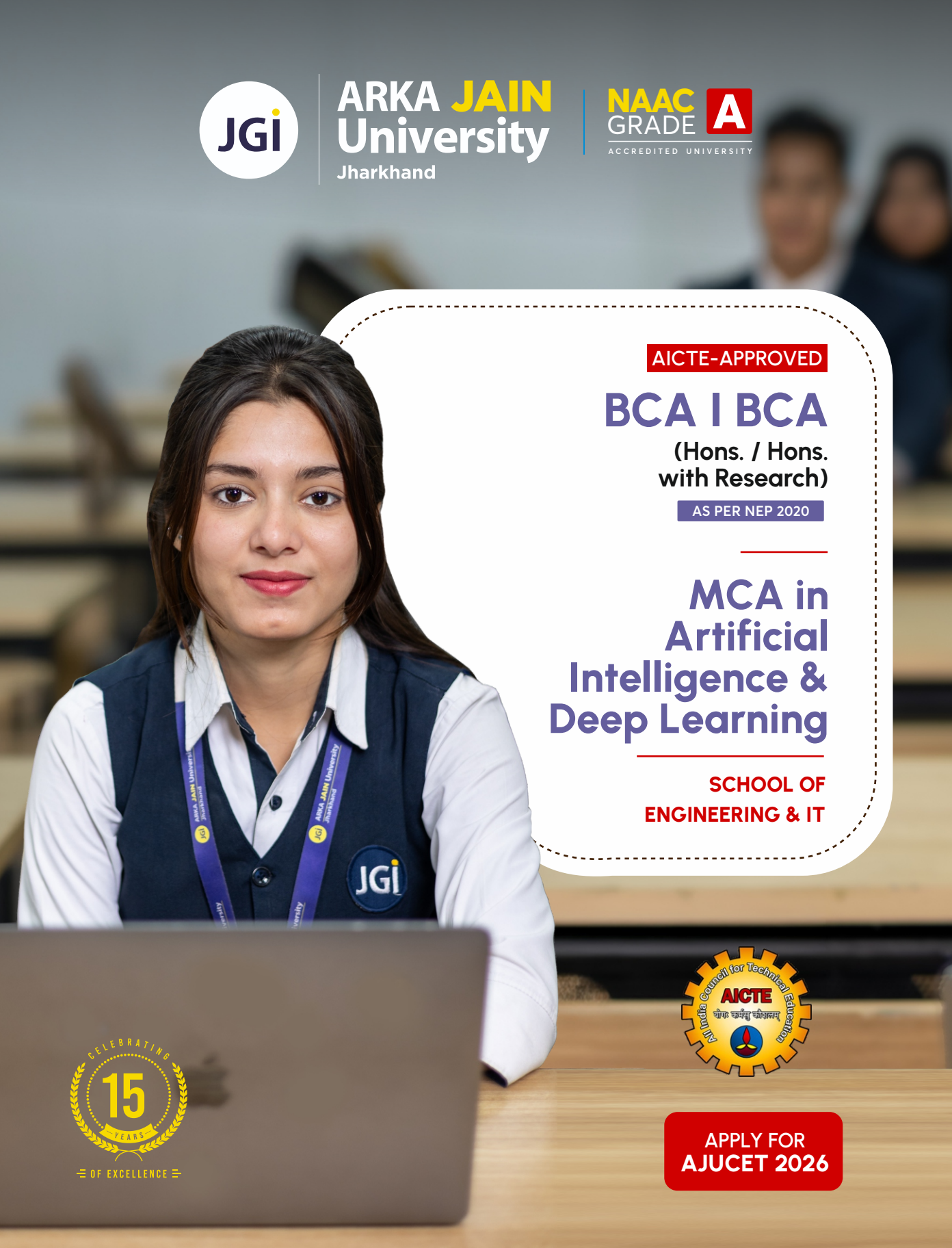


JGI

ARKA JAIN University
Jharkhand

NAAC GRADE A
ACCREDITED UNIVERSITY

AICTE-APPROVED

# BCA I BCA

(Hons. / Hons. with Research)

AS PER NEP 2020

# MCA in Artificial Intelligence & Deep Learning

SCHOOL OF ENGINEERING & IT

CELEBRATING 15 YEARS OF EXCELLENCE

All India Council for Technical Education
AICTE
योगः कर्मसु कौशलम्

APPLY FOR
AJUCET 2026

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.

First **NAAC 'A'** Grade Accredited State Private University (in the First Cycle) in Bihar, Jharkhand & West Bengal.

The University has its root in the prestigious JAIN Group of Instutions, 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, 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

## RANKED 38TH AMONG PRIVATE & DEEMED MULTI-DISCIPLINARY UNIVERSITIES IN INDIA

in THE WEEK-Hansa Research Survey 2026 - India's Best Universities

5

## RECOGNIZED IN THE R WORLD INSTITUTIONAL RANKING - GREEN RANKINGS 2026

with the prestigious Titanium+ Band, under the category **"Institution of Accelerated Sustainability Impact"**

6

## ISO-CERTIFIED

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

7

## AIU MEMBER

Member of Association of Indian Universities

8

## 80+ MOUS

Learn from the best, network with the brightest

9

## ROBUST CAMPUS RECRUITMENT

₹ 23 LPA Highest Package, 3500+ Placements and 750+ Companies visited till date

## RAGGING-FREE CAMPUS

A ragging-free campus that fosters a safe, respectful, and welcoming environment for every student.

# How the Year Unfolds at

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

**AARAMBH**

Welcome Day Function for First-year Students

**Induction-cum-Orientation**

and Beginning of Classes for First-year Students

**Jain Premier League**

Inter-school Annual T-20 Cricket Tournament


Beginning of Even Semester Classes (Except First Year)

**Aagaaz**

Annual Cultural Fest

Odd Semester End-term Examination (First Year)

**Shikhar**

The Annual Entrepreneurial Conclave


Beginning of Even Semester Classes (First Year)

# ARKA JAIN University

**Roo-b-Roo**

Fresher's Function for First-year Students

**Navotsav**

Gandhi / Shastri Jayanti-cum-Navotsav Celebration Week

**Roshni**

Annual Celebration of Light

**Carvaan**

Annual Excursion Tour

**Runbhoomi**

Annual Sports Meet

Odd Semester End-term Examination (Except First Year)

**Holi Invasion**

Annual Pre-Holi Bash

**Rukhsat**

Farewell to Final Year Students


Even Semester End-term Examination

# TOP 5

## 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. 80+ MOUs (International & National) with Corporate and Academic Partners

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


**SCHOLARSHIP** For Scholarships, visit - https://arkajainuniversity.ac.in/admissions/scholarship/

AICTE-APPROVED

3+1 Years

# BCA | BCA (HONS. / HONS. WITH RESEARCH)

**(AS PER NEP 2020)**

## BUILDING FUTURE-READY SOFTWARE PROFESSIONALS, APPLICATION DEVELOPERS AND TECHNOLOGY INNOVATORS

- Designed in alignment with the Four-Year Undergraduate Program (FYUGP) under NEP 2020.
- Tailor your academic experience over 3+1 years while acquiring essential computing, programming and software development skills.
- At the end of the second year, students can choose from the following specializations:

  **DATA SCIENCE** | **INTERNET OF THINGS (IOT)** | **FULL STACK DEVELOPMENT**

- Students can exit after 3 years with a BCA Degree.
- 4th Year is optional, leading to BCA (Honours / Honours with Research) Degree.
- After 4 years, students may go for a One-Year Master's Degree Program (Lateral Entry).
- Students who complete the Four-Year Bachelor's Honours with Research Degree Program with a minimum CGPA of 7.5 out of 10 may pursue a Ph.D. Program as per UGC (Ph.D.) Regulations aligned with NEP 2020, subject to institutional norms.

## INTRODUCTION

The Bachelor of Computer Application (Honours with Research) at ARKA JAIN University is a future-focused undergraduate programme designed to prepare students for careers in Information Technology and Software Development. The curriculum combines a strong foundation in computer science with practical learning in programming, databases, networking, cloud computing, web technologies and software engineering. Following the Choice-Based Credit System (CBCS), students can specialize in Data Science, Internet of Things (IoT) or Full Stack Development, while gaining hands-on experience through laboratories, projects, internships, industry interactions and research, enabling them to excel in today's technology-driven world.

## QUICK FACTS

- **ELIGIBILITY :** Candidate should have passed Senior Secondary Examination (10+2) from any recognized Board and should have a valid score card of the entrance examination conducted by the University (AJUCET) or Common University Entrance Test (CUET).
- **DURATION :** 3+1 Years Full-time (6+2 Semesters)
- **CURRICULUM COMPONENTS :** Core Computing Courses, Programming Labs, Professional Electives, Ability Enhancement Courses, Skill Enhancement Courses, Projects, Internships and Research.
- **SPECIALIZATIONS AVAILABLE :**

  Data Science  Internet of Things (IoT)  Full Stack Development

- **CAREER-FOCUSED CURRICULUM :** A carefully designed blend of Computer Science, Artificial Intelligence, Deep Learning, Data Analytics, Machine Learning, Cloud Technologies and Industry-Oriented Learning.

## PROGRAM DIFFERENTIATORS

- Future-focused curriculum aligned with NEP 2020 and evolving industry needs.
- Opportunity to specialize in Data Science, Internet of Things (IoT) or Full Stack Development.
- Strong emphasis on programming, software development and emerging technologies.
- Hands-on learning through modern computer laboratories, projects and internships.
- Exposure to cloud computing, databases, web technologies, mobile application development and data analytics.
- Industry-oriented curriculum with experiential learning and project-based pedagogy.
- Research opportunities under the Honours with Research pathway.
- Career-focused ecosystem designed to enhance technical expertise, innovation and employability.

## BEST PRACTICES

- **EXPERIENTIAL LEARNING**

  Hands-on learning through programming laboratories, software development projects, hackathons, coding competitions and practical assignments.

- **360-DEGREE DEVELOPMENT THROUGH LEARNEDGE SATURDAYS**

  · Technical workshops, coding challenges, guest lectures and team-building activities.

  · Pre-placement training (CRiT), aptitude development, communication skills and value-added courses.

- **INDUSTRY-ORIENTED LEARNING**

  Exposure to current industry practices through internships, live projects, seminars, technical events and industry interactions.

- **INNOVATION & RESEARCH CULTURE**

  Students are encouraged to undertake innovative projects, participate in research activities and develop technology-driven solutions to real-world challenges.

- **CAREER DEVELOPMENT SUPPORT**

  Guidance for higher education, technical certifications, competitive examinations and career opportunities in the IT industry.

## PROGRAM TAKEAWAYS

- Build a strong foundation in Computer Science, Programming and Software Development.
- Develop expertise in programming languages, databases, networking and web technologies.
- Gain practical exposure through laboratories, internships, live projects and industry interactions.
- Learn to design, develop and deploy modern software applications.
- Develop analytical thinking, computational problem-solving and logical reasoning skills.
- Gain proficiency in emerging technologies including Cloud Computing, Data Science, IoT and Full Stack Development.
- Develop teamwork, communication and project management skills essential for IT professionals.
- Enhance employability through industry-oriented learning, internships and technical skill development.
- Develop innovation and entrepreneurial capabilities to create technology-driven solutions.
- Be prepared for higher education, research and professional careers in Information Technology.

# SPECIALIZATION PATHWAYS

At the end of the Second Year, students may choose one of the following specialization tracks based on their interests and career aspirations.

- **DATA SCIENCE**

  Develop expertise in data analytics, machine learning, artificial intelligence, predictive analytics and business intelligence for data-driven decision making.

- **INTERNET OF THINGS (IOT)**

  Gain practical knowledge in embedded systems, IoT architecture, sensor technologies, cloud-enabled IoT solutions and smart connected devices.

- **FULL STACK DEVELOPMENT**

  Build end-to-end software development skills covering front-end technologies, back-end programming, databases, cloud deployment and DevOps practices.

# CAREER OPPORTUNITIES

### Software Development

- Software Developer
- Full Stack Developer
- Web Developer
- Mobile Application Developer

### Data & Analytics

- Data Analyst
- Business Intelligence Associate
- Database Developer
- Data Engineer

### Networking & Cloud

- Cloud Support Associate
- Network Administrator
- System Administrator
- Technical Support Engineer

### Emerging Technologies

- IoT Developer
- AI Application Developer
- Software Tester
- DevOps Associate

### Entrepreneurship & Higher Education

- Technology Entrepreneur
- IT Consultant
- Research Associate
- Higher Studies (MCA, M.Sc., MBA and other postgraduate programs)


## KEY COURSES

- **SEMESTER I :** Programming in C, Computer Fundamentals, Discrete Mathematics
- **SEMESTER II :** Object Oriented Programming using Java, Numerical & Statistical Methods, Database Fundamentals
- **SEMESTER III :** Python Programming, Data Structures & Algorithms, Management Information Systems
- **SEMESTER IV :** Database Management Systems, Web Technologies, Software Development
- **SEMESTER V :** Mobile Application Development, Data Mining & Data Analytics, Professional Electives
- **SEMESTER VI :** Software Engineering, Project with Internship, Advanced Professional Electives
- **SEMESTER VII* :** Advanced Research Methodology, Major Electives, Research Project – I
- **SEMESTER VIII* :** Research & Publication Ethics, Emerging Technologies, Major Project – II

## MAJOR HIGHLIGHTS

- Future-ready curriculum aligned with NEP 2020 and industry requirements.
- Multiple specialization options in Data Science, Internet of Things (IoT) and Full Stack Development.
- Strong emphasis on programming, software development and practical learning.
- Hands-on experience through laboratories, projects, internships and industry exposure.
- Focus on emerging technologies including Cloud Computing, Data Analytics, Web Technologies and Mobile Application Development.
- Strong emphasis on innovation, research, employability and entrepreneurship.

# PROGRAM STRUCTURE

- The BCA (Honours with Research) Program consists of 6+2 Semesters.
- Students have the option to graduate with a BCA Degree after Six Semesters.
- The 7th and 8th Semesters are optional and lead to a BCA (Honours / Honours with Research) Degree.
- During the 7th and 8th Semesters, students undertake advanced specialization courses and research projects aligned with their chosen domain of specialization, enabling them to develop advanced technical competencies and research capabilities.

## SEMESTER I

| |
|---|
| Computer Architecture |
| Computer Architecture Lab |
| Discrete Mathematics |
| Entrepreneurship Development |
| Business Communication |
| Problem Solving using C |
| Problem Solving using C Lab |
| VAC Elective I |

## SEMESTER II

| |
|---|
| Data Structure using C |
| Data Structure using C Lab |
| Numerical & Statistical Methods |
| Cyber Law and Digital Ethics |
| Computer Networks |
| Object Oriented Programming with C++ |
| Object Oriented Programming with C++ Lab |
| VAC Elective II |

## SEMESTER III

| |
|---|
| Object Oriented Programming Using Java |
| Object Oriented Programming Using Java Lab |
| Python Programming |
| Python Programming Lab |
| Design and Analysis of Algorithms |
| Fundamentals of Digital Marketing |
| Management Information System |
| Corporate Communication |
| Data Science / IoT – Cyber Security (4 Credit) / Full Stack Development – Advanced Styling Techniques using CSS3 and Tailwind CSS |
| Database Management Systems |
| Database Management Systems Lab |
| VAC Elective III |

## SEMESTER IV

| |
|---|
| Data Science (Elective I) / IOT (Elective I) / Full Stack Development (Elective I) – Theory |
| Data Science (Elective I) / IOT (Elective I) / Full Stack Development (Elective I) – Practical |
| Data Science (Elective II) / IOT (Elective II) / Full Stack Development (Elective II) – Theory |
| Data Science (Elective II) / IOT (Elective II) / Full Stack Development (Elective II) – Practical |
| Data Science / IoT – Introduction to Data Science (4 Credit) / Full Stack Development – Web Design with HTML5 |

## SEMESTER – V

| |
|---|
| Enterprise Java |
| Enterprise Java Lab |
| Data Science / IoT - Machine Learning/ Full Stack Development – Frontend Development with React.js |
| Mobile Application Development |
| Mobile Application Development Lab |
| Data Science - (Elective III) IoT – (Elective III) Full Stack Development – (Elective III) |
| Data Science – (Elective IV) IOT-(Elective IV) Full Stack Development - (Elective IV) (Theory) |
| Data Science - (Elective IV) IOT - (Elective IV) Full Stack Development - (Elective IV) (Practical) |

## SEMESTER – VI

| |
|---|
| Software Engineering |
| Data Science / IoT – Web Programming Full Stack Development – Backend Web Development with Express.js |
| Data Science / IoT – Web Programming Lab Full Stack Development – Backend Web Development with Express.js Lab |
| Data Science – (Elective V) IoT – (Elective V) Full Stack Development – (Elective V) (Theory |
| Data Science – (Elective V) IoT – (Elective V) Full Stack Development – (Elective V) (Practical) |
| Data Science – (Elective VI) IoT – (Elective VI) Full Stack Development – (Elective VI) (Theory) |
| Data Science – (Elective VI) IoT – (Elective VI) Full Stack Development – (Elective VI) (Practical) |
| Project with Internship |

## SEMESTER VII

| |
|---|
| Research Methodology |
| DSE – VIII |
| Cryptography and Network Security |
| Introduction to Big Data |
| Data Visualization and Interpretation |
| Data Visualization and Interpretation Lab |

## SEMESTER VIII

| |
|---|
| Natural Language Processing |
| R Programming for Machine Learning |
| Research |
| Project |

## ELECTIVE I

| DATA SCIENCE |
|---|
| **THEORY** |
| Python for Data Science |
| R Programming |
| Cloud-Based Data Engineering |
| **PRACTICAL** |
| Python for Data Science Lab |
| R Programming Lab |
| Cloud Lab |

## ELECTIVE II

| DATA SCIENCE |
|---|
| **THEORY** |
| MLOps and Model Deployment |
| Parallel Computing |
| Information Retrieval |
| **PRACTICAL** |
| ML Deployment Lab using Flask |
| Parallel Computing Lab |
| Information Retrieval Lab |

## ELECTIVE III

| DATA SCIENCE |
|---|
| Design and analysis of Experiments |
| Data Analytics |
| Deep Learning |

| FULL STACK DEVELOPMENT |
|---|
| REST APIs and Web Services |
| DevOps |
| UI Libraries (Material UI, Ant Design) |

| INTERNET OF THINGS |
|---|
| Cloud Computing |
| Digital Image Processing |
| Block chain Technologies |

## ELECTIVE IV

| DATA SCIENCE |
|---|
| **THEORY** |
| No SQL Databases |
| Convolutional Neural Network |
| Operation Research |
| **PRACTICAL** |
| No SQL Databases Lab |
| Convolutional Neural Network Lab |
| Operation Research (O.R.) Lab. using C/ Python |

| FULL STACK DEVELOPMENT |
|---|
| **THEORY** |
| Python-Django for Modern Web Solutions |
| REST API and Microservices with Java-Spring Boot |
| PostgreSQL for Scalable Data Solutions |
| **PRACTICAL** |
| Python-Django Application Development Lab |
| REST API Development using Spring Boot Lab |
| Advanced SQL and PostgreSQL Lab |

| INTERNET OF THINGS |
|---|
| **THEORY** |
| Embedded C with Arduino |
| Artificial Neural Networks |
| Real-Time Operating Systems (RTOS) |
| **PRACTICAL** |
| Embedded C with Arduino Lab |
| Artificial Neural Networks Lab |
| Real-Time Operating Systems (RTOS) Lab |

## ELECTIVE V

| DATA SCIENCE |
|---|
| **THEORY** |
| Exploratory Data Analysis and Data Visualization Techniques |
| Time Series Analysis |
| Explainable AI (XAI) |
| **PRACTICAL** |
| Time Series Analysis Lab |
| Exploratory Data Analysis and Data Visualization Techniques Lab |
| Lab with LIME, SHAP |

| FULL STACK DEVELOPMENT |
|---|
| **THEORY** |
| Modern Web Interface Design with Vue.js |
| MVC Framework and RESTful Application Design with Rails |
| Android App Development with Kotlin |
| **PRACTICAL** |
| Modern Web Interfaces using Vue.js Lab |
| MVC Framework & RESTful API Design Lab (Rails) |
| Android Development using Kotlin Lab |

| INTERNET OF THINGS |
|---|
| **THEORY** |
| Convolutional neural networks |
| Robotics |
| IoT Security and Privacy |
| **PRACTICAL** |
| Convolutional neural networks Lab |
| Robotics Lab |
| IoT Security Lab |

## ELECTIVE VI

| DATA SCIENCE |
| --- |
| Digital Image Processing |
| Data Visualization |
| Drone Technology |

| INTERNET OF THINGS |
| --- |
| Information Assurance and Security |
| Rich Internet Application |
| Drone Technology |

| FULL STACK DEVELOPMENT |
| --- |
| Scalable Data Solutions using MongoDB |
| Hybrid Mobile App Development Lab with Flutter |
| Backend Services and RESTful Web API Development |

## ELECTIVE VII - ALL

| ELECTIVE VII - ALL |
| --- |
| Soft Computing |
| Advanced Computer Network |
| Distributed System |

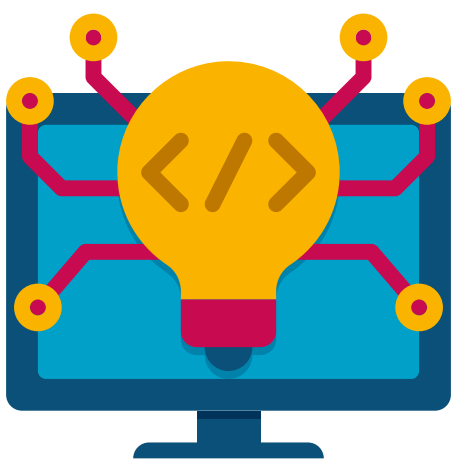
| VAC – ELECTIVE -I |
| --- |
| Environmental Studies |
| Global Citizenship Education and Education for Sustainable Development |

| VAC – ELECTIVE -II |
| --- |
| Health & Wellness |
| Gender Sensitization |

| VAC – ELECTIVE -III |
| --- |
| Indian Knowledge System |
| Community Engagement & Services |

## AT THE END OF THE PROGRAM, STUDENTS WILL RECEIVE

- BCA Degree after 3 Years / BCA (Honours / Honours with Research) Degree after 4 Years from ARKA JAIN University.
- Opportunity to graduate with specialization in Data Science, Internet of Things (IoT) or Full Stack Development.
- Industry-ready knowledge and practical expertise in software development, programming, databases, web technologies, cloud computing and emerging digital technologies.




adidas

# BCA WITH DATA ANALYTICS (IN ASSOCIATION WITH IOA, UK)

Institute of Analytics
The Global Body for Analytics

- Globally recognized curriculum, endorsed by the Institute of Analytics (IoA), UK.
- Dual certification: AJU degree + IoA Affiliate Membership + ISDC Certification.
- Industry-relevant modules covering R, Python, SQL, Big Data, Machine Learning, Deep Learning, NLP, and Computer Vision.
- Equips students for high-demand roles such as Data Analyst, Machine Learning Engineer, and Data Scientist.

## PROGRAM HIGHLIGHTS

- **GLOBAL EDGE** : Industry-relevant training in analytics tools in collaboration with the Institute of Analytics (UK).
- **TRIPLE CREDENTIAL ADVANTAGE** : Earn a university degree, IoA (UK) Affiliate Membership, and a professional certification from the International Skill Development Corporation (ISDC).
- **BLENDED LEARNING APPROACH** : Curriculum delivered through a mix of academic sessions & expert-led training by certified ISDC & IoA professionals.
- **INDUSTRY INTEGRATION** : Enriched by seminars, corporate workshops, and live interactions with industry experts.
- **ENHANCED EMPLOYABILITY** : Globally recognized certifications boost job opportunities across India and international markets.

## BENEFITS OF IOA (UK) CREDENTIAL

- Global Recognition & official IoA designation
- Access to Continuous Professional Development programs and learning portal
- Invites to expert-led industry briefings
- Networking through annual & regional events
- Job listings & career support via IoA portal

## MODULES

| | |
|---|---|
| Module 1 : R Programming | Module 5 : Machine Learning & AI |
| Module 2 : Python Programming | Module 6 : Deep Learning |
| Module 3 : SQL | Module 7 : Natural Language Processing |
| Module 4 : Big Data Analytics | Module 8 : Computer Vision |

## KEY BENEFITS OF ANALYTICS

Smarter Decision-Making | Stronger Strategic Execution |
Deeper Customer Insights | Enhanced Risk Awareness | Improved Financial Outcomes & More

AICTE-APPROVED

3+1 Years

# BCA IN ARTIFICIAL INTELLIGENCE & DEEP LEARNING (WITH IBM)

**(AS PER NEP 2020)**

## BUILDING AI PROFESSIONALS, MACHINE LEARNING EXPERTS AND FUTURE TECHNOLOGY LEADERS

- Designed in alignment with the Four-Year Undergraduate Program (FYUGP) under NEP 2020.
- Tailor your academic experience over 3+1 years while acquiring essential computing, programming, artificial intelligence and deep learning skills.
- Students can exit after 3 years with a BCA Artificial Intelligence & Deep Learning (Honours) Degree.
- 4th Year is optional, leading to BCA Artificial Intelligence & Deep Learning (Honours with Research) Degree.
- After 4 years, students may go for a One-Year Master's Degree Program (Lateral Entry).
- Students who complete the Four-Year Bachelor's Honours with Research Degree Program with a minimum CGPA of 7.5 out of 10 may pursue a Ph.D. Program as per UGC (Ph.D.) Regulations aligned with NEP 2020, subject to institutional norms.

## INTRODUCTION

The BCA (Honours with Research) in Artificial Intelligence & Deep Learning at ARKA JAIN University is designed to prepare students for the next generation of intelligent technologies transforming industries across the globe.

Offered in association with IBM, the program integrates computer science fundamentals with advanced concepts in Artificial Intelligence, Deep Learning, Predictive Analytics, Natural Language Processing, Computer Vision and Data Analytics. Students gain hands-on experience through practical laboratories, AI-driven projects, industry case studies and exposure to modern AI frameworks and tools.

The curriculum emphasizes innovation, analytical thinking, problem-solving and real-world application development, preparing graduates to excel in AI-powered industries and emerging technology domains.


IBM
IBM

## QUICK FACTS

- **ELIGIBILITY :** Candidate should have passed Senior Secondary Examination (10+2) from any recognized Board and should have a valid score card of the entrance exam conducted by the University, AJUCET or CUET.
- **DURATION :** 3+1 Years Full-time (6+2 Semesters)
- **CURRICULUM COMPONENTS :** Core Computing Courses, Artificial Intelligence & Deep Learning Specialization Courses, Professional Electives, Research Projects, Industry Exposure and Skill Enhancement Courses.
- **CAREER-FOCUSED CURRICULUM :** A carefully designed blend of Computer Science, Artificial Intelligence, Deep Learning, Data Analytics, Machine Learning, Cloud Technologies and Industry-Oriented Learning.

---

## PROGRAM DIFFERENTIATORS

- Industry-integrated curriculum developed in association with IBM.
- Strong focus on Artificial Intelligence, Machine Learning and Deep Learning technologies.
- Hands-on learning through AI laboratories, projects and practical applications.
- Exposure to Predictive Analytics, Data Mining, Natural Language Processing and Computer Vision.
- Access to IBM learning resources, certifications and industry-aligned learning modules.
- Research-oriented curriculum aligned with emerging technology trends.
- Strong focus on innovation, problem-solving and intelligent system development.
- Career-focused learning ecosystem aligned with future technology requirements.

---

## BEST PRACTICES

- **IBM-INTEGRATED LEARNING**

  Industry-aligned curriculum, learning resources and exposure to emerging technologies through collaboration with IBM.

- **EXPERIENTIAL PROJECT-BASED LEARNING**

  Hands-on learning through AI projects, predictive modelling, intelligent systems development and real-world problem solving.

- **ADVANCED COMPUTING LABS**

  Practical exposure through programming, data analytics, machine learning and deep learning laboratories.

- **INDUSTRY EXPERT INTERACTIONS**

  Workshops, seminars, guest lectures and mentorship sessions by industry professionals and technology experts.

**RESEARCH & INNOVATION CULTURE**

- Encouraging students to explore emerging technologies through research projects, innovation challenges and advanced electives.

## PROGRAM TAKEAWAYS

Upon successful completion of the program, students will:

- Build strong foundations in Computer Science, Programming and Software Development.
- Develop expertise in Artificial Intelligence, Deep Learning and Machine Learning technologies.
- Gain practical exposure through AI projects, case studies, laboratories and industry interactions.
- Learn to develop intelligent systems, predictive models and data-driven applications.
- Acquire skills in Data Analytics, Natural Language Processing and Computer Vision.
- Develop analytical thinking, computational problem-solving and innovation capabilities.
- Gain proficiency in modern programming tools, frameworks and emerging technologies.
- Enhance employability through industry-oriented learning and practical skill development.
- Develop research aptitude in Artificial Intelligence and Intelligent Systems.
- Be prepared for higher education, research and advanced technology careers.

## CAREER OPPORTUNITIES

### Artificial Intelligence Careers

- AI Developer
- AI Engineer
- Deep Learning Engineer
- Machine Learning Engineer
- AI Solutions Specialist

### Data Science & Analytics

- Data Analyst
- Data Scientist
- Predictive Analytics Specialist
- Business Intelligence Analyst

### Intelligent Systems & Automation

- Computer Vision Engineer
- NLP Specialist
- Automation Engineer
- Intelligent Systems Developer

### Software Development & Cloud

- Software Developer
- Cloud Application Developer
- Full Stack Developer
- Application Engineer

### Research & Emerging Technologies

- AI Research Associate
- Technology Consultant
- Innovation Analyst
- Research Assistant

## MAJOR HIGHLIGHTS

- Industry-integrated curriculum developed in association with IBM.
- Strong focus on Artificial Intelligence, Deep Learning and Machine Learning.
- Hands-on learning through AI projects, laboratories and practical applications.
- Exposure to Predictive Analytics, NLP, Data Mining and Computer Vision.
- Access to IBM learning resources and certification opportunities.
- Strong emphasis on employability, innovation and future technology readiness.

