

APPROVED BY AICTE

3-Year

Diploma in Engineering (POLYTECHNIC)

SCHOOL OF ENGINEERING & IT



APPLY FOR AJUCET 2025





Join Us ON YOUR JOURNEY *To Success!*

JGİ HELI HANI MILET

ABOUT ARKA JAIN UNIVERSITY

ARKA JAIN University was established in the year 2017 by the Jharkhand State Legislature under **"The ARKA JAIN University Act" and is** recognized by UGC.

Located in the tribal district Seraikela-Kharsawan, it is the first state private university in the Kolhan region (comprising of three districts) of the state.

Accredited with NAAC 'A' Grade in the first cycle, the first and only state private university in Bihar, Jharkhand and West Bengal to have this distinction.

The University has its root in the prestigious JAIN Group, Bengaluru which has 77-plus educational institutions under its fold.

It is mentored by JAIN (Deemed-to-Be-University), Bengaluru, a NAAC A++ and NIRF Top-100 HEI.

The university has the necessary affiliations, recognitions and memberships from such bodies as AICTE, BCI, PCI, OCI, INC, JNRC, AIU, ASCO.

ILLUSTRIOUS LEGACY

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ARKA JAIN University is part of the famed JAIN Group, Bengaluru and mentored by JAIN (Deemed-to-be-University), Bengaluru

WHAT EMBODIES OUR IDENTITY

NAAC-A Grade Accreditation, Academic Excellence, Diverse Program Options, Industry-ready Graduates – We have' em All!

NAAC A GRADE

Accredited with A Grade by NAAC in first cycle with a CGPA Score of 3.15 / 4.0 $\,$

52ND BEST PRIVATE UNIVERSITY IN INDIA

in the latest India Today-MDRA Best Universities 2024 Rankings!

38TH BEST PRIVATE UNIVERSITY IN INDIA

in the latest THE WEEK-Hansa Research Best Universities Survey 2025

ISO-CERTIFIED

ISO 21001:2018 Certified "Educational Organization Management System" University

AIU MEMBER Member of Association of Indian Universities

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60+ MOUS

Learn from the best, network with the brightest

Robust Campus Recruitment Set-up

₹23 LPA Highest Package, 2500+ Placements and 500+ Companies visited till date

the Year UNFOLDS AT ARKA JAIN UNIVERSITY

1

Beginning of Odd Semester Classes for the Non-First-Year Students





AARAMBH (Welcome Day Function for First-year Students)

2.

Induction-cum-Orientation Program and Beginning of Classes for First-year Students



18. End-term Examination (First Year)

4. ROO-B-ROO

(Fresher's Function for First-year Students)

17.

JAIN Premier League (Inter-school Annual T-20 Cricket Tournament)



5. Mid-Term Examination for the Non-First-Year Students



16.

Beginning of Even Semester Classes (Except First Year)

24.

Mid-Term Examination for the First-Year Students





23 SAMVAAD – Parent-Teacher Meet



RUKHSAT (Farewell to Final Year Students)

22. HOLI INVASION (Annual Pre-Holi Bash)



6. Gandhi/ Shastri Jayanti -cum-Navotsav Celebration Week



7. Mentor-Mentee Meeting



0 Odd Semester Feedback to be given by Students Odd Semester End-term Examination (Except First Year)



8. ROSHNI (Annual Celebration of Light)

15.

CARVAAN (Annual Excursion Tour)



SAMVAAD – Parent-Teacher Meet



(4.) RUNBHOOMI (Annual Sports Meet) 11. Mid-Term Examination for the First-Year Students

13. AAGAAZ (Annual Cultural Fest)



21) Mid-Term Examination for the Non-First-Year Students



Even Semester End-term Examination (Except First Year)

27.

19. SHIKHAR (The Annual Entrepreneurial Conclave)

20) Beginning of Even Semester Classes (First Year)

28.

Even Semester End-term Examination (First Year)



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REASONS TO BE A PART OF ARKA JAIN UNIVERSITY

- First NAAC 'A' Grade Accredited State Private University (in the First Cycle) in Bihar, Jharkhand & West Bengal.
- Part of the JAIN Group of Institutions, Bengaluru; Mentored by NAAC A++ and NIRF-Top 100 JAIN (Deemed-to-be-University), Bengaluru

Member - Association of Indian Universities (AIU)

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5

60+ MOUs (International & National) with Corporate and Academic Partners

ISO 21001:2018 Certified "Educational Organization Management System" University

DIPLOMA IN ENGINEERING (POLYTECHNIC)

The AJU School of Engineering & IT is committed to delivering quality technical education through a curriculum enriched with research, innovation, and strong industry collaboration—preparing students for future-ready careers.

The Diploma in Engineering (Polytechnic) at AJU is a 3-year, full-time program offered across four core disciplines, designed to provide students—post Class X, XII, or ITI—with a robust, job-oriented technical education. Blending theoretical foundations with practical application, the program features a dynamic mix of classroom learning, hands-on laboratory work, industry-driven workshops, seminars, assignments, and research opportunities. With a strong focus on skill development and real-world exposure through industrial visits and placement support, AJU ensures that students graduate industry-ready and innovation-capable.

QUICK FACTS:

- ELIGIBILITY FOR DIPLOMA IN ENGINEERING (Mechanical Engineering, Electrical & Electronics Engineering, Computer Science & Engineering, Mechatronics) - Passed 10th Std. / SSC examination. Candidate should have a valid score card of entrance exam conducted by Jharkhand Combined Entrance Competitive Examination Board or AJU -Combined Entrance Test (AJUCET)
- ELIGIBILITY FOR DIPLOMA IN ENGINEERING (LATERAL ENTRY) (Mechanical Engineering, Electrical & Electronics Engineering, Computer Science & Engineering, Mechatronics Engineering) -

Passed 10+2 examination with Physics/ Mathematics / Chemistry/ Computer Science/Electronics/Information Technology/ Biology/Informatics Practices/ Biotechnology/ Technical Vocational subject/ Agriculture/ Engineering Graphics/ Business Studies/ Entrepreneurship. For Mechanical Engineering, Mandatory Subjects at 10+2 level - Physics, Chemistry, Maths. For Electrical & Electronics Engineering, Mandatory Subject at 10+2 level -Physics, Maths. For Computer Science and Engineering, Mandatory Subject at 10+2 level - Physics, Maths.

OR



10th + (2 years ITI) shall be eligible for admission to Second Year Diploma Course(s) in any branch of Engineering & Technology. Candidate should have a valid score card of entrance exam conducted by Jharkhand Combined Entrance Competitive Examination Board or AJU -Combined Entrance Test (AJUCET)

- Duration (Polytechnic): 3 Years | 6 Semester & Polytechnic (Lateral Entry): 2 Years | 4 Semesters
- Degree: Diploma in Engineering awarded by ARKA JAIN University, Jharkhand

WIDE SPECTRUM OF POLYTECHNIC SPECIALIZATIONS

Mechanical Engineering (ME)	Learn by doing: Gain hands-on expertise through workshops, advanced labs, and industry-integrated projects—equipping you with practical skills that set you apart in today's job market. Mechanical Engineering blends the principles of physics and material science to design, analyze, manufacture, and maintain mechanical systems across diverse industries.
Mechatronics Engineering	High-demand, high-tech: A Diploma in Mechatronics Engineering equips you with interdisciplinary skills in mechanical systems, electronics, robotics, and automation—preparing you for high-demand careers in advanced manufacturing and intelligent systems, putting you at the forefront of innovation in a rapidly evolving technological landscape.
Computer Science & Engineering (CSE)	Become a tech problem solver: Master coding languages, programming principles, and real-world problem-solving through hands-on projects and lab work. Computer Science Engineering equips you with the skills to design and develop innovative hardware and software solutions, with a focus on cloud computing and emerging technologies.
Electrical & Electronics Engineering (EEE)	Design, build, innovate: Explore circuits, motors, controls, and embedded systems—paving the way for dynamic careers in Electrical & Electronics Engineering. This discipline focuses on the application of electricity, electronics, and electromagnetism to power modern innovations and intelligent systems.



DIPLOMA IN MECHANICAL ENGINEERING

INTRODUCTION:

Diploma in Mechanical Engineering is a 3-year Diploma course that can be pursued by students after class 10th,12th or ITI. Mechanical Engineering is the branch of engineering concerned with the design, manufacture, installation, and operation of engines and machines and with manufacturing processes. It is particularly concerned with forces and motion.

Mechanical engineering courses include automobile engineering, manufacturing engineering, power plant engineering, thermal engineering, and mechatronics engineering, which is a combination of electrical, computer, and mechanical engineering.

STAY AHEAD WITH VALUE-ADDED COURSES

DESIGN AND CAD/CAM:

- AutoCAD
- CATIA
- Creo Parametric
- SolidWorks
- CNC Programming

ANALYSIS & SIMULATION:

- Finite Element Analysis (FEA)
- Computational Fluid Dynamics (CFD)

MANUFACTURING & PRODUCTION:

- Robotics and Automation
- Lean Manufacturing
- Six Sigma
- Industrial Safety

OTHER VALUABLE COURSES:

- HVAC Systems
- Refrigeration and Air Conditioning
- Renewable Energy
- Project Management



HIGHLIGHTS OF DIPLOMA IN MECHANICAL ENGINEERING

A Diploma in Mechanical Engineering program is designed to provide students with a strong foundation in terms of the principles and practices of mechanical engineering. Here are some key program highlights:

CORE CURRICULUM:

- Fundamental Concepts: The program covers essential topics like mechanics, thermodynamics, materials science, manufacturing processes, and engineering design.
- Technical Skills: Students gain proficiency in using CAD software, operating machinery, and conducting experiments.
- Practical Training: Emphasis is placed on hands-on learning through workshops, labs, and projects.

SPECIALIZED AREAS:

- Manufacturing: Students learn about various manufacturing processes, automation, and quality control.
- Design: The diploma focuses on developing design skills using CAD software and applying engineering principles.
- Maintenance: Students gain knowledge of maintenance procedures, troubleshooting, and repair of mechanical systems.

EXPERIENTIAL LEARNING:

- Industry Visits: Students get opportunities to visit manufacturing plants and industries to gain real-world exposure.
- Internships: Many programs include internships that allow students to work in companies and apply their skills.
- Projects: Students work on individual and group projects to design, build, and test mechanical systems.

UNIQUE COURSES

- Advanced Design & Analysis Courses
- Smart Manufacturing & Industry 4.0
- Automotive & Aerospace Specializations
- Energy & Sustainable Engineering
- Specialized Industrial & Management Courses
- Software & Programming for Mechanical Engineers

HIGHER STUDIES AFTER DIPLOMA IN MECHANICAL ENGINEERING

- If you want better career growth, you can continue with further studies: B. Tech/B.E. in Mechanical Engineering – Direct entry to the 2nd year via lateral entry.
- AMIE (Associate Member of the Institution of Engineers) Equivalent to a B. Tech degree.
- Short-Term Certification Courses Specializing in CNC, CAD/CAM, HVAC, Automation, Robotics, etc.

CAREER OPPORTUNITIES

CORE MECHANICAL ENGINEERING JOBS (PRIVATE SECTOR)

(A) DESIGN & DRAFTING JOBS

- CAD Technician Using software like AutoCAD, SolidWorks, and CATIA.
- Mechanical Draughtsman Preparing technical drawings for manufacturing.

(B) MANUFACTURING & PRODUCTION JOBS

- Production Supervisor Managing the production process in factories.
- Quality Control Inspector Ensuring products meet industry standards.
- Machine Operator Handling CNC machines and manufacturing tools.
- Welding & Fabrication Technician Working in metal industries and construction.

(C) MAINTENANCE & SERVICE JOBS

- Maintenance Technician Repairing and maintaining machines in industries.
- HVAC Technician Installing and servicing heating, ventilation, and air conditioning systems.
- Automobile Technician Working in automobile service centers and manufacturing plants.

(D) OIL & GAS, ENERGY, AND CONSTRUCTION JOBS

- Piping Engineer Assistant Working in oil refineries and construction.
- Power Plant Technician Maintaining turbines and boilers in power plants.

GOVERNMENT JOBS AFTER DIPLOMA IN MECHANICAL ENGINEERING

- Public Sector Undertakings (PSUs)
- Defence & Police Jobs
- Other Government Jobs

NON-CORE CAREER OPTIONS

Beyond the domain of Mechanical Engineering, the following options can be chosen from:

- Data Science & Al for Engineers Learn Python, MATLAB, and Al applications.
- Logistics & Supply Chain Management Jobs in manufacturing & e-commerce.
- Sales & Marketing in Industrial Products Working for engineering product companies.
- Banking & Government Clerk Jobs Appear for SSC, IBPS, and state-level exams.
- Entrepreneurship Start a business in manufacturing, fabrication, or servicing.

PROGRAM STRUCTURE DIPLOMA IN MECHANICAL ENGINEERING

SEMESTER I

Communication Skills in English	
Mathematics-I	
Applied Physics	
Applied Chemistry	
PRACTICAL	
Communication Skills in English Laboratory	
Applied Physics Laboratory	
Applied Chemistry Laboratory	
Engineering Workshop Practice	
Sports and Yoga	
Induction Program	

SEMESTER III

Mechanics of solids	
Thermal Engineering	
Engineering Materials	
Manufacturing Process	
Fluid Mechanics & Hydraulic Machinery	
PRACTICAL	
Mechanics of Solids Laboratory	
Thermal Engineering Laboratory	
Manufacturing Process Laboratory	
Fluid Mechanics & Hydraulic Machinery Laboratory	
Summer Internship-I (3-4 Weeks)	

SEMESTER V

Theory of Machine	
Automation and Robotics	
Heating, Ventilation and Air Conditioning (HVAC)	
Program Elective I	
Open Elective I	
Indian constitution	
PRACTICAL	
Theory of Machine Laboratory	
Solid works Laboratory	
Summer Internship-II(4-6 Weeks)	
Major Project-I	

SEMESTER II

Mathematics -II	
Fundamentals of Electrical & Electronics Engg.	
Introduction to IT system	
Engineering Mechanics	
Environmental Science	
PRACTICAL	
Fundamentals of electrical & electronics Engg. Laboratory	
Introduction to IT system Laboratory	
Engineering Mechanics Laboratory	
Engineering Graphics	

SEMESTER IV

Fluid Power Engineering	
Product Design and Development	
Machine Tool Technology	
Measurements & Metrology	
Heat & Mass Transfer	
Essence of Indian Knowledge Tradition	
PRACTICAL	
Heat & Mass Transfer Laboratory	
Machine Tool Technology Laboratory	
Measurements & Metrology Laboratory	
Machine Drawing Laboratory	



SEMESTER VI

Industrial Engineering & Management

Design of Machine Elements

Program Elective II

Open Elective II

Entrepreneurship and Start-ups

PRACTICAL

Major Project-II

Extra- Curricular/ Co-Curricular Activity

PROGRAM ELECTIVE I

Power Plant Engineering

E-Mobility

CAD/CAM

Installation & Maintenance Engineering

Machine Tool Design

Computer integrated manufacturing

Mechatronics

3 D Printing

PROGRAM ELECTIVE II

Alt. Source of Energy	
Additive Manufacturing	
Automation and Industry 4.0	
Hydrogen and alternative fuel	
Quality control	
Tool and Die Design	
CNC Technology	

OPEN ELECTIVE I

- Supply chain managements
- Environmental science and pollution control
- Industrial IOT
- Cyber security and IPR
- Industrial Psychology

Organisational Behaviour

OPEN ELECTIVE II

Energy Conservation and Management

Process Planning and Cost Estimation

Total Quality Management

Entrepreneurship and E-Business

Operations Research

Circular Economy



DIPLOMA IN MECHATRONICS ENGINEERING

INTRODUCTION:

Diploma in Mechatronics Engineering is a 3 years Diploma course that can be pursued by students who have passed 10th, 12th or ITI. Mechatronics Engineering, which is a newer branch of engineering in comparison to mechanical or electronics engineering, has its origins from these branches only.

The curriculum of mechatronics engineering comprises of a lot of elements from Mechanical, Electronics, Computer Science and Control Engineering. A mechatronics engineer uses principles of electronics, computer science, mechanical to develop systems, machine and solutions that can be applied to improve productivity and efficiency of process/production. Systems developed by them have wide applicability in industries.

VALUE ADDED COURSE

- Robotics and Automation
- Embedded Systems and Programming
- CAD and Simulation
- CNC Machining and Programming
- 3D Printing
- Data Science and Machine Learning
- Other Relevant Courses
- Industrial Internet of Things (IIoT)
- Cyber-Physical Systems (CPS)



HIGHLIGHTS OF DIPLOMA IN MECHATRONICS ENGINEERING

A Diploma in Mechatronics Engineering provides students with a strong foundation in the principles and practices of Mechanical and Electronics engineering. Here are some key program highlights:

CORE CURRICULUM:

- Fundamental Concepts: The diploma covers essential topics like mechanics, thermodynamics, materials science, manufacturing processes, and engineering design.
- Technical Skills: Students gain proficiency in using CAD software, operating machinery, and conducting experiments.
- Practical Training: Emphasis is placed on hands-on learning through workshops, labs, and projects.

SPECIALIZED AREAS:

- Robotics: Students learn about various manufacturing processes, automation, and quality control.
- Design and Simulation: The diploma focuses on developing design skills using CAD software and applying engineering principles.
- Automation: Students gain knowledge of maintenance procedures, troubleshooting, and repair of mechanical systems.

EXPERIENTIAL LEARNING:

- Industry Visits: Students get opportunities to visit manufacturing plants and industries to gain real-world exposure.
- Internships: Internships allow students to work in companies and apply their skills.
- Projects: Students work on individual and group projects to design, build, and test systems.

UNIQUE COURSES

- Robotics design and simulation
- PLC & PCB Design and Fabrication
- Mechatronics System Design

- Automation and Industry 4.0
- Additive manufacturing
- Advanced Manufacturing Systems

HIGHER STUDIES AFTER DIPLOMA IN MECHATRONICS ENGINEERING

- Further studies: B. Tech/ B.E. in Mechatronics Engineering Direct entry to the 2nd year via lateral entry.
- AMIE (Associate Member of the Institution of Engineers) Equivalent to a B. Tech degree.
- Short-Term Certification Courses Specializing in CNC, CAD/CAM, HVAC, Automation, Robotics, etc.

GOVERNMENT JOBS AFTER DIPLOMA IN MECHATRONICS ENGINEERING

Public Sector Undertakings (PSUs) – With Exams



CAREER OPPORTUNITIES CORE MECHATRONICS ENGINEERING JOBS (PRIVATE SECTOR)

(A) DESIGN & SIMULATION

- CAD Technician Using software like AutoCAD, SolidWorks, and CATIA.
- Mechanical Draughtsman Preparing technical drawings for manufacturing.

(B) ROBOTICS ENGINEER

(C) MAINTENANCE & SERVICE JOBS

- Maintenance Technician Repairing and maintaining machines in industries.
- Automobile Technician Working in automobile service centers and manufacturing plants.

NON-CORE CAREER OPTIONS

Beyond Mechatronics Engineering:

- Data Science & AI for Engineers Learn Python, MATLAB, and AI applications.
- Logistics & Supply Chain Management Jobs in manufacturing & e-commerce.
- Sales & Marketing in Industrial Products Working for engineering product companies.
- Banking & Government Jobs Appear for SSC, IBPS, and state-level exams.
- Entrepreneurship Start a business in manufacturing, fabrication, or servicing.

LABS

- PCB Design and Fabrication Laboratory
- Robotics & Industrial Automation Laboratory
- Programmable Logic Controller Laboratory
- Analogue and Digital circuits Laboratory
- Fluid Power Engineering & Practice Laboratory

PROGRAM STRUCTURE

DIPLOMA IN MECHATRONICS ENGINEERING

SEMESTER I

Communication Skills in English	
Mathematics-I	
Applied Physics	
Applied Chemistry	
PRACTICAL	
Communication Skills in English Laboratory	
Applied Physics Laboratory	
Applied Chemistry Laboratory	
Engineering Workshop Practice	
Sports and Yoga	
Induction Program	

SEMESTER II

Mathematics -II	
Fundamentals of Electrical & Electronics Engg.	
Introduction to IT system	
Engineering Mechanics	
Environmental Science	
PRACTICAL	
PRACTICAL	
PRACTICAL Fundamentals of electrical & electronics Engg. Laboratory	
Fundamentals of electrical & electronics Engg. Laboratory	

SEMESTER III

Mechanics and Metrology	
Fluid Power Engineering & Practice	
Theory of Machines	
Analogue and Digital Circuits	
Control System	
PRACTICAL	
Mechanics and Metrology Laboratory	
Fluid Power Engineering & Practice Laboratory	
Theory of Machines Laboratory	
Analogue and Digital circuits Laboratory	
Summer Internship-I (3-4 Weeks)	

SEMESTER V

Programmable Logic Controller Robotics Embeded system & IoT Program Elective I Open Elective I Indian constitution PRACTICAL Programmable Logic Controller Laboratory Robotics & Industrial Automation Laboratory Summer Internship-II(4-6 Weeks)	
Embeded system & IoT Program Elective I Open Elective I Indian constitution PRACTICAL Programmable Logic Controller Laboratory Robotics & Industrial Automation Laboratory	
Program Elective I Open Elective I Indian constitution PRACTICAL Programmable Logic Controller Laboratory Robotics & Industrial Automation Laboratory	
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PRACTICAL Programmable Logic Controller Laboratory Robotics & Industrial Automation Laboratory	
Programmable Logic Controller Laboratory Robotics & Industrial Automation Laboratory	
Robotics & Industrial Automation Laboratory	
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Summer Internship-II(4-6 Weeks)	
Major Project-I	

SEMESTER IV

Microprocessor and Microcontroller	
Power Electronics	
Manufacturing Process	
Industrial Automation	
Sensors and Transducers	
Essence of Indian Knowledge Tradition	
PRACTICAL	
Manufacturing Process Laboratory	
PCB Design and Fabrication Laboratory	
Microprocessor and Microcontroller Laboratory	
Power Electronics Laboratory	



SEMESTER VI

Industrial Equipment Maintenance

Additive manufacturing

Program Elective II

Open Elective II

Entrepreneurship and Start-ups

PRACTICAL

Major Project-II

Extra- Curricular/ Co-Curricular Activity

PROGRAM ELECTIVE I

Advanced Manufacturing Systems

Computer Integrated Manufacturing

Advanced Control Systems

Mechatronics System Design

E-Mobility

PROGRAM ELECTIVE II

Embedded System & IOT

Artificial Intelligence

Process Control

Measurement and Instrumentation

Power System Operation and Control

Automation and Industry 4.0

OPEN ELECTIVE I

Cyber Security
Fundamentals of Management
Computer Programming – Python and Data Base
Product Design and Development
Installation & Maintenance Engineering
Machine Tool Design
Organisational Behaviour

OPEN ELECTIVE II

Product Design and Devlopments
Operations Research
Applied Mechanics
Energy Efficiency and Audit
Mobile communication
Process Planning and Cost Estimation
Hydrogen and alternative fuel
E-Mobility



DIPLOMA IN COMPUTER SCIENCE & ENGINEERING

INTRODUCTION:

The Diploma in Computer Science and Engineering (CSE) is a 3-year full-time program designed to equip students with fundamental and advanced knowledge in computer systems, software development, networking, and emerging technologies.

This course is open to students who have completed Class 10th, 12th or ITI and aim to build a solid foundation in programming, data structures, cloud computing, cybersecurity, artificial intelligence, and machine learning.

Throughout the duration of the diploma, students will gain hands-on experience through laboratories, projects, and industry-relevant internships, making them job-ready and prepared for the ever-evolving IT industry.

STAY AHEAD WITH VALUE-ADDED COURSES

To ensure that the CSE Diploma students stay ahead of technological advancements, the Department offers a variety of value-added courses. These courses supplement the core curriculum and provide students with knowledge in emerging and futuristic technologies, preparing them for cutting-edge careers. Some of these value-added courses include:

- Artificial Intelligence (AI) and Machine Learning (ML)
- Data Science and Big Data Analytics
- Cloud Computing
- Block chain Technology
- Cyber security and Ethical Hacking
- Internet of Things (IoT)
- Robotics and Automation
- Mobile App Development
- DevOps and Continuous Integration/Continuous Deployment (CI/CD)
- Augmented Reality (AR) and Virtual Reality (VR)
- Software Development Methodologies (Agile, Scrum)
- Ethical AI and Responsible Technology
- Advanced Database Systems



HIGHLIGHTS OF DIPLOMA IN COMPUTER SCIENCE & ENGINEERING

A Diploma in Computer Science and Engineering provides students with a strong theoretical foundation and practical skills essential for a career in the IT industry. Below are the key highlights of the program:

CORE CURRICULUM:

- Programming & Software Development: Gain expertise in Python, C, Java, and Web Technologies.
- Data Structures & Algorithms: Learn fundamental and advanced data structures, algorithm design, and problem-solving techniques.
- Database Management Systems (DBMS): Understand SQL, NoSQL, and database optimization techniques.
- Operating Systems & Computer Networks: Learn about Linux, Windows OS, networking protocols, and cloud computing.
- Cybersecurity & Ethical Hacking: Explore security protocols, encryption, network security, and ethical hacking practices.
- Artificial Intelligence & Machine Learning: Hands-on experience with AI/ML models, deep learning, and natural language processing.

TECHNICAL SKILLS DEVELOPMENT:

- Software Engineering Practices: Learn Agile methodologies, DevOps, and version control with Git & GitHub.
- Web & Mobile App Development: Master frontend (HTML, CSS, JavaScript) and backend (Node.js, React, Flutter, and Android development).
- Cloud Computing & Virtualization: Work with AWS, Google Cloud, and Microsoft Azure.
- Embedded Systems & IoT: Learn about IoT devices, microcontrollers, and edge computing applications.

EXPERIENTIAL LEARNING:

- Industry Visits: Exposure to leading tech companies, startups, and networking opportunities.
- Internships & Live Projects: Gain practical experience with internships and industry-sponsored projects.
- Workshops & Hackathons: Participate in coding bootcamps, hackathons, and innovation challenges.
- Capstone Project: Develop a real-world IT solution as part of the final-year project.

UNIQUE COURSES

To stay ahead in the industry, this diploma offers specialized courses:

- Full-Stack Development
- Competitive Programming & Problem-Solving
- Artificial Intelligence & Deep Learning
- Cybersecurity & Ethical Hacking
- AWS, Azure, Google Cloud Certification Courses
- Data Visualization & Business Intelligence

These specialized courses help students build domain expertise and enhance job prospects in top technical firms



CAREER OPPORTUNITIES

A diploma in CSE opens up diverse career paths in the IT sector, software development, cybersecurity, and data science. Some key career opportunities include:

CORE IT JOBS

- Software Developer Design, develop, and maintain software applications.
- Web Developer Create and manage websites using HTML, CSS, JavaScript, and frameworks.
- Database Administrator Manage and optimize databases for businesses.
- Network Engineer Configure and secure network infrastructures.
- Cybersecurity Analyst Protect organizations from cyber threats.
- Cloud Computing Engineer Work with cloud services like AWS, Google Cloud, and Azure.
- Mobile App Developer Build Android and iOS applications.

GOVERNMENT JOBS

- Public Sector Undertakings (PSUs) Opportunities in BHEL, ONGC, ISRO, DRDO, and more.
- Railways (RRB JE, ALP) Junior Engineer roles in Indian Railways.
- Defense Sector Roles in the Indian Army, Navy, and Air Force under technical entry schemes.
- Banking & Government Exams Appear for SSC, IBPS, and other state-level competitive exams.

HIGHER STUDIES AFTER DIPLOMA

- B. Tech/B.E. in Computer Science & Engineering (Direct entry to 2nd year via lateral entry).
- AMIE (Associate Member of the Institution of Engineers) Equivalent to a B. Tech degree.
- Specialized Short-Term Certifications AI, Cybersecurity, Cloud Computing, Full-Stack Development, etc.

PROGRAM STRUCTURE

DIPLOMA IN COMPUTER SCIENCE AND ENGINEERING

SEMESTER I

SEMESTER II

Mathematics -II
Fundamentals of Electrical & Electronics Engg.
Introduction to IT system
Engineering Mechanics
Environmental Science
PRACTICAL
PRACTICAL Fundamentals of electrical & electronics Engg. Laboratory
Fundamentals of electrical & electronics Engg. Laboratory

SEMESTER III

Computer Programming
Computer hardware & networking
Introduction to DBMS
Digital Logic Design
OOAD Through UML
PRACTICAL
Computer Programming Laboratory
Computer hardware & networking Laboratory
Introduction to DBMS Laboratory
OOAD Through UML Laboratory
Summer Internship-I (3-4 Weeks)

SEMESTER V

Introduction to e-Governance
Web Technologies
Introduction to AI & ML
Program Elective I
Open Elective I
Indian constitution
PRACTICAL
Web Technologies Laboratory
Program Elective-1 Laboratory
Summer Internship-II (4-6 Weeks)
Major Project-I
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SEMESTER IV

Scripting Language (Python)
Operating Systems
Data Structures Through C
Software Engineering
Internet of Things
Essence of Indian Knowledge Tradition
PRACTICAL
Scripting Languages (Python) Laboratory
Operating Systems Laboratory
Data Structures Through C Laboratory
Internet of Things Laboratory



SEMESTER VI

Data Warehousing and Mining

E-Commerce Technology

Program Elective II

Open Elective II

Entrepreneurship and Startups

PRACTICAL

Major Project-II

Extra- Curricular/ Co-Curricular Activity

PROGRAM ELECTIVE I

Mobile Application Development

Internet of Things

Java Programming

Data Visualization Techniques

Data Analytics using R

PROGRAM ELECTIVE II

Software Process & Project Management

Information Security

Ad hoc & Sensor Networks

Human Computer Interaction

Data Communication and Computer Network

OPEN ELECTIVE I

Software Testing Methodology
GIS & Remote Sensing
Cognitive Computing
Cyber Forensics
Organisational Behaviour

OPEN ELECTIVE II

ICT(Information and Communication Technology)

Cloud Computing

Parallel Computing

Privacy Preserving Data Publishing

Expert Systems



DIPLOMA IN ELECTRICAL & ELECTRONICS ENGINEERING

INTRODUCTION:

The Diploma in Electrical & Electronics Engineering (EEE) is a three-year technical program designed to provide students with fundamental knowledge and practical skills in electrical systems, electronics, and power management. This course is open to students who have completed Class 10th, 12th or ITI.

Diploma in EEE prepares students for careers in industries such as power generation, automation, telecommunications, and electrical maintenance.

STAY AHEAD WITH VALUE-ADDED COURSES

To complement the core curriculum, recent and futuristic value-added courses are offered, ensuring that students remain at the forefront of industry trends. These include:

- Industrial Automation & PLC Programming
- Electrical CAD (Computer-Aided Design)
- Renewable Energy Systems
- Electric Vehicle (EV) Technology
- Internet of Things (IoT) for Electrical Applications
- Embedded Systems & Microcontroller Programming
- Electrical Safety & Energy Audit
- High Voltage Engineering & Testing
- Drone Technology & Wireless Communication
- Robotics & Automation







HIGHLIGHTS OF DIPLOMA IN ELECTRICAL AND ELECTRONICS ENGINEERING

- Industry-Focused Curriculum Covers core electrical concepts, power systems, electronics, and automation.
- Hands-on Training Practical exposure in electrical wiring, circuit design, and industrial automation.
- Modern Laboratories Equipped with PLC, microcontrollers, power electronics, and electrical machines.
- Internships & Industrial Visits Real-world experience in power plants, manufacturing units, and R&D centers.
- Skill Development Training in Electrical CAD, PLC programming, IoT, and Renewable Energy Systems.
- Value-Added Certifications Options for Electric Vehicles, Robotics, Energy Auditing, and High Voltage Systems.
- Career-Oriented Approach Strong placement support in power generation, automation, and electrical industries.
- Higher Education Pathway Direct entry into B. Tech/ B.E. in Electrical & Electronics Engineering.

CAREER OPPORTUNITIES

CORE ELECTRICAL & POWER SECTOR

- Electrical Technician Maintenance & troubleshooting of electrical systems
- Power Plant Operator Managing and monitoring power generation
- Substation Technician Working in electrical substations & grid management
- Energy Auditor Assessing and optimizing power consumption

AUTOMOTIVE & ELECTRIC VEHICLE (EV) INDUSTRY

- EV Charging Infrastructure Technician Setting up & maintaining EV charging stations
- Battery Management System (BMS) Engineer Working on electric vehicle batteries
- Automotive Electrical Technician Handling vehicle electronics & wiring

ELECTRONICS & COMMUNICATION SECTOR

- Embedded System Technician Working with microcontrollers & IoT
- Telecom Technician Maintenance of communication networks
- Instrumentation Engineer Handling sensors & automation in industries

UNIQUE COURSES

- Electric Vehicle (EV) Technology
- Renewable Energy & Smart Grid Technology
- Industrial Automation & Robotics

- IoT & Embedded Systems for Electrical Applications
- High Voltage Engineering & Power Transmission
- Electrical Maintenance & Troubleshooting

CONSTRUCTION & INFRASTRUCTURE IT & NETWORKING SECTOR

GOVERNMENT JOB OPPORTUNITIES

- Power & Energy Sector
- Railways & Metro Rail Jobs
- Public Works & Infrastructure (PWD & CPWD)
- Defense & Security Forces
- Public Sector Undertakings (PSUs)

HIGHER STUDIES & ENTREPRENEURSHIP

- Further Studies:
- B. Tech/B. E in Electrical & Electronics Engineering
- Specialization in Power Systems, Renewable Energy, or Automation
- Start Your Own Business



PROGRAM STRUCTURE

DIPLOMA IN ELECTRICAL AND ELECTRONICS ENGINEERING

SEMESTER I

Communication Skills in English
Mathematics-I
Applied Physics
Applied Chemistry
PRACTICAL
Communication Skills in English Laboratory
Applied Physics Laboratory
Applied Chemistry Laboratory
Engineering Workshop Practice
Sports and Yoga
Induction Program

SEMESTER II

Mathematics -II
Fundamentals of Electrical & Electronics Engg.
Introduction to IT system
Engineering Mechanics
Environmental Science
PRACTICAL
Fundamentals of electrical & electronics Engg. Laborator
Introduction to IT system Laboratory
Engineering Mechanics Laboratory
Engineering Graphics

SEMESTER III

Network Theory and Analysis
Electrical and Electronics Measurement
Electrical Machine I
Analog Electronics
Generation, Transmission and Distribution
PRACTICAL
Network Theory and Analysis Laboratory
Electrical and Electronics Measurement Laboratory
Electrical Machine I Laboratory
MATLAB
Summer Internship-I (3-4 Weeks)

SEMESTER V

Microprocessor & Microcontroller
Fundamentals of Power Electronics
Electric Traction
Program Elective I
Open Elective I
Indian constitution
PRACTICAL
Microprocessor & Microcontroller Laboratory
Fundamentals of Power Electronics Laboratory
Summer Internship-II(4-6 Weeks)
Major Project-I

SEMESTER IV

Digital Electronics
Power System
Switchgear and Protection
Control System
Electrical Machine II
Essence of Indian Knowledge Tradition
PRACTICAL
Digital Electronics Laboratory
Switchgear and Protection Laboratory
Electrical Machine II Laboratory
Control System Laboratory



SEMESTER VI

Industrial Equipment Maintenance

Additive manufacturing

Program Elective II

Open Elective II

Entrepreneurship and Start-ups

PRACTICAL

Major Project-II

Extra- Curricular/ Co-Curricular Activity

PROGRAM ELECTIVE I

Electric Vehicles and its Charging Infrastructure

Electrical Testing & Commissioning

Industrial Drives

PLC & SCADA

Mobile communication

PROGRAM ELECTIVE II

Energy Efficiency and Audit
Industrial Instrumentation and Condition Monitoring
Sensor and Transducer
Communication Technologies
Wind Power Technologies

OPEN ELECTIVE I

IOT and Application Project Management Artificial Intelligence & Machine Learning, Economic Policies in India Data Analytics Method

OPEN ELECTIVE II

Hydrogen and alternative fuel
E-Mobility
Renewable Energy
Operations Research
Introduction to E-Governance
Optimization Techniques



RENOWNED COMPANIES RECRUIT OUR DIPLOMA IN ENGINEERING STUDENTS

HIGHEST PACKAGE -₹4.1 LPA



PLACEMENTS 2025 AT A GLANCE







HARSH PRASAD



AYUSHI KUMARI



ANKIT PRASAD



RIYA SINGH



SKHM

15 SELECTIONS



PRINCE KUMAR TIWARY



KRISHNA KUMAR



BISWAJIT MUKHERJEE



HARSHDEEP SINGH PLACED IN ZEPTO, 42Gears & Quess Corp. Ltd



SRI HARI PRADHAN



HITESH KR. TANTUBAI









OUR ALUMNI : LEADING THE CHARGE, SHAPING THE FUTURE.



TVS MOTOR COMPANY LTD.



TATA CUMMINS



TATA ELECTRONIC



TATA MOTORS



TATA STEEL LIMITED



TVS



EXIDE



EXIDE



TATA HITACHI CONSTRUCTION MACHINERY



WIPRO PARI



HAIER



HITACHI ASTEMO



TATA STEEL TECHNICAL SERVICES LIMITED



HAIER



MADRAS ENGINEERING



WIPRO TECHNOLOGIES


POLYTECHNIC ADVANTAGES @ AJU

- MOUs with TATA Motors, TPSDI, NTTF, IDTR, IBM, OP Jindal University, Raigarh; Sigma HTS LLP, Reflex & Allen for technical training, internship and placement support
- Exceptional facilities including Library, Technology-enabled class rooms, Hi-tech Labs, Seminar Hall, Auditorium & Cafeteria
- Focus on Experiential learning through yearly Excursion, Educational Tours, Industrial Visits, etc.
- Teaching Pedagogy: Workshops, Guest Speaker Sessions, Group Learning, Industrial Visits, Case Study Analysis
- Personality grooming opportunity through public speaking club Toastmasters International AJU Chapter
- Interdisciplinary approach to learning & program delivery
- Excellent Placement Record (90% placement for 2022 and 2023 graduated batches)
- Highly qualified faculty members, alumni of premier HEIs

SCHOLARSHIP

Please refer to scholarship section on our website



LABS AVAILABLE:

- Workshop Lab
- Fluid Mechanics & Machinery Lab
- Strength of Material Lab
- Surveying Lab
- Applied Physics Lab
- Applied Chemistry Lab
- Electrical Machine 1 & 2 Lab
- Testing & Maintenance of Electrical M/C Lab
- Refrigeration & Air Conditioning Lab
- Power System Lab
- Power Electronics Lab
- Heat & Mass Transfer Lab
- Mechanical Measurement Lab

- Fundamental of Electrical & Electronics Lab
- Introduction to IT Lab
- Microprocessor & Micro controller Lab
- Electrical Circuit & Network Lab
- Control System Lab
- Analog Electronics Lab
- Digital Electronics Lab
- Electrical Measurement Lab
- Engineering Mechanics Lab
- Signal & System Lab
- Metrology & Quality control Lab
- I/C Engine Lab
- Mechanical Vibration Lab











VALUE ADDED COURSES - VIA



- LinkedIn Learning offers a world of opportunities for young and aspiring professionals, empowering them to acquire new skills and excel in their careers. Through a strategic partnership with LinkedIn, the JAIN Group of Institutions provides students access to a cutting-edge learning platform.
- With over 23,000 courses curated and delivered by industry experts, LinkedIn Learning equips you with the skills and competencies that are highly valued by enterprises. From language and literature to advanced professional skills, the courses are designed to pave a seamless path for your professional growth.

The flexible online format enables you to learn at your own pace, whether at home or on campus. Each course concludes

with competency mapping to assess your learning and awards you a globally recognized certificate, enhancing your career
prospects significantly.

FEW OF THE PROMINENT COURSES ARE DETAILED BELOW, TO GIVE YOU A BIRD'S EYE VIEW OF THE ENTIRE SPECTRUM OF COURSES:

- Business English
- Certification Microsoft Excel Basic to Advance
- Social Media Marketing foundation
- Accounting Foundations: Managerial Accounting
- Business Analytics Marketing
- Data Project Management
- Foundation Excel
- Essential Training
- Digital Marketing
- Foundation Google
- University Analytics
- Creating A Business Plan
- Speaking Confidently and effectively
- Business Analysis
- Foundation Leadership Foundation
- Learning Python
- Photography Foundations: Mobile Photography

- iPhone Photography: Shooting to Storytelling
- WordPress Essential Training
- Develop Your Finance and Accounting Skills
- Financial Accounting Foundations
- Entrepreneurship Foundation

Linked in LEARNING

EARN GLOBALLY RELEVANT CERTIFICATIONS

ADVANCE YOUR CAREER WITH COURSES RECOGNIZED AND VALUED BY THE INDUSTRY.

VALUE ADDED COURSES - VIA

coursera for campus

- Coursera is a renowned global online learning platform that provides access to a wide range of courses and degree programs from top universities and companies worldwide. Its highly sought-after e-certificates require a significant investment, reflecting their value and credibility in the industry.
- With partnerships spanning over 250 leading organizations and academic institutions, Coursera delivers flexible, job-focused online learning to individuals and organizations globally. The platform features a diverse catalog of nearly 12,000 content offerings, available in various formats and lengths, tailored to meet evolving market demands and skill requirements.
- Coursera's content is categorized into four primary learning types, designed to suit different learning needs and objectives:
- Guided Projects (3,300+) Hands-on learning (30-60 mins) for real-world skills and tools
- Courses (8,100+) Develop new skills by learning from a leading institution (university or industry partner) (3-4 weeks)
- Specializations (750+) Build mastery of a skill via structured pathway (also known as a micro-credential), offered by universities or industry partners (typically 4-5 courses, or 8-12 weeks)
- Professional Certificates (140+) Get job-ready for an in-demand career in less than a year through an industry microcredential (typically 6-9 months). Many programs also provide a pathway to an industry-recognized certification.
- In addition, there are Clips (290,000+) Bite-sized content (5-10 mins), sourced from the courses, for just-in-time learning.

FEW OF THE PROMINENT COURSES ARE DETAILED BELOW TO GIVE YOU A BIRD'S EYE VIEW OF THE ENTIRE SPECTRUM OF COURSES

- Google Al Essentials
- IBM Data Science
- Python for everyone
- Strategic Leadership and Management
- Al for everyone
- Advanced data analytics
- Corporate communication
- Successful Interviewing
- Deep Learning
- Machine Learning
- Creating presentations via Canva
- Finding your professional voice: Confidence & Impact
- From Excel to Power BI
- Computer communication

- Creative thinking: Techniques and tolls for success
- Business English Communication Skills
- Successful presentations

WITH COURSERA FOR CAMPUS, YOU CAN:

- Earn Globally Relevant Certifications
- Map Certifications with your degree at AJU
- Map with your subjects of the program and replace the classroom study with anytime study with Coursera for Campus
- Elevate your career with industry recognized courses

CARVAAN " An educational trip of experience and knowledge for students"

Students of TATA MOTORS PRAGATI-2 BATCH 2022-25 (Diploma Mechanical and Electrical Engineering) during excursion trip to PURI, ODISHA



TATA CUMMINS PROJECT EXHIBITION

Diploma Students Presenting Projects during Manufacturing Days Celebration at Tata Cummins Project Exhibition



PASSING OUT CEREMONY OF PRAGATI BATCH 1

Passing Out Ceremony of the First Batch of TATA Motors Pragati Batch 1 held at TATA Motors Skill Development Center at Tata Motors premise





INDUSTRIAL VISITS-DIPLOMA 2024-25





AMALGAM STEELS, KANDRA



PK TRANSFORMERS PVT LTD



NEOTECHNIQ ENGG. PVT LTD



RKFL PLANT-5



ZF CVCS INDIA LIMITED



IDTR JAMSHEDPUR



BEBBCO GAMHARIA



TATA CUMMINS JAMSHEDPUR



PAUL TECH SOFTWARE PVT LTD



AASHIRWAD OLDAGE HOME SAKCHI (Social Visit)



SUDISA FOUNDRY JAMSHEDPUR



JAMNA AUTO CHANDIL

Ś 1 STUDENT CHAP

1. CENTRES







2.COMMITTEES

INTERNAL COMPLAINTS COMMITTEE

3. CELLS

- INTERNAL QUALITY ASSURANCE CELL
- DISCIPLINE & ANTI RAGGING CELL
- STUDENT GRIEVANCE REDRESSAL CELL
- EQUAL OPPORTUNITY CELL
- ADMISSION FACILITATION CELL
- INDUSTRY INSTITUTE INTERACTION CELL
- TRAINING & PLACEMENT CELL

4.COUNCILS





5. SOCIETIES NS SOCIA

COMMERCE AN





6.UNITS









AJU NYAY SAMARTHAN CELL – LEGAL AID & AWARENESS CELL (SCHOOL OF LAW)



7.CLUBS



8.STUDENT CHAPTERS/ BRANCHES









ADMISSION PROCESS

OFFLINE MODE

- Collect the Application Form and prospectus In-person by paying Rs. 1000/- (General Category) or Rs. 500/- (SC/ST Category) at the
- Admission Office Address: D-28, Danish Arcade, Opp. Asian Inn Hotel, Dhatkidih, Jamshedpur, Jharkhand, Pin 831001 or University campus situated at Opposite to Kerala Public School, Mohanpur, Gamharia, Dist.- Seraikela Kharsawan, Jharkhand, Pin 832108
- Phone- 0657 2220285 or Toll-free No.- 7371037371
- Submit the duly filled form along with the fees

ONLINE MODE

- Fill online form on our website www.arkajainuniversity.ac.in and Pay (General Category: Rs. 1000/-) & (SC/ST Category: Rs. 500/-) online.
- Download the duly filled application form and visit our admission office or university campus at the earliest.
- Once your documents are verified by University Admission Officer, pay the first Installment of the fees

CONTACT DETAILS:

- 🙆 Landline Number: 0657-2220285
- 🔇 Toll Free Number: 7371037371
- 🕓 Whatsapp Number: 8406800562



- Email: admission@arkajainuniversity.ac.in
- Admission Office: D-28, Danish Arcade, Opposite Asian Inn Hotel, Dhatkidih, Jamshedpur - 831001
- Campus Address: Opposite Kerala Public School, Village - Mohanpur , Block - Gamharia, District - Seraikela Kharsawan, Jharkhand - 832108

