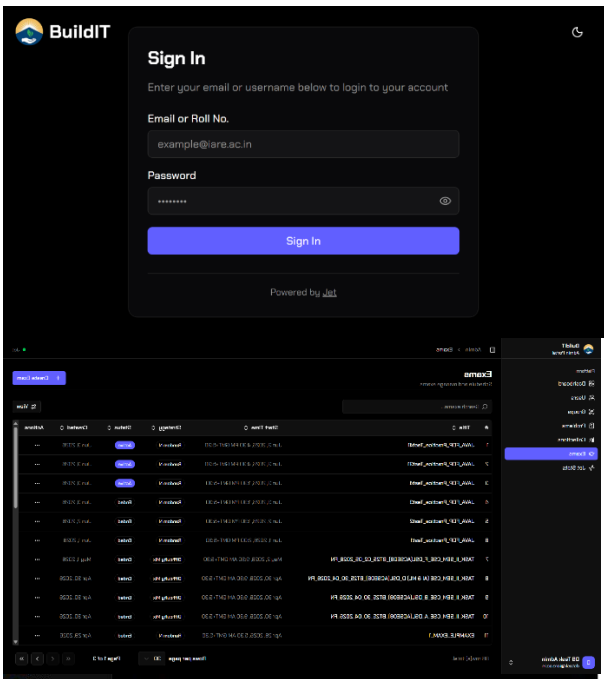
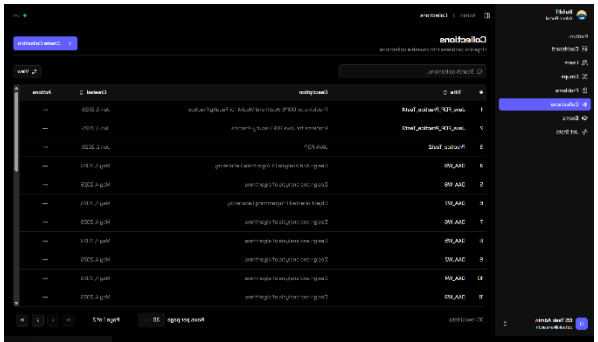
In-house Developed Projects

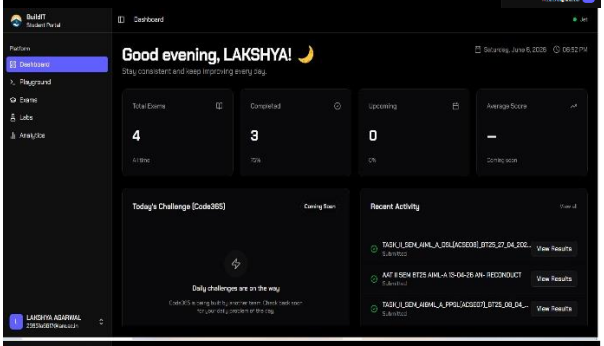
BuildIT – Open Coding and Assessment Platform

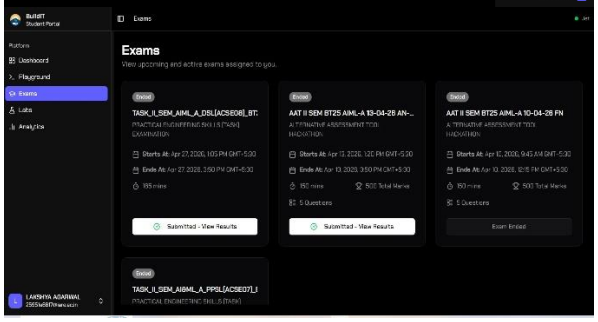
BuildIT – Open Coding and Assessment Platform – Code, compile, and conquer—with absolute confidence. A secure assessment platform ensures exam integrity through browser lockdown, session isolation, and intelligent proctoring that tracks user activity. It supports real-time, sandboxed code execution across multiple languages like Python/C++/ Java, and more. Language-aware tools with syntax highlighting provide a smooth coding experience.

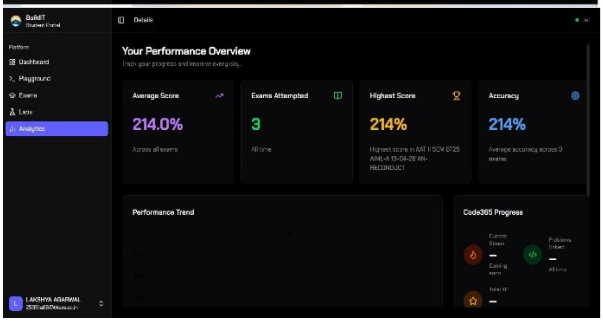








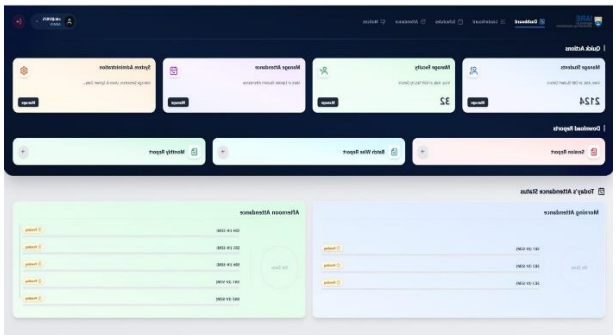


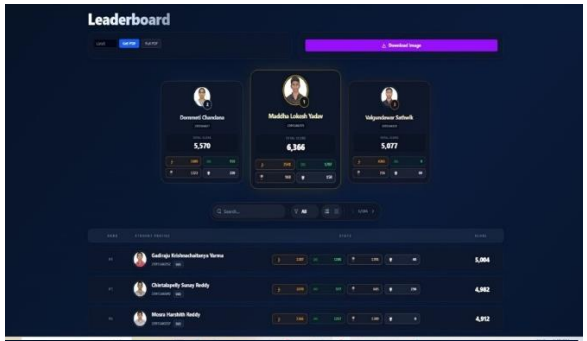


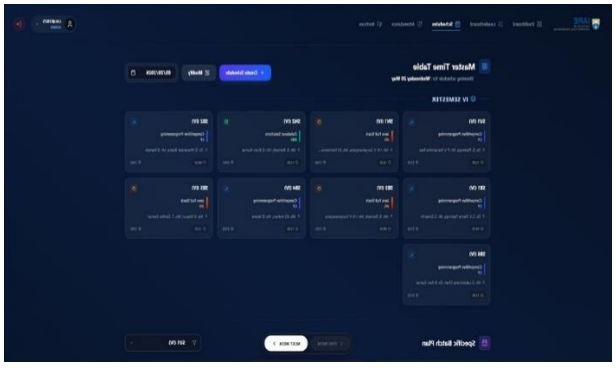
BuildIT – Development Team

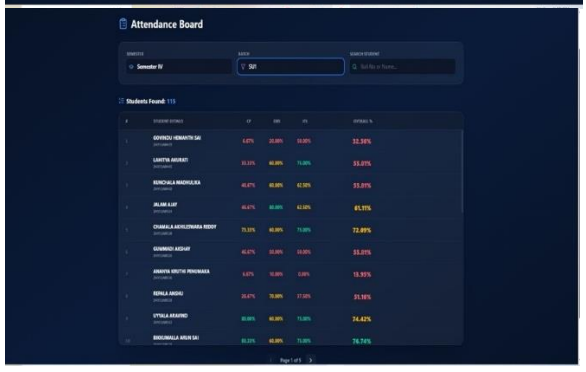
Attendance Monitoring System

CDC Attendance Monitoring System - Attendance monitoring system use a QR code scanner to scan unique QR codes assigned to students, marking attendance instantly. It eliminates manual, paper-based logging, provides real-time digital tracking, improves data accuracy, and allows for automatic report generation.









Attendance Monitoring System – Development Team

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TAVVA SANDEEP KUMAR REDDY
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BURUGU SAI NITIN
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The Career Development Centre (CDC) has trained over 9,000 students during the last five years through comprehensive industry-oriented skill development programs. As a result, more than 80% of students secured placements in leading organizations such as Microsoft, JPMorgan Chase & Co., Tata Consultancy Services, Infosys, Rubrik, and other reputed MNCs. This achievement reflects the dedication of CDC trainers in providing high-quality technical training, career guidance, and placement preparation, helping students build successful professional careers.

CAREER DEVELOPMENT CENTER

GUIDE • GROW • SUCCEED

THANK YOU!

"The future belongs to those who **prepare** for it today."

— *Malcolm X*

CAREER GUIDANCE | **SKILL ENHANCEMENT** | **TRAINING & WORKSHOPS** | **PLACEMENT SUPPORT** | **LEADERSHIP & GROWTH**

Empowering Minds. Building Careers. Shaping Futures.