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## KEY COURSES

- **SEMESTER I :** Computer Architecture, Problem Solving using C, Discrete Mathematics
- **SEMESTER II :** Programming with Java, Cloud Fundamentals, Object Oriented Programming with C++
- **SEMESTER III :** Python Programming, Data Visualization, Data Structures through C
- **SEMESTER IV :** Predictive Analytics, Design and Analysis of Algorithms, Database Management Systems
- **SEMESTER V :** Artificial Intelligence Analyst, Mobile Application Development, Data Mining and Data Analysis
- **SEMESTER VI :** Deep Learning, Convolutional Neural Networks, Software Engineering
- **SEMESTER VII* :** Research Methodology, Cryptography and Network Security, Introduction to Big Data
- **SEMESTER VIII* :** Natural Language Processing, R Programming for Machine Learning, Research Project

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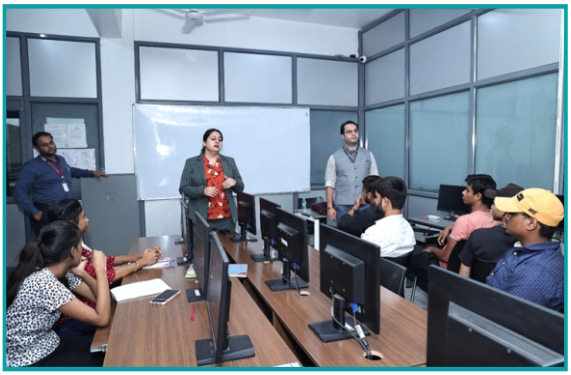
## ADVANTAGES OF THE IBM CREDENTIALS

- Industry-recognized credentials from IBM that validate learners' knowledge and skills in emerging technologies.
- Opportunity to earn globally accepted IBM Digital Badges and Joint Certificates.
- Exposure to industry-relevant tools, technologies and best practices used by leading organizations worldwide.
- Enhanced employability through credentials aligned with current industry requirements.
- Learning pathways designed to bridge the gap between academic concepts and practical industry applications.
- Access to IBM-curated learning content, technology resources and experiential learning opportunities.
- Recognition of specialized skills in Artificial Intelligence, Machine Learning, Data Analytics and Emerging Technologies.

IBM Software Lab
on Emerging Technologies

Initiative of the Career Education Program



# IBM DAY CELEBRATION

# PROGRAM STRUCTURE

- The BCA (Honours with Research) in Artificial Intelligence & Deep Learning Program consists of 6+2 Semesters.
- Students have the option to graduate with a BCA (Honours) Degree in Artificial Intelligence & Deep Learning after Six Semesters.
- The 7th and 8th Semesters are optional and lead to a BCA (Honours with Research) Degree in Artificial Intelligence & Deep Learning.
- During the 7th and 8th Semesters, students undertake advanced specialization courses and research projects in Artificial Intelligence, Machine Learning and Emerging Technologies

## SEMESTER I

| |
|---|
| Computer Architecture |
| Computer Architecture Lab |
| Discrete Mathematics |
| Entrepreneurship Development |
| Business Communication |
| Problem Solving using C |
| Problem Solving using C Lab |
| VAC Elective I |

## SEMESTER II

| |
|---|
| Programming with Java |
| Programming with Java Lab |
| Cloud Fundamentals |
| Cloud Fundamentals Lab |
| Cyber Law and Digital Ethics |
| Numerical & Statistical Methods |
| Object Oriented Programming with C++ |
| Object Oriented Programming with C++ Lab |
| VAC Elective II |

## SEMESTER III

| |
|---|
| Data Structure through C |
| Data Structure through C Lab |
| Python Programming |
| Python Programming Lab |
| Data Visualization |
| Data Visualization Lab |
| Fundamentals of Digital Marketing |
| Management Information System |
| Corporate Communication |

## SEMESTER IV

| |
|---|
| (Elective I Theory) |
| (Elective I Practical) |
| (Elective II Theory) |
| (Elective II Practical) |
| Predictive Analytics |
| Predictive Analytics Lab |
| Design and Analysis of Algorithms |
| Database Management Systems |
| Database Management Systems Lab |
| VAC Elective III |

## SEMESTER V

| |
|---|
| Artificial Intelligence Analyst |
| Artificial Intelligence Analyst Lab |
| Enterprise Java |
| Enterprise Java Lab |
| Mobile Application Development |
| Mobile Application Development Lab |
| (Elective III) |
| Data Mining and Data Analysis |

## SEMESTER VI

| |
|---|
| Software Engineering |
| Deep Learning |
| Deep Learning Lab |
| (Elective IV) |
| Convolutional Neural Networks |
| Convolutional Neural Networks Lab |
| Project with Internship |

## SEMESTER VII

| |
|---|
| Research Methodology |
| DSE - V |
| Cryptography and Network Security |
| Introduction to Big Data |
| Operating System |
| Operating System Lab |

### ELECTIVