



ARKA JAIN
University
Jharkhand



APPROVED BY AICTE

4-Year

B. Tech

**SCHOOL OF
ENGINEERING & IT**



APPLY FOR
AJUCET 2025

Join Us
ON YOUR JOURNEY

To Success!



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 state private university in Bihar, Jharkhand and West Bengal to have this distinction.

The University has its root in the prestigious JAIN Group of Institutions, 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 different bodies such as **AICTE, BCI, PCI, OCI, INC, JNRC, AIU, ASCO.**

1

ILLUSTRIOUS LEGACY

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

2

WHAT EMBODIES OUR IDENTITY

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

3

NAAC A GRADE

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

4

52ND BEST PRIVATE UNIVERSITY IN INDIA

in the India Today-MDRA Best Universities 2024 Rankings!

5

38TH BEST PRIVATE UNIVERSITY IN INDIA

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

6

ISO-CERTIFIED

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

7

AIU MEMBER

Member of Association of Indian Universities

8

60+ MOUS

Learn from the best, network with the brightest

9

Robust Campus Recruitment

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

How the Year UNFOLDS AT ARKA JAIN UNIVERSITY

1.

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



3.

AARAMBH (Welcome Day Function for First-year Students)

2.

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



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



18.

End-term Examination (First Year)

16.

Beginning of Even Semester Classes (Except First Year)

24.

Mid-Term Examination for the First-Year Students



23.

SAMVAAD – Parent-Teacher Meet



22.

HOLI INVASION (Annual Pre-Holi Bash)



25.

Mentor-Mentee Meeting

26.

RUKHSAT (Farewell to Final Year Students)

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



7. Mentor-Mentee Meeting

10. Odd Semester
Feedback to be given
by Students



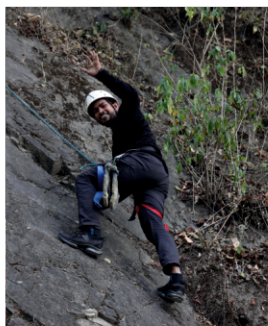
12. Odd Semester
End-term Examination
(Except First Year)

8. ROSHNI (Annual
Celebration of Light)

9. SAMVAAD –
Parent-Teacher Meet

11. Mid-Term Examination
for the First-Year Students

15. CARVAAN (Annual Excursion Tour)



13. AAGAAZ (Annual Cultural Fest)



14. RUNBHOO MI (Annual Sports Meet)

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



19. SHIKHAR (The Annual
Entrepreneurial Conclave)

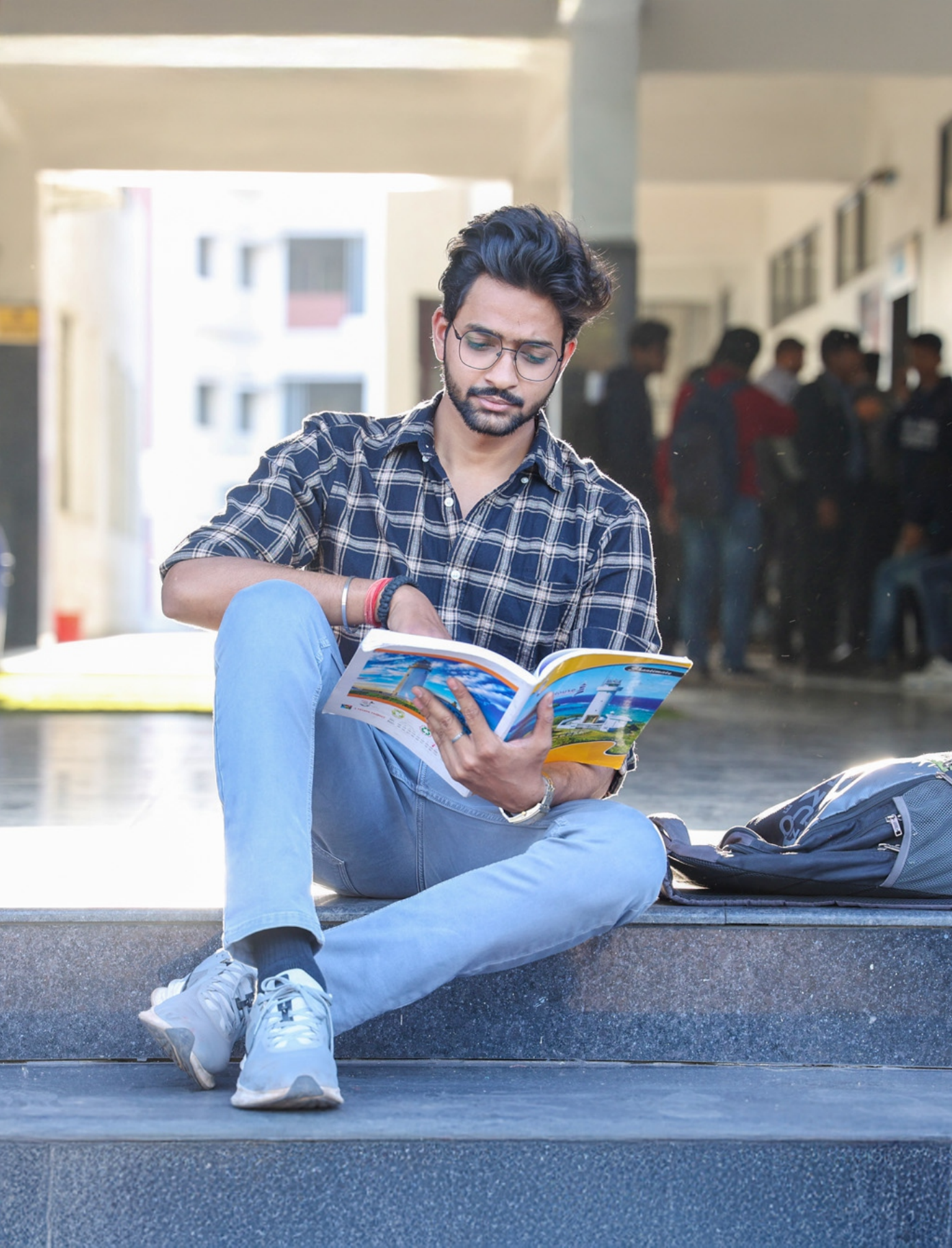
20. Beginning of Even Semester
Classes (First Year)



28. Even Semester End-term
Examination (First Year)

27. Even Semester End-term
Examination (Except First Year)

A Walk, Through Time



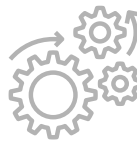


REASONS TO BE A PART OF **ARKA JAIN UNIVERSITY**

- 1 First NAAC 'A' Grade Accredited State Private University (in the First Cycle) in Bihar, Jharkhand & West Bengal.
- 2 Part of the JAIN Group of Institutions, Bengaluru; Mentored by NAAC A++ and NIRF-Top 100 JAIN (Deemed-to-be-University), Bengaluru
- 3 Member - Association of Indian Universities (AIU)
- 4 60+ MOUs (International & National) with Corporate and Academic Partners
- 5 ISO 21001:2018 Certified "Educational Organization Management System" University

B. TECH

BACHELOR OF TECHNOLOGY



4-YEAR FULL-TIME | AICTE APPROVED

The School of Engineering & IT at ARKA JAIN University has been established with the objective of delivering quality higher education and fostering technical advancement. As an intellectual hub, the university attracts and inspires students from diverse backgrounds, empowering them to explore and grow in their chosen fields.

The B. Tech program at AJU is a 4-year AICTE-approved undergraduate engineering degree, offered across five specialized disciplines. The course curriculum balances theoretical knowledge and practical application, ensuring a holistic learning experience.

Highly sought-after by aspiring engineers, the program is designed for students looking to shape their passion into a profession—whether in India or abroad. It opens doors to lucrative career opportunities across the global engineering landscape.

Committed to academic excellence, AJU provides a robust learning environment through a well-structured curriculum, state-of-the-art laboratories, hands-on workshops, interactive seminars, industrial visits, research initiatives, and strong placement support—all aimed at equipping students for real-world success.

SPECIALIZATIONS



Computer Science
and Engineering



Electrical & Electronics
Engineering



Mechanical
Engineering



Artificial Intelligence
& Machine Learning



Artificial Intelligence
& Data Science





B.TECH (QUICK FACTS)

ELIGIBILITY FOR B.TECH :

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 Subject 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)

Obtained at least 45% marks (40% marks in case of candidates belonging to reserved category) in the above subjects taken together.

OR

Passed D. Voc. stream in the same or allied domain.

Candidate should have valid score card of JEE MAINS 2025 or AJU-Combined Entrance Test (AJUCET) or Common University Entrance Test (CUET) conducted by National Testing Agency (NTA).

ELIGIBILITY FOR B. TECH (LATERAL ENTRY) :

Passed Minimum THREE years / TWO years (Lateral Entry) Diploma examination with at least 45% marks (40% marks in case of candidates belonging to reserved category) in ANY branch of Engineering and Technology.

OR

Passed B. Sc. Degree from a recognized University as defined by UGC, with at least 45% marks (40% marks in case of candidates belonging to reserved category) and passed 10+2 examination with Mathematics as a subject.

OR

Passed D. Voc., B. Voc. 3-year in the same or allied domain. Candidate should have valid score card of JEE MAINS 2024/ 2025 or AJU -Combined Entrance Test (AJUCET).

DURATION (B. TECH): 4 Years | 8 Semesters & B. TECH (LATERAL ENTRY): 3 Years | 6 Semesters

DEGREE: Bachelor of Technology (B. Tech) awarded by ARKA JAIN University, Jharkhand & approved by AICTE, New Delhi

B.TECH ADVANTAGES @ AJU

- MOUs with TATA Motors, TPSDI, NTT, 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
- Highly qualified faculty members, alumni of premier HEIs

ASSOCIATIONS WITH TECH GIANTS

Beyond individual growth, it's collective impact:



AJU X GOOGLE

Find your tribe at GDSC-AJU - Your gateway to Google resources, workshops, and hackathons. Learn, grow, and innovate!



AJU X MICROSOFT

Level up your tech skills with AJU's Microsoft Learning Community! Master Microsoft tools, join workshops, and connect with peers.



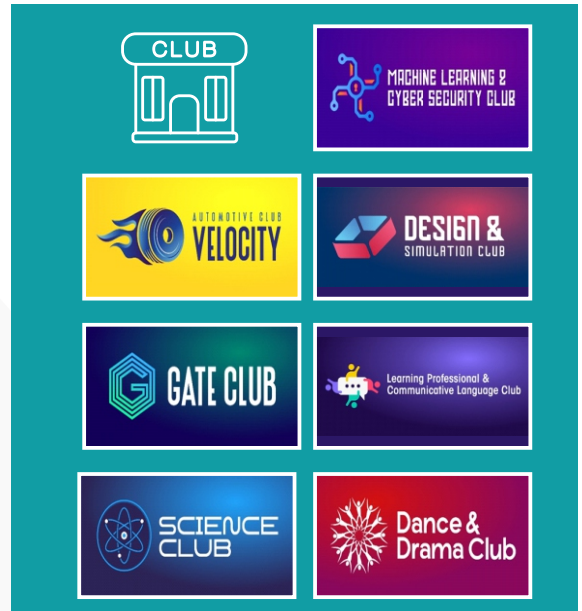
AJU X IEEE

From robotics to AI, explore your interests: AJU Chapter of IEEE - a vibrant community for engineers who dream big and do even bigger.



AJU X CSI

Level up your CS journey! Computer Society of India AJU Chapter offers industry insights, competitions, and exclusive resources.



B. TECH IN COMPUTER SCIENCE AND ENGINEERING

ABOUT THE PROGRAM

Bachelor of Technology (B. Tech) program in Computer Science and Engineering (CSE) is a four-year undergraduate program that focuses on computer systems, software development, and various technologies related to computing. The program equips students with the skills and knowledge to solve real-world problems through programming, algorithm design, and the study of both hardware and software systems. It is one of the most popular and in-demand engineering disciplines.

STAY AHEAD WITH VALUE-ADDED COURSES

To ensure that students in the Computer Science and Engineering (CSE) program stay ahead of technological advancements, the university 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 ARE:

- Artificial Intelligence (AI) & 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

PROGRAM HIGHLIGHTS

- The B. Tech in Computer Science and Engineering (CSE) program offers a comprehensive and dynamic curriculum, focusing on core concepts like programming, algorithms, data structures, operating systems, and networking, alongside an emphasis on mathematics to build strong analytical skills.
- It provides exposure to emerging technologies such as AI, Machine Learning, Data Science, Cloud Computing, Cybersecurity, Blockchain, IoT, and Robotics, with project-based learning and internships at top tech companies for hands-on experience.
- The program fosters research and innovation, encouraging students to engage in cutting-edge projects and entrepreneurial initiatives.
- Students benefit from industry collaborations, guest lectures, hackathons, and skill development in programming, soft skills, and job readiness.
- Equipped with state-of-the-art labs, advanced research facilities, and flexible learning options, the program also offers global career opportunities and international exposure.
- In their final year, students work on capstone projects and theses, applying knowledge to real-world problems, while extracurricular activities and a focus on social responsibility ensure holistic development.

CAREER OPPORTUNITIES

Graduates of B. Tech CSE have diverse career paths in cutting-edge technology domains, such as:

- Software Developer/Engineer
- Data Scientist/Analyst
- Cybersecurity Analyst/Engineer
- Artificial Intelligence (AI) Engineer
- Network Engineer
- Cloud Computing Engineer
- Mobile App Developer
- Database Administrator (DBA)
- DevOps Engineer
- Game Developer

UNIQUE COURSES : The B. Tech CSE program offers specialized courses tailored to industry demands and future advancements:

- | | |
|-------------------------------------|----------------------------------|
| ■ Scripting Languages | ■ Software Testing Methodologies |
| ■ Cryptography and Network Security | ■ Mobile Computing |
| ■ Full Stack Development | ■ Cyber Forensics |
| ■ Data Stream Mining | ■ Evolutionary Computing |



PROGRAM STRUCTURE

SEMESTER I

Engineering Mathematics-I
Engineering Chemistry
Introduction to ML using Python
English for Skill Enhancement
Universal Human Values
Manufacturing Practice
Constitution Of India
PRACTICAL
Engineering Chemistry Laboratory
Python Programming Laboratory
Design Thinking and Idea Laboratory
Engineering Workshop Practices
English Language & Communication Skills Laboratory

SEMESTER II

Engineering Mathematics-II
Engineering Physics
Programming for Problem Solving
Basic Electrical Engineering
Biology for Engineers
Computer Aided Engineering Graphics
Sports and Yoga Or NSS/NCC
PRACTICAL
Engineering Physics Laboratory
Basic Electrical Engineering Laboratory
Programming for Problem Solving Laboratory
Computer Aided Engineering Graphics

SEMESTER III

Engineering Mathematics-III
Data Structures
Digital Electronics
Computer Organization and Architecture
Object Oriented Programming through Java
PRACTICAL
Data Structures Laboratory
Digital Electronics Laboratory
Data visualization- R Programming/ Power BI
Object Oriented Programming through Java Laboratory
Gender Sensitization

B. TECH IN COMPUTER SCIENCE & ENGINEERING

SEMESTER IV

Discrete Mathematics
Operating Systems
Database Management Systems
Software Engineering
Design and Analysis of Algorithms
PRACTICAL
Operating Systems Laboratory
Database Management Systems Laboratory
Design and Analysis of Algorithms Laboratory
Environmental Science

SEMESTER V

Computer Networks
Web Programming
Signal & System
Professional Elective-I
Professional Elective -II
PRACTICAL
Computer Networks Laboratory
Web Programming Laboratory
Signal & System Laboratory
Summer Internship-I (3-4 week)
Essence of Indian Knowledge Tradition

SEMESTER VI

Formal Languages and Automata Theory
Artificial Intelligence and Machine Learning
E-Commerce and ERP
Professional Elective – III
Professional Elective -IV
Open Elective-I
PRACTICAL
Artificial Intelligence and Machine Learning Laboratory
Professional Elective – III Laboratory
Intellectual Property Rights

SEMESTER VII

Cryptography and Network Security
Compiler Design
Professional Elective -V

Open Elective - II
PRACTICAL
Cryptography and Network Security Laboratory
Compiler Design Laboratory
Summer Internship-II (4 week)
Minor Project
Professional Practice, Law & Ethics

SEMESTER VIII

Organizational Behavior
Professional Elective – VI
Open Elective – III
Major Project
Extra- Curricular/ Co-Curricular Activity

PROFESSIONAL ELECTIVE - I (5th sem)
Graph Theory
Data Analytics
Data Warehousing and Business Intelligence
Quantum Computing
Spatial and Multimedia Databases
Image Processing

PROFESSIONAL ELECTIVE – II (5th sem)
Embedded Systems
Information Retrieval Systems
Distributed Databases
Natural Language Processing
Software Project Management
Computer Vision and Robotics

PROFESSIONAL ELECTIVE - III (6th sem)
Full Stack Development
Internet of Things
Scripting Languages
Mobile Application Development
DevOps
Computer Graphics

PROFESSIONAL ELECTIVE - IV (6th sem)
Data Mining
Soft Computing
Speech and Video Processing
Database Security

Software Testing Methodologies
Randomized Algorithms

PROFESSIONAL ELECTIVE - V (7th sem)
Advanced Algorithms
Robotic Process Automation
Blockchain Technology
Software Process & Project Management
Privacy Preserving Data Publishing
Mining Massive Datasets

PROFESSIONAL ELECTIVE - VI (8th sem)
Distributed Systems
Human Computer Interaction
Cyber Forensics
Data Stream Mining
Web Security
Semantic Web

OPEN ELECTIVE - I (6th sem)
Game Theory
VLSI Design
Real Time & Embedded System
Advanced Operating System
Agile Software Development

OPEN ELECTIVE - II (7th sem)
Mobile Computing
Expert Systems
Augmented Reality – Virtual Reality –Intermediate
Data Warehousing and Mining
Cloud Computing

OPEN ELECTIVE - III (8th sem)
Evolutionary Computing
GIS & Remote Sensing
Operation Research
Parallel Computing
Advanced Computer Network
Deep Learning
GIS & Remote Sensing
Operation Research
Parallel Computing
Advanced Computer Network

B. TECH IN MECHANICAL ENGINEERING

ABOUT THE PROGRAM

The B. Tech in Mechanical Engineering is a comprehensive and versatile undergraduate program designed to provide a strong foundation across key engineering domains. The curriculum is thoughtfully crafted to offer a well-rounded educational experience that integrates design, mathematics, modelling, computing, engineering sciences, and elements of management, along with exposure to humanities, social sciences, and fine arts.

Core areas of study include fluid mechanics, thermodynamics and heat transfer, solid mechanics, materials science, manufacturing processes, energy systems, dynamics and control, as well as modern tools like Computer-Aided Design (CAD) and Computer Integrated Manufacturing (CIM).

This broad-based and adaptable program enables students to tailor their learning paths according to their individual interests and career aspirations. Whether aiming for roles in industry, research, graduate studies, or technical management, students are well-prepared to step into a range of dynamic opportunities with confidence and competence.

STAY AHEAD WITH VALUE-ADDED COURSES

Enhance your technical edge and boost your employability with certification courses tailored to the demands of modern engineering industries:

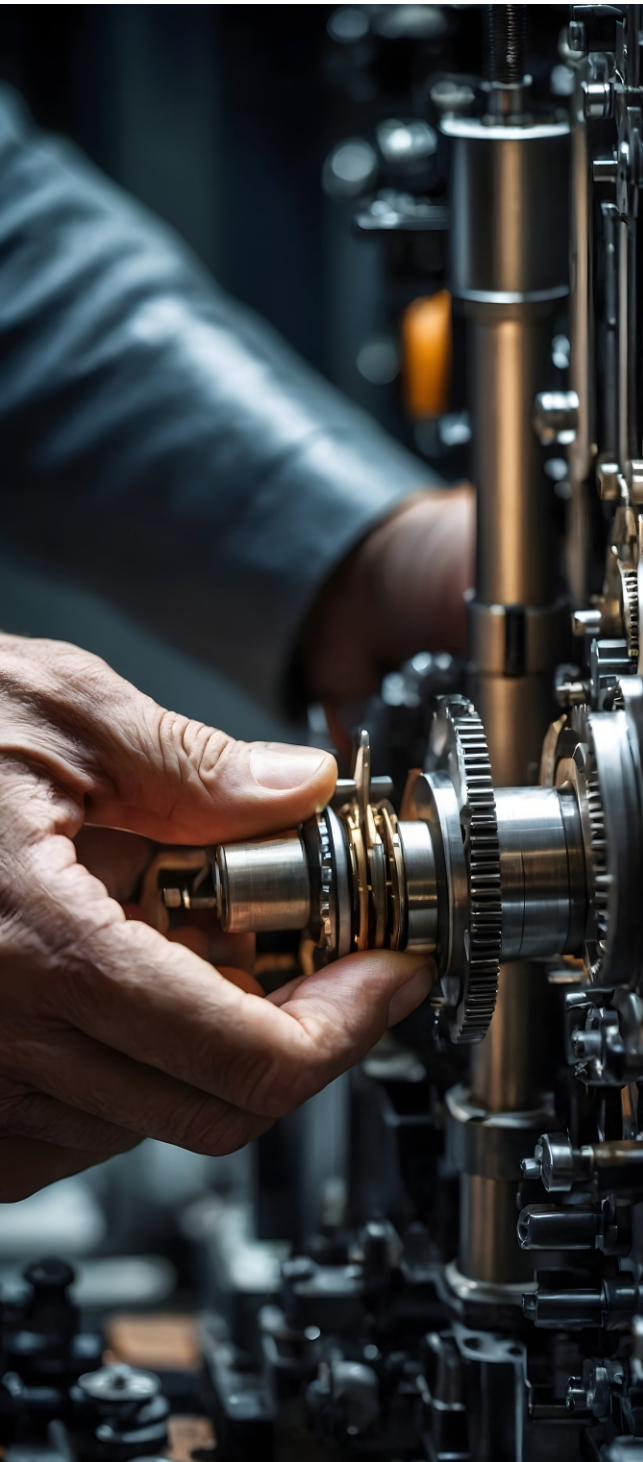
- **AUTOCAD CERTIFICATION** : Master the fundamentals of 2D and 3D design applicable across architecture, manufacturing, and engineering domains.
- **CATIA V5 CERTIFICATION** : Gain hands-on expertise in CATIA V5, widely used for high-precision mechanical design & product modelling.
- **SIEMENS NX CERTIFICATION** : Learn advanced techniques in Siemens NX, a powerful tool for 3D design, simulation, & manufacturing engineering.
- **SOLIDWORKS CERTIFICATION** : Develop strong skills in SOLIDWORKS for creating innovative mechanical designs & parametric models.
- **PTC CREO CERTIFICATION** : Explore robust 3D CAD capabilities through PTC Creo to streamline mechanical design & product development processes.

PROGRAM HIGHLIGHTS

- **MODERN LABORATORIES** : Equipped with the latest tools and technology for hands-on learning in mechanical engineering.
- **EXPERIENCED FACULTY MEMBERS** : Professors & lecturers with substantial academic & industry experience in mechanical engineering.
- **INDUSTRY INTERACTION** : Regular guest lectures, workshops, & internships with leading mechanical & manufacturing companies.
- **RESEARCH OPPORTUNITIES** : Opportunities to engage in research on advanced manufacturing, materials science, and robotics.
- **COLLABORATIVE PROJECTS** : Encouragement to participate in collaborative projects and practical workshops.
- **TECHNICAL CLUBS AND ORGANIZATIONS** : Access to mechanical engineering-focused technical clubs & student organizations.

HIGHER STUDIES

- **M. Tech/ MS** – Specializations in core fields like Robotics, Automobile, Aerospace
- **MBA** – Focus on Operations, Supply Chain, or Finance
- **PG Diploma Courses** – CAD/CAM, Industrial Safety, 3D Printing, etc.
- **International Studies** – MS opportunities in the USA, Germany, Canada



CAREER OPPORTUNITIES AFTER B. TECH IN MECHANICAL ENGINEERING

CORE ENGINEERING ROLES

- Design Engineer – Work with CAD tools like AutoCAD, SolidWorks, CATIA
- Manufacturing Engineer – Oversee production, quality, and process optimization
- Automobile Engineer – Design and test vehicle components for companies like TATA, Mahindra
- Aerospace Engineer – Roles in ISRO, DRDO, HAL, Boeing, etc.
- Power Plant Engineer – Operate thermal, nuclear, or renewable energy systems
- Maintenance Engineer – Ensure smooth functioning of industrial equipment
- Robotics & Automation Engineer – Develop solutions for smart manufacturing
- Oil & Gas Sector – Opportunities in ONGC, Schlumberger, Reliance, etc.
- Defence Sector – Work in DRDO, BHEL, or join armed forces through technical entries

GOVERNMENT SECTOR OPPORTUNITIES

- ESE/IES (UPSC) – Central engineering roles
- PSUs via GATE – BHEL, GAIL, IOCL, ONGC, NTPC, etc.
- Railways & SSC JE – Roles in RRB, IRMS, and state departments
- ISRO/DRDO/BARC – Research & development positions

NON-CORE CAREER PATHS

- Data Science & AI – With Python, MATLAB, and ML knowledge
- Software & IT – CAD software development, cloud computing, automation
- Business Analyst – Leverage problem-solving in corporate decision-making
- Banking & Finance – Appear for exams like SBI PO, IBPS PO
- Entrepreneurship – Launch ventures in manufacturing, design, or robotics

UNIQUE COURSES

- Automation in Manufacturing
- Refrigeration & Air Conditioning
- Kinematics & Dynamics of Machinery
- Artificial Intelligence in Mechanical Engineering
- Industrial Management
- Design for Manufacturing & Assembly

SEMESTER I

Engineering Mathematics-I
Engineering Physics
Programming for Problem Solving
Basic Electrical Engineering
Biology for Engineers
Computer Aided Engineering Graphics
Sports and Yoga Or NSS/NCC
Induction Program
PRACTICAL
Engineering Physics Laboratory
Basic Electrical Engineering Laboratory
Programming for Problem Solving Laboratory
Computer Aided Engineering Graphics

SEMESTER II

Engineering Mathematics-II
Engineering Chemistry
Introduction to ML using Python
English for Skill Enhancement
Universal Human Values
Manufacturing Practice
Constitution Of India
PRACTICAL
Engineering Chemistry Laboratory
Python Programming Laboratory
Design Thinking and Idea Laboratory
Engineering Workshop Practices
English Language and Communication Skills Laboratory

SEMESTER III

Engineering Mathematics-III
Engineering Mechanics
Metallurgy & Material Science
Production Technology-I
Thermodynamics
PRACTICAL
Production Technology-I Laboratory
Engineering Mechanics Laboratory
Computer Aided Machine Drawing
Thermal Engineering Laboratory
Gender Sensitization

PROGRAM STRUCTURE

B. TECH IN MECHANICAL ENGINEERING

SEMESTER IV

Basic Electronics Engineering
Mechanics of Solid
Production Technology-II
Fluid Mechanics & Hydraulic Machines
IC Engines & Gas Turbines
Instrumentation and Control Systems
PRACTICAL
Basic Electronics Engineering Laboratory
Fluid Mechanics & Hydraulic Machines Laboratory
Mechanics of Solid Laboratory
Environmental Science

SEMESTER V

Kinematics & Dynamics of Machinery
Measurement & Metrology
Professional Elective-I
Professional Elective-II
CAD/CAM
PRACTICAL
Measurement & Metrology Laboratory
Kinematics & Dynamics of Machinery Laboratory
Summer Internship-I (3-4 week)
Essence of Indian Knowledge Tradition

SEMESTER VI

Machine Design
Heat & Mass Transfer
Finite Element Methods
Professional Elective - III
Open Elective-I
Mechatronics, Robotics & Control Sytem
PRACTICAL
Heat & Mass Transfer Laboratory
Mechatronics, Robotics & Control System Lab
Intellectual Property Rights

SEMESTER VII

Industrial Management
Refrigeration & Air Conditioning
Professional Elective -IV
Professional Elective -V
Open Elective - II
PRACTICAL
Refrigeration & Air Conditioning Laboratory
Summer Internship-II (4 week)
Minor Project
Professional Practice, Law & Ethics

SEMESTER VIII

Organizational Behavior
Professional Elective – VI
Open Elective – III
Major Project
Extra- Curricular/ Co-Curricular Activity

PROFESSIONAL ELECTIVE - I (5th Sem)

Unconventional Machining Processes
Production Planning & Control
Operations Research
Microprocessors in Automation
Design for Manufacturing & Assembly

PROFESSIONAL ELECTIVE – II (5TH SEM)

Additive Manufacturing
Automation in Manufacturing
Artificial Intelligence in Mechanical Engineering
Mechatronics
Die, Mold and Tool Engineering

PROFESSIONAL ELECTIVE – III (6TH SEM)

Power plant Engineering
Automobile Engineering
Non-Conventional Energy Sources
Fuel cell Technology
Engineering System Design Optimization

PROFESSIONAL ELECTIVE – IV (7TH SEM)

Re-Engineering
Computational Fluid Dynamics
Turbo Machinery
Fluid Power System
Surface Engineering

PROFESSIONAL ELECTIVE – V (7TH SEM)

Industrial Robotics
Mechanical Vibrations
Composite Materials
Energy Conservation and Management
Fatigue and Fracture Analysis

PROFESSIONAL ELECTIVE – VI (8TH SEM)

Industry 4.0
Fuzzy Logic and ANN
Electric and Hybrid Vehicles
Total Quality Management
Hydrogen and Alternative Fuel

OPEN ELECTIVE - I (6TH SEM)

Value Engineering
Computer Networking Web-Based Technology
Data Analytics
Quality Assurance and Reliability
Product Innovation

OPEN ELECTIVE - II (7TH SEM)

Quantitative Analysis for Business Decisions
Industrial Engineering & Management
Internet of Things
Numerical and scientific Computing
E-Mobility

OPEN ELECTIVE – III (8TH SEM)

Entrepreneurship Development
Finance and Accounting
Supply Chain Management
Food Technology
Industrial Psychology

B. TECH IN ELECTRICAL & ELECTRONICS ENGINEERING

ABOUT THE PROGRAM

B. Tech in Electrical and Electronics Engineering (EEE) is a four-year undergraduate program that focuses on the study of electrical systems, electronic devices, and power generation, transmission, and distribution. It blends core electrical engineering principles with modern electronics, automation, and control technologies to prepare students for a dynamic career in the energy and technology sectors.

SKILLS DEVELOPED

During the B. Tech in EEE program, students develop a mix of technical, analytical, and problem-solving skills that are essential for various industries.

STAY AHEAD WITH VALUE-ADDED COURSES

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

SOME OF THESE VALUE-ADDED COURSES ARE:

- 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

CAREER OPPORTUNITIES

Graduates of B. Tech CSE have diverse career paths in cutting-edge technology domains, such as:

- Automation & Robotics
- Automation Engineer, Robotics Engineer
- Renewable Energy & Sustainability
- Renewable Energy Engineer, Energy Consultant
- Electric Vehicles (EV) & Smart Grid
- EV Design Engineer, Smart Grid Engineer
- IT & Software Roles for EEE Graduates
- IoT Engineer, AI & Machine Learning Engineer, Cybersecurity Engineer (for Power Systems)
- Government Jobs & PSUs through Exams
- For those looking for stable careers in government sectors.

HIGHER STUDIES & RESEARCH

For those who want to pursue M. Tech, MBA, MS, or Ph.D.:

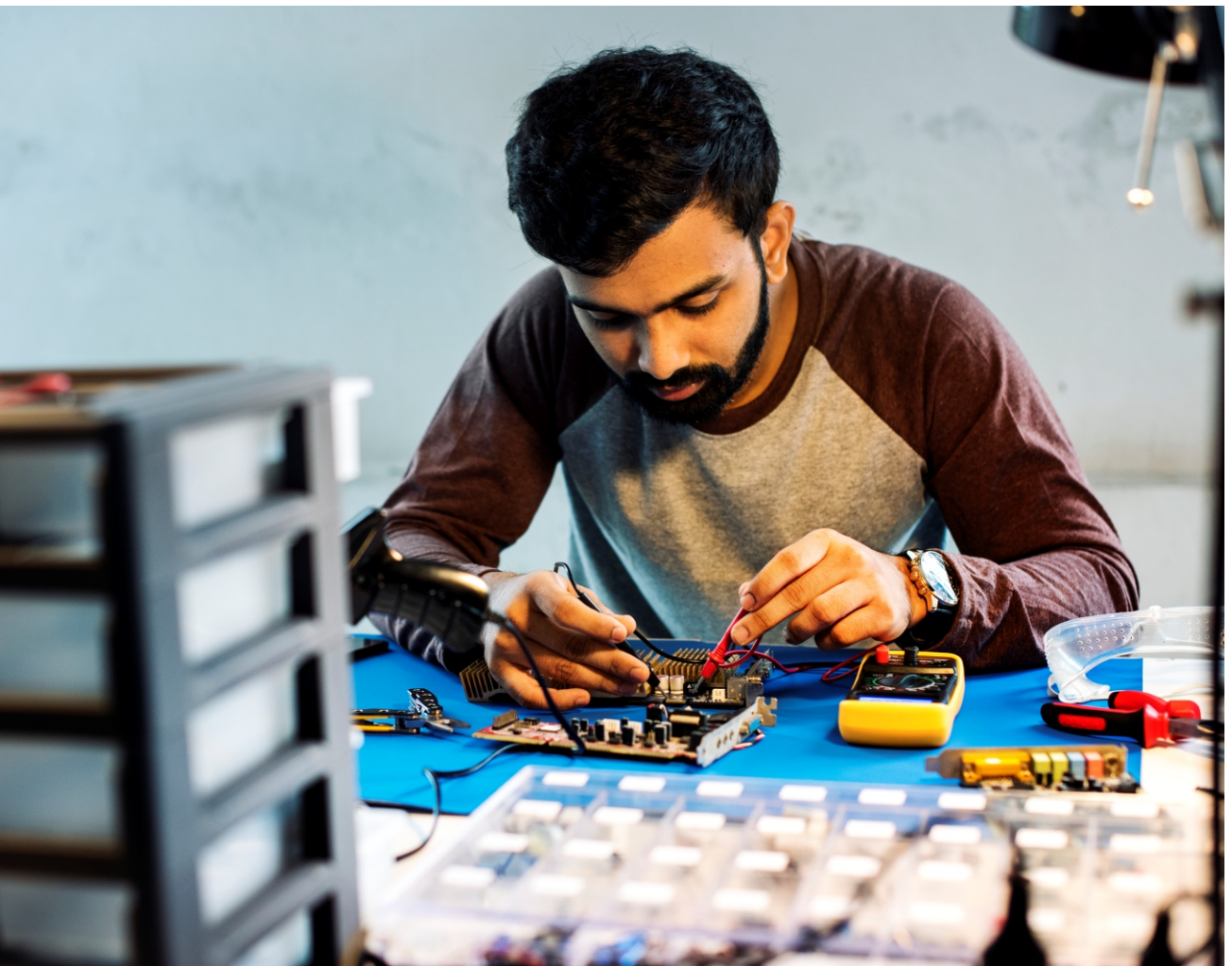
- M. Tech in Power Systems, Embedded Systems, AI & Robotics
- MBA in Power Management, Operations, or Technology Management
- Ph.D. in Electrical Engineering for R&D roles

UNIQUE COURSES

- Analog Electronic Circuits
- Measurements and Instrumentation
- Computer Aided Electrical Machine Design
- Electric and Hybrid Vehicles
- AI Techniques in Electrical Engineering
- Electrical Energy Conservation and Auditing
- Electrical Maintenance & Troubleshooting
- Power Generation Technologies

PROGRAM HIGHLIGHTS

- **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 M. E. / M. Tech in Electrical & Electronics Engineering.



SEMESTER I

Engineering Mathematics-I
Engineering Physics
Programming for Problem Solving
Basic Electrical Engineering
Biology for Engineers
Computer Aided Engineering Graphics
Sports and Yoga Or NSS/NCC
PRACTICAL
Engineering Physics Laboratory
Basic Electrical Engineering Laboratory
Programming for Problem Solving Laboratory
Computer Aided Engineering Graphics

SEMESTER II

Engineering Mathematics-II
Engineering Chemistry
Introduction to ML using Python
English for Skill Enhancement
Universal Human Values
Manufacturing Practice
Constitution of India
PRACTICAL
Engineering Chemistry Laboratory
Python Programming Laboratory
Design Thinking and Idea Laboratory
Engineering Workshop Practices
English Language & Communication Skills Laboratory

SEMESTER III

Engineering Mathematics-III
Electrical Machines-I
Network Theory
Analog Electronic Circuits
Electro Magnetic Fields Theory
PRACTICAL
Electrical Machines -I Laboratory
Analog Electronic Circuits Laboratory
Electrical Simulation tools Laboratory
Network Theory Laboratory
Gender Sensitization

PROGRAM STRUCTURE

B. TECH IN ELECTRICAL & ELECTRONICS ENGINEERING

SEMESTER IV

Measurements and Instrumentation
Electrical Machines-II
Digital Electronics
Power System-I
Control Systems
PRACTICAL
Digital Electronics Laboratory
Measurements and Instrumentation Laboratory
Electrical Machines -II Laboratory
Control Systems Laboratory
Environmental Science

SEMESTER V

Power Electronics
Microprocessors & Microcontrollers
Professional Elective-I
Professional Elective -II
Power System-II
PRACTICAL
Microprocessors & Microcontrollers Laboratory
Power Electronics Laboratory
Power System-II Laboratory
Summer Internship-I (3-4 week)
Essence of Indian Knowledge Tradition

SEMESTER VI

Digital Signal Processing
Electrical Drives
Professional Elective – III
Open Elective-I
Advance Control System
Power System Protection
PRACTICAL
Power System Protection Laboratory
Digital Signal Processing Laboratory
Intellectual Property Rights

SEMESTER VII

Power Electronic Applications to Renewable Energy Systems
VLSI Circuits
Professional Elective -IV
Open Elective - II
PRACTICAL
Simulation of Renewable Energy Systems Laboratory
Summer Internship-II (4 week)
Minor Project
Professional Practice, Law & Ethics

SEMESTER VIII

Fundamentals of Management for Engineers
Professional Elective – V
Open Elective – III
Major Project
Extra- Curricular/ Co-Curricular Activity

PROFESSIONAL ELECTIVE - I (5th Sem)

IoT Applications in Electrical Engineering
High Voltage Engineering
Computer Aided Electrical Machine Design
Renewable Energy Sources
Power Station Practice
Industrial Electrical Systems

PROFESSIONAL ELECTIVE – II (5th Sem)

Electronic Devices
Linear Integrated Circuit
Data Structures and Algorithms
Signals and Systems
Cyber-Physical Systems

PROFESSIONAL ELECTIVE – III (6th sem)

Power System Reliability
Mobile Application Development
Electric and Hybrid Vehicles
Fundamental of Electric Vehicles
Wind and Solar Energy systems

PROFESSIONAL ELECTIVE – IV (7th sem)

Electrical Distribution Systems
Charging Infrastructure for Electric Vehicles
Energy Storage Systems
Utilization of Electric Energy
HVDC Transmission
Reliability Engineering

PROFESSIONAL ELECTIVE – V (8th sem)

Power Quality & FACTS
Solar Power Batteries
AI Techniques in Electrical Engineering
Smart Grid Technologies
Power Semiconductor Drives
Electrical Energy Conservation and Auditing
Non- Conventional Energy Sources

OPEN ELECTIVE - I (6th sem)

Pattern Recognition
Object Oriented Programming
Image Processing
Mobile Communication
Advanced Electronics Circuits

OPEN ELECTIVE - II (7th sem)

Machine Learning
Optimization Engineering
Computer Network
Power Generation Technologies
Python Programming

OPEN ELECTIVE - III (8th sem)

Embedded Systems Applications
Analog and Digital Communication
Optical Communication
Information Theory and Coding
Satellite Communication

B. TECH IN ARTIFICIAL INTELLIGENCE & DATA SCIENCE IN ASSOCIATION WITH IBM

INTRODUCTION :

The B Tech program in Artificial Intelligence and Data Science, offered in association with the tech behemoth IBM; combines two broad areas, that is, Artificial Intelligence and Data Science, while building a strong foundation in Computer Science. The curriculum includes courses in computer science, mathematics, artificial intelligence, machine learning, and their applications in various domains. The program also allows the students to venture into Management specialization with AI and Technology focus, leading to B Tech degree, as well as entrepreneurial activities. The program also enables the students to build strong industry linkages in terms of practical training program, summer internships, and co-supervision on projects with the support of MoU partner IBM which is a partner in terms of offering this super specialized B Tech program.

STAY AHEAD WITH VALUE-ADDED COURSES

ADVANCED AI & ML TECHNIQUES

- Deep Learning with TensorFlow & PyTorch
- Computer Vision & Image Processing
- Natural Language Processing (NLP) & Chatbots
- Reinforcement Learning & AI in Gaming

CLOUD COMPUTING & DEPLOYMENT

- MLOps & Model Deployment on Cloud (AWS, GCP, Azure)
- Edge AI & IoT Integration
- Serverless Computing & AI in Cloud

DATA SCIENCE & BIG DATA

- Big Data Analytics with Hadoop & Spark
- Data Engineering & Pipeline Development
- Data Visualization with Power BI & Tableau
- Time Series Analysis & Forecasting

ETHICS, GOVERNANCE & BUSINESS APPLICATIONS

- AI Ethics, Bias & Explainability
- AI & DS for Sustainable Development Goals (SDGs)
- Blockchain & AI for Secure Data Transactions
- Business Intelligence & Decision-Making with AI

AI & DS FOR INDUSTRY APPLICATIONS

- AI in Healthcare & Bioinformatics
- Financial Analytics & Fraud Detection
- Retail & E-Commerce Data Analytics
- AI for Cybersecurity & Threat Detection

PROGRAMMING & TOOLS

- Advanced Python for AI & Data Science
- SQL & NoSQL Databases for Data Science
- Docker & Kubernetes for AI Model Deployment
- GitHub & Version Control for AI/ML Projects

IBM



PROGRAM HIGHLIGHTS

CORE CONCEPTS IN AI & DATA SCIENCE

- Mathematics & Statistics for AI & DS
- Fundamentals of Machine Learning & Deep Learning
- Data Structures & Algorithms for AI Applications
- Big Data Analytics & Data Engineering

PROGRAMMING & TOOLS

- Python, R, and SQL for AI & Data Science
- Libraries & Frameworks (TensorFlow, PyTorch, Scikit-Learn)
- Data Visualization Tools (Tableau, Power BI, Matplotlib, Seaborn)
- Cloud Computing & AI Deployment (AWS, GCP, Azure)

SPECIALIZATION AREAS & INDUSTRY APPLICATIONS

- Computer Vision & Image Processing (Face Recognition, Object Detection)
- Natural Language Processing (NLP) (Chatbots, Sentiment Analysis)
- AI in Healthcare, Finance, and Cybersecurity
- Reinforcement Learning & Robotics

HANDS-ON PROJECTS & PRACTICAL LEARNING

- Real-World Case Studies & Industry Projects
- Hackathons, AI/ML Competitions (Kaggle, Google AI Challenges)
- Capstone Project & Portfolio Development

AI ETHICS, REGULATIONS & FUTURE TRENDS

- Ethical AI & Bias in Machine Learning
- AI for Sustainable Development Goals (SDGs)
- Responsible AI & Governance

CAREER READINESS & INDUSTRY COLLABORATION

- Internships & Industry Mentorship
- Certification Programs (Google AI, Microsoft AI, AWS ML)
- Resume Building & Placement Assistance

SALIENT FEATURES OF ASSOCIATION WITH IBM

- The corporate interface programme - B. Tech in Artificial Intelligence and Data Science has been designed in collaboration with IBM for the School of Engineering & IT.
- Entire B. Tech Curriculum has been designed with inputs from the Industry
- Every semester, one course will be taught by IBM Subject Matter Experts
- Each course is credit based and evaluated as per UGC norms by Industry Expert
- Work on Enterprise Software through IBM sponsored University Lab & Cloud Access
- Real Time project Development
- Each semester, students will earn a badge / certificate
- Get access to the pool of course material through IBM. Industry software access for free
- Earn a joint certificate from the Tech Giant IBM upon the successful completion of the Degree
- Participate in various National & International Competitions
- Industry visit to IBM for LIVE Industry experience
- Increase the chances of Global recruitment





ADVANTAGES FOR STUDENTS

- As a part of this contemporary programme, students will go through the curriculum as recommended by the Tech Giant IBM.
- The partnership with IBM would help in building critical technology skills for tomorrow.
- This academia-industry collaboration deems fit for preparing the undergraduate technical students for the corporate world and would help them sustain in this highly competitive world.

THE IBM AND AJU COLLABORATION WOULD HELP THE STUDENT TO


- Learn the emerging technology from day one once you get admitted in the programme
- Gain exposure to real-time Industry environment while undergoing the degree programme
- Work on real-life scenarios and embrace latest technologies while studying the degree programme
- Gain access to enterprise software(s) used by prominent industries
- Get trained on the technology / platform as designed by industry-designated experts
- Work on real-time application development / business case problems
- Get globally valid IBM certificate and digital badges upon the successful completion of the programme
- Pursue better Career and Placement prospects





IBM Software Lab on Emerging Technologies

Initiative of the Career Education Program



GLIMPSE OF COMPANIES / SECTORS USING IBM TECHNOLOGIES

- ACCENTURE
- ACER
- ADITYA BIRLA FASHION AND RETAIL
- AIRBUS
- AT&T
- AXIS BANK
- APPLE
- ABB INDIA
- ACCENTURE SERVICES PVT LTD
- ACE SOFTWARE SOLUTION
- AMDOCS
- BARCLAYS
- BHARTI AIRTEL
- BARCLAYS TECHNOLOGY CENTER INDIA
- BIRLASOFT
- COCA COLA
- CONCENTRIX
- CONVENANT IT SERVICES
- CYBER TECH SOLUTIONS
- LIFE INSURANCE CORPORATION OF INDIA
- COGNIZANT INDIA PVT LTD
- COMPEST SOLUTIONS INC
- EUROCHANGE INDIA PVT LTD
- EXPLORESYS TECHNOLOGIES
- FORD
- FOMENT TECHNOLOGIES
- FCS SOFTWARE SOLUTION LTD
- HEWITT ASSOCIATES
- HOCH TECHNOLOGIES PVT LTD
- HCL
- DIYA SYSTEMS
- INDIAN OIL CORPORATION
- INDIAN TOBACCO COMPANY
- INFOSYS
- ISUZU
- JAPAN AIRLINES
- JONSON AND JONSON
- KFC
- KPMG
- LENOVO
- FORTIS HEALTHCARE
- FIDELITY
- GENPACT
- GLOBALLOGIC
- L'OREAL
- MAHINDRA GROUP
- MERCEDES
- MINDTREE
- NESTLE
- MOTOROLA
- NIKE
- HDFC, ICICI, HSBC,
- WHATSAPP
- RENAULT
- SIEMENS
- SINGAPORE AIRLINE
- CAPGEMINI INDIA PVT LTD
- CGI
- COVANSYS INDIA LTD
- LG



- Digital Badges can be shared over various social media platforms, can be added in Resume and Email Signatures
- Any third party can validate student's achievement through a QR code, unique id and Digital Badge code.
- Such badges are valid worldwide and appreciated by Industries and reputed institutions
- Students also receives corresponding opportunities to work in India and oversees through such portals.

AT THE END OF THE PROGRAM, THE STUDENT WILL GET –

- B Tech degree in Artificial Intelligence & Data Science from the University
- World-wide valid joint certificate and Digital Badges from IBM mentioning the industry subjects covered
- On the completion of certification, students would receive an email from Credly and their Credly professional profile would be created

CAREER OPPORTUNITIES

CORE AI & DATA SCIENCE ROLES

- Data Scientist, AI/ML Engineer, Data Analyst, Deep Learning Engineer, Big Data Engineer

AI IN SOFTWARE & IT DEVELOPMENT

- AI Research Scientist, Computer Vision Engineer, Natural Language Processing (NLP) Engineer, MLOps Engineer, Cloud AI Engineer

AI & DS IN BUSINESS AND FINANCE

- Business Intelligence Analyst, Risk & Fraud Analyst, Quantitative Analyst, AI Consultant

AI IN HEALTHCARE & LIFE SCIENCES

- Healthcare Data Scientist, Bioinformatics Specialist, AI in Medical Imaging Expert

EMERGING AI & DS CAREERS

- AI Ethics & Policy Specialist, Autonomous Systems Engineer, AI in Cybersecurity Specialist, AI Product Manager

UNIQUE COURSES

AI & DS for Emerging Technologies

- Quantum Machine Learning, Edge AI & IoT, AI in Blockchain & Cryptography, AI for Cybersecurity & Ethical Hacking

INTERDISCIPLINARY AI & DS COURSES

- AI in Healthcare & Bioinformatics, AI for Climate Change & Sustainability, AI in Finance & Algorithmic Trading, AI in Robotics & Automation

CREATIVE & SOCIAL AI COURSES

- AI for Music & Art Generation, AI & Psychology: Human-Computer Interaction, Ethical AI & Explainable AI (XAI), AI in Journalism & Content Creation

HANDS-ON & CAREER-ORIENTED AI COURSES

- MLOps & AI Model Deployment, Data Science for Social Good, Startup & AI Entrepreneurship, AI for Smart Cities & Urban Planning

EMERGING AI & DS CAREERS

- AI Ethics & Policy Specialist, Autonomous Systems Engineer, AI in Cybersecurity Specialist, AI Product Manager



PROGRAM STRUCTURE

SEMESTER I

Engineering Mathematics-I
Engineering Physics
Software Foundation and Programming (with C++)
Basic Electrical Engineering
Biology for Engineers
Computer Aided Engineering Graphics
Sports and Yoga Or NSS/NCC
PRACTICAL
Engineering Physics Laboratory
Basic Electrical Engineering Laboratory
Software Foundation & Programming (with C++) Laboratory
Computer Aided Engineering Graphics

SEMESTER II

Engineering Mathematics-II
Engineering Chemistry
Programming with Python
English for Skill Enhancement
Universal Human Values
Manufacturing Practice
Constitution Of India
PRACTICAL
Engineering Chemistry Laboratory
Programming with Python Laboratory
Design Thinking and Idea Laboratory
Engineering Workshop
English Language & Communication Skills Laboratory

SEMESTER III

Engineering Mathematics-III
Data Structures
Digital Electronics
Computer Organization and Architecture
Programming with Java
Cloud Fundamentals
PRACTICAL
Data Structures Laboratory
Digital Electronics Laboratory
Programming with Java Laboratory
Gender Sensitization

B. TECH IN ARTIFICIAL INTELLIGENCE & DATA SCIENCE

SEMESTER IV

Discrete Mathematics
Operating Systems
Database Management Systems
Software Engineering
Design and Analysis of Algorithms
PRACTICAL
Operating Systems Laboratory
Database Management Systems Laboratory
Design and Analysis of Algorithms Laboratory
Environmental Science

SEMESTER V

Computer Networks
Web Programming
Signal & System
Professional Elective-I
Professional Elective -II
PRACTICAL
Computer Networks Laboratory
Web Programming Laboratory
Signal & System Laboratory
Summer Internship-I (3-4 week)
Essence of Indian Knowledge Tradition

SEMESTER VI

Introduction to Machine Learning
Data Science
Professional Elective – III
Professional Elective -IV
Open Elective-I
PRACTICAL
Data Science Laboratory
Introduction to Machine Learning Laboratory
Professional Elective – III Laboratory
Intellectual Property Rights

SEMESTER VII

Big Data Analytics
Professional Elective -V

Open Elective - II
Artificial Intelligence
PRACTICAL
Big Data Analytics Laboratory
Artificial Intelligence Laboratory
Summer Internship-II (4 week)
Minor Project
Professional Practice, Law & Ethics

SEMESTER VIII

Organizational Behavior
Professional Elective – VI
Open Elective – III
Major Project
Extra- Curricular/ Co-Curricular Activity

PROFESSIONAL ELECTIVE - I (5th sem)
Graph Theory
Data Analytics
Data Warehousing and Business Intelligence
Quantum Computing
Spatial and Multimedia Databases
Image Processing

PROFESSIONAL ELECTIVE – II (5th sem)
Embedded Systems
Information Retrieval Systems
Distributed Databases
Natural Language Processing
Software Project Management
Computer Vision and Robotics

PROFESSIONAL ELECTIVE - III (6th sem)
Full Stack Development
Internet of Things
Scripting Languages
Mobile Application Development
DevOps
Computer Graphics

PROFESSIONAL ELECTIVE - IV (6th sem)
Data Mining
Soft Computing
Speech and Video Processing
Database Security

Software Testing Methodologies
Randomized Algorithms

PROFESSIONAL ELECTIVE - V (7th sem)
Advanced Algorithms
Robotic Process Automation
Blockchain Technology
Software Process & Project Management
Privacy Preserving Data Publishing
Mining Massive Datasets

PROFESSIONAL ELECTIVE - VI (8th sem)
Distributed Systems
Human Computer Interaction
Cyber Forensics
Data Stream Mining
Web Security
Semantic Web

OPEN ELECTIVE -I (6th sem)
Game Theory
VLSI Design
Real Time & Embedded System
Advanced Operating System
Agile Software Development

OPEN ELECTIVE - II (7th sem)
Mobile Computing
Expert Systems
Augmented Reality – Virtual Reality –Intermediate
Data Warehousing and Mining
Cloud Computing

OPEN ELECTIVE - III (8th sem)
Evolutionary Computing
GIS & Remote Sensing
Operation Research
Parallel Computing
Advanced Computer Network
Deep Learning
GIS & Remote Sensing
Operation Research
Parallel Computing
Advanced Computer Network

B. TECH IN ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

ABOUT THE PROGRAM

A Bachelor of Technology (B. Tech) program in Artificial Intelligence (AI) and Machine Learning (ML) is cutting-edge and designed for students passionate about the future of intelligent systems, to equip students with the latest technological advancements in AI, deep learning, and data science.

This program offers a blend of theoretical knowledge and practical applications, enabling students to develop intelligent systems capable of solving real-world challenges.

Core areas of study include machine learning algorithms, deep learning techniques, natural language processing, computer vision, and robotics. The curriculum is structured to build strong foundations in programming, mathematics, and statistical modelling, while also focusing on advanced AI techniques and neural networks.

STAY AHEAD WITH VALUE-ADDED COURSES

To ensure that students remain at the forefront of technological advancements, the AIML program offers several recent and futuristic value-added courses, including:

- Deep Learning & Neural Networks
- Natural Language Processing (NLP)
- Computer Vision & Image Processing
- AI for Healthcare & Finance
- Edge Computing & IoT in AI
- Block chain & AI Integration
- Ethical AI & Responsible AI Development
- Cybersecurity & AI-driven Threat Detection

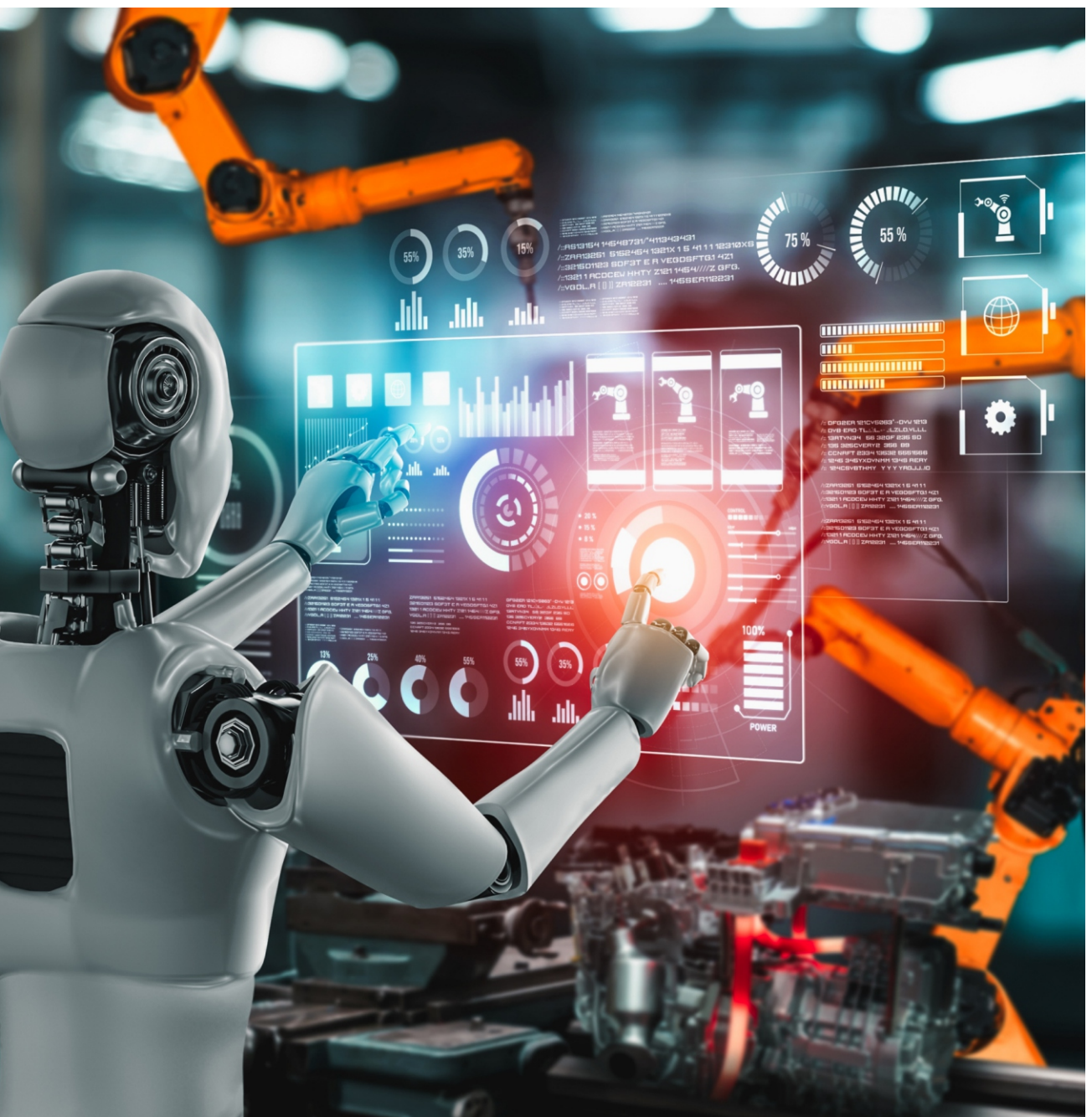
CAREER OPPORTUNITIES

Graduates of B. Tech CSE have diverse career paths in cutting-edge technology domains, such as:

- AI Engineer
- Machine Learning Engineer
- Data Scientist
- Computer Vision Engineer
- Robotics Engineer
- Big Data Analyst
- AI Research Scientist
- AI Ethics Consultant
- Cybersecurity AI Specialist
- Software Developer in AI-based applications

PROGRAM HIGHLIGHTS

- The B. Tech AI-ML program offers an industry-aligned curriculum with hands-on, project-based learning and access to state-of-the-art AI labs.
- Students benefit from internships and research collaborations with leading AI companies and institutes.
- Participation in hackathons and global competitions is encouraged, along with opportunities to earn certifications like those from Google Developer Groups, Microsoft Learn Student Ambassadors.
- Additionally, entrepreneurship support through incubation center and expert mentorship to foster AI-driven start-ups.
- Emphasizes ethical AI practices and real-world impact through innovation-driven learning



UNIQUE COURSES

The B. Tech CSE program offers specialized courses tailored to industry demands and future advancements:

- Machine Learning
- Computer Networks
- Deep Learning
- Internet of Things
- Soft Computing
- Game Theory
- Parallel Computing
- Human Computer Interaction
- Mining Massive Datasets
- Privacy Preserving Data Publishing

PROGRAM STRUCTURE

SEMESTER I

Engineering Mathematics-I
Engineering Chemistry
Introduction to ML using Python
English for Skill Enhancement
Universal Human Values
Manufacturing Practice
Constitution Of India
PRACTICAL
Engineering Chemistry Laboratory
Python Programming Laboratory
Design Thinking and Idea Laboratory
Engineering Workshop Practices
English Language & Communication Skills Laboratory

SEMESTER II

Engineering Mathematics-II
Engineering Physics
Programming for Problem Solving
Basic Electrical Engineering
Biology for Engineers
Computer Aided Engineering Graphics
Sports and Yoga Or NSS/NCC
PRACTICAL
Engineering Physics Laboratory
Basic Electrical Engineering Laboratory
Programming for Problem Solving Laboratory
Computer Aided Engineering Graphics

SEMESTER III

Engineering Mathematics-III
Data Structures
Digital Electronics
Computer Organization and Architecture
Object Oriented Programming through Java
PRACTICAL
Data Structures Laboratory
Digital Electronics Laboratory
Data visualization- R Programming/ Power BI
Object Oriented Programming through Java Laboratory
Gender Sensitization

B. TECH IN ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

SEMESTER IV

Discrete Mathematics
Operating Systems
Database Management Systems
Software Engineering
Design and Analysis of Algorithms
PRACTICAL
Operating Systems Laboratory
Database Management Systems Laboratory
Design and Analysis of Algorithms Laboratory
Environmental Science

SEMESTER V

Computer Networks
Machine Learning
Introduction to Artificial Intelligence
Professional Elective-I
Professional Elective -II
PRACTICAL
Computer Networks Laboratory
Machine Learning Laboratory
Introduction to Artificial Intelligence Laboratory
Summer Internship-I (3-4 week)
Essence of Indian Knowledge Tradition

SEMESTER VI

Knowledge Representation and Reasoning
Deep Learning
Nature Inspired Computing
Professional Elective - III
Professional Elective -IV
Open Elective-I
PRACTICAL
Deep Learning Laboratory
Professional Elective - III Laboratory
Intellectual Property Rights

SEMESTER VII

Natural Language Processing
Data Analytics

Professional Elective -V
Open Elective - II
Practical
Natural Language Processing Laboratory
Data Analytics Laboratory
Summer Internship-II (4 week)
Minor Project
Professional Practice, Law & Ethics

SEMESTER VIII

Organizational Behavior
Professional Elective – VI
Open Elective – III
Major Project
Extra- Curricular/ Co-Curricular Activity

PROFESSIONAL ELECTIVE - I (5th sem)

Graph Theory
Data Analytics
Data Warehousing and Business Intelligence
Quantum Computing
Spatial and Multimedia Databases
Image Processing

PROFESSIONAL ELECTIVE – II (5th sem)

Embedded Systems
Information Retrieval Systems
Distributed Databases
Natural Language Processing
Software Project Management
Computer Vision and Robotics

PROFESSIONAL ELECTIVE - III (6th sem)

Full Stack Development
Internet of Things
Scripting Languages
Mobile Application Development
DevOps
Computer Graphics

PROFESSIONAL ELECTIVE - IV (6th sem)

Data Mining
Soft Computing
Speech and Video Processing
Database Security

Software Testing Methodologies
Randomized Algorithms

PROFESSIONAL ELECTIVE - V (7th sem)

Advanced Algorithms
Robotic Process Automation
Blockchain Technology
Software Process & Project Management
Privacy Preserving Data Publishing
Mining Massive Datasets

PROFESSIONAL ELECTIVE - VI (8th sem)

Distributed Systems
Human Computer Interaction
Cyber Forensics
Data Stream Mining
Web Security
Semantic Web

OPEN ELECTIVE -I (6th sem)

Game Theory
VLSI Design
Real Time & Embedded System
Advanced Operating System
Agile Software Development

OPEN ELECTIVE - II (7th sem)

Mobile Computing
Expert Systems
Augmented Reality – Virtual Reality –Intermediate
Data Warehousing and Mining
Cloud Computing

OPEN ELECTIVE - III (8th sem)

Evolutionary Computing
GIS & Remote Sensing
Operation Research
Parallel Computing
Advanced Computer Network
Deep Learning
GIS & Remote Sensing
Operation Research
Parallel Computing
Advanced Computer Network

INNOVATE. CODE. CELEBRATE



HACK HORIZON

Hack Horizon 2025 – the 24-hour hackathon organized by the School of Engineering and IT in collaboration with GDG On Campus AJU!

Judges from Wipro, NIT Jamshedpur, TATA Steel, Affine, Bengaluru; Izzki Tech Solutions, Dexlab Analytics, Gurugram

450+ participants, round-the-clock coding, buzzing energy, and a dream turned into reality.



TECHNIKA

ARKA JAIN University's Annual Tech Fest organized by the School of Engineering and IT

Technika 4.0, the Annual Tech Fest of the University - a vibrant celebration of innovation and creativity - held on the 19th and 20th of November 2024!

With over 2000 registrations and participation from around 1500 talented individuals, the event brought together minds through 40 dynamic events, including technical competitions, fun challenges, and creative showcases.

CARVAAN ANNUAL EXCURSION TOUR



ARKA JAIN University, in collaboration with the Tata Steel Foundation, organized an insightful exposure visit to the Indian Institute of Science (IISc) in Bengaluru for six of its students from all the engineering departments.



A VISIT TO IISC BENGALURU

ONE-DAY OUTBOUND TRAINING - REDISCOVERING SELF: EXPLORING PERSONA



RUBAROO – WELCOME FUNCTION FOR NEW STUDENTS



RUUKSAT – FAREWELL FUNCTION FOR FINAL-YEAR STUDENTS



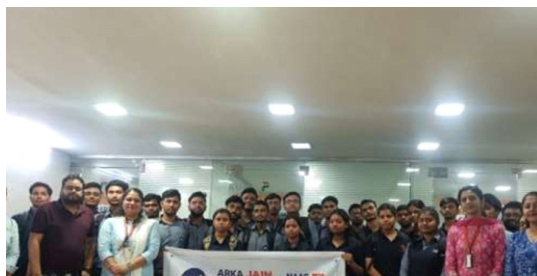
INDUSTRIAL VISITS - B. TECH 2024-25



ZF India PVT. Ltd.



Atomic Minerals Directorate for Exploration & Research(AMD), Jamshedpur



Paul Infotech Solutions



IDTR, Jamshedpur



STPI, Ranchi



TIMKEN



Neotechniq, Jamshedpur



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



CLUBS: LIVE. LEARN. LEAD

The **AJU IEEE Chapter** celebrates IEEE Day with great enthusiasm, bringing together students, faculty, and tech enthusiasts to commemorate innovation and collaboration in engineering and technology. The event features engaging talks, workshops, and interactive sessions, fostering a spirit of creativity and knowledge-sharing.

The **AJU IEEE Chapter** successfully organized an IEEE Women in Engineering Event on Strategies to Nurture Talents of Women to Promote Research and Technical Competencies. The event aimed to empower women in STEM by fostering research acumen, leadership skills, and technical excellence. It featured insightful sessions by industry experts and academicians, encouraging young women to pursue innovation and contribute meaningfully to the evolving world of science and technology.

The **Microsoft Student Learn Ambassadors AJU Chapter** proudly organized an intensive 5-day workshop titled "Mastering Web Applications and Version Control Systems." This comprehensive program was designed to equip participants with essential skills in modern web application development, alongside practical training. Through interactive sessions, hands-on projects, and expert guidance, attendees gained a deep understanding of building robust web applications and efficiently managing code versions.

The **Learning Professional & Communicative Language Club** organizes engaging Group Discussion, Personal Interview and similar interactive Sessions aimed at enhancing students' communication skills, critical thinking, and confidence in public speaking. The sessions provide a collaborative platform where participants explore diverse topics, articulate their viewpoints, and practice effective listening, speaking and argumentation techniques. Students hone their ability to express ideas clearly and persuasively.





The **Velocity Club — the Automotive Club of the University** — organizes a series of insightful Industrial Visits aimed at bridging the gap between academic learning and industry practices. These visits provide students with first-hand exposure to real-world manufacturing processes, advanced automotive technologies, and operational workflows within leading industrial setups. Participants deepen their understanding of the practical applications of mechanical engineering concepts.



The **Science Club organizes an inspiring celebration of National Science Day**, aimed at fostering scientific curiosity and promoting the spirit of innovation among students. The event features a vibrant array of activities including interactive science exhibitions, thought-provoking seminars, and engaging hands-on experiments. Participants get the opportunity to explore recent advancements in science and technology, exchange ideas, and showcase their innovative projects.



The **Science Club**, in collaboration with the **Institution's Innovation Council (IIC)**, organized an Expert Lecture Series on the theme "Genetics for Engineers." The series was designed to bridge the interdisciplinary gap between engineering and life sciences, introducing students to the fascinating world of genetics and its growing relevance in various engineering domains.

Spearheading AJU- Institute Innovation Council since its inception with path-breaking events and pioneering interface



A prestigious **Two-Day International Conference on "Recent and Technological Advances in Physics and Material Science (ICRTAPMS-2024)"** was successfully organized. The conference served as an interdisciplinary platform to exchange cutting-edge research, emerging trends, and technological innovations in the fields of physics and material science. The event fostered vibrant discussions on advanced materials, nanotechnology, quantum physics, energy solutions, and novel applications.

STUDENTS' & ALUMNI ACHIEVEMENTS



SANCHIT JOGAI

B TECH CSE - (BATCH 2018-22)

Teaching Assistant, Khoury College of Computer
Sciences Boston, Massachusetts, USA

MS in Cybersecurity
Northeastern University, Boston, Massachusetts



ANURAG KUMAR RAI

BATCH 2023-2027

Selected for 43rd Junior National
Shooting Ball Championship



SAGAR MALIND

BATCH 2022-26

Represented his NCC Directorate in
Annual Republic Day Camp



CHANDAN MAJHI

(BATCH 2021-25)

Microsoft Learn Student
Ambassador of AJU



KHUSHI RANI

(BATCH 2022-26)

Lead - Google Developer Group
(GDG) on Campus



VIDUSHI TIWARY

(BATCH 2020-24)

Best Speaker Award Winner
TCS YEP Annual IYD Debate
Competition 2023



AMAN JHA

(BATCH 2021-25)

Cyber Security Intern
Haryana Police, Gurugram
Research and Development Intern
Indian Institute of Technology, Indore



ROHIT RAJ

(BATCH 2022-26)

Paid Internship as
'Frontend Developer Intern' at
Iprep Learning Solutions Pvt. Ltd.





Anjalil Singh, B Tech CSE Batch 2023-27, Participant of Viksit Bharat Young Leaders Dialogue – National Youth Festival 25, held at Delhi. One of the 3000 participants selected from a pool of 30 Lacs. One of the 30 participants who represented Jharkhand at Bharat Mandapam.



Abhishek Kumar Mehta, B Tech CSE Batch 2024-28, awarded Scholarship from TATA Cummins Ltd. University Fee reimbursed, laptop, Internship opportunity from TATA Cummins. Out of 850+ applicants from Jamshedpur, he was one of the 25 Students who got the prestigious Nurturing Brilliance Scholarship.



Six of our B. Tech CSE students from the 2022-26 batch selected for the prestigious Accenture Mentorship Program

PLACEMENTS 2025

At a Glance



CHANDAN MAJHI

CSE

TESTALNG SOLUTIONS PVT. LTD.



AJIT MAHTO

ME
YAZAKI INDIA



SHOBHA HEMBROM

ME
TRIVENI EARTHMOVERS



AYUSH KUMAR SINGH

ME
YAZAKI INDIA



SANGITA SHEKHAR DEB

EEE
YAZAKI INDIA



SUMIT KUMAR PRAMANIK

EEE
KALA GENSET



PUJA MAHALI

EEE
YAZAKI INDIA

PARTIAL LIST OF RECRUITERS



OUR ALUMNI
LEADING THE CHARGE, SHAPING THE FUTURE.



PARESH BHAI PATEL
BATCH 2020-24
Hike Education



KUNDAN KUMAR SINGH
BATCH 2020-24
Accenture



ALOK KUMAR
BATCH 2020-24
Mahindra & Mahindra



ABHISHEK DUBEY
BATCH 2020-24
Placed in Wipro Pari



VIDUSHI TIWARY
BATCH 2019-23
Jamna Auto Industries



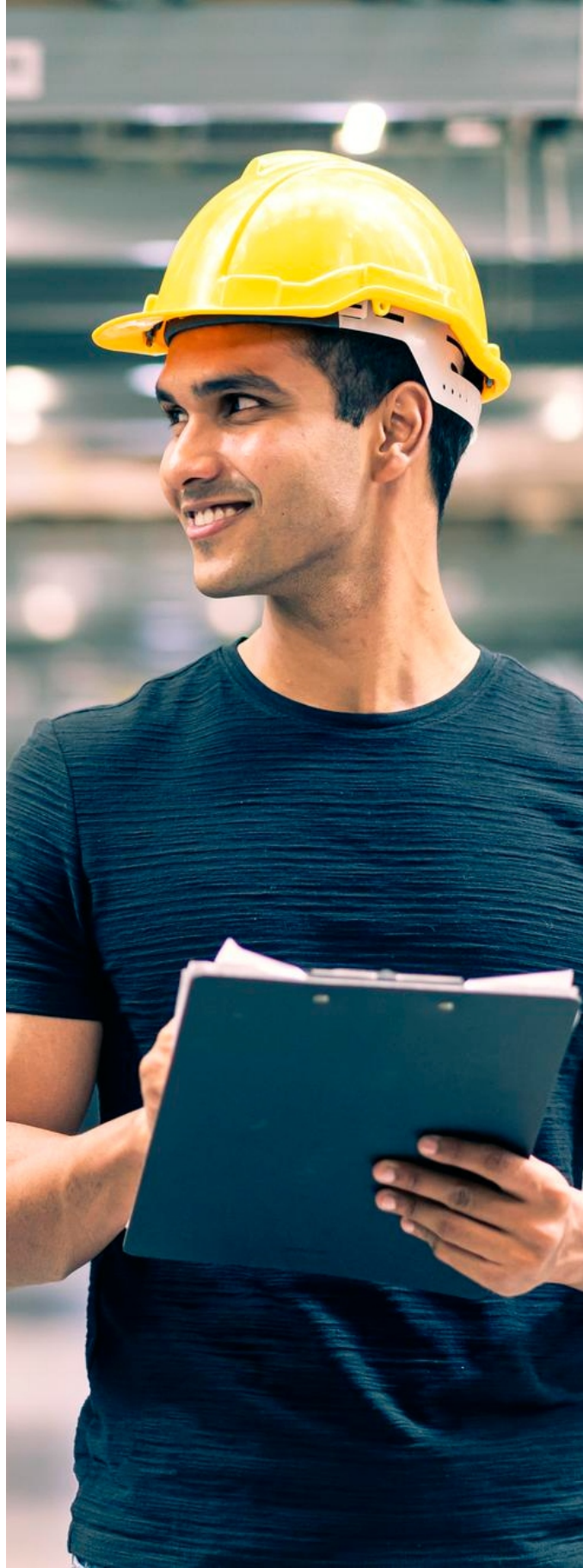
SWETA PRAMANIK
BATCH 2019-23
Flipkart



ASHTA KUMARI
BATCH 2019-23
Hike Education



JAIDEV LAL
BATCH 2018-22
TATA Steel



VALUE ADDED COURSES - VIA

LinkedIn  LEARNING

- 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

LinkedIn  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 micro-credential (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 AI Essentials
- IBM Data Science
- Python for everyone
- Strategic Leadership and Management
- AI 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 tools 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

COMMITTEES, CENTRES, SOCIETIES, STUDENT CHAPTERS/ BRANCHES, CELLS, CLUBS, UNITS, COUNCILS

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
- RESEARCH AND DEVELOPMENT CELL
- AJU NYAY SAMARTHAN CELL – LEGAL AID & AWARENESS CELL (SCHOOL OF LAW)



4.COUNCILS



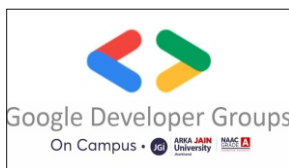
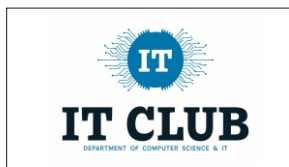
5. SOCIETIES



6.UNITS



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.- 1800-1200-200
- 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



Website: www.arkajainuniversity.ac.in



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

SCAN FOR WEBSITE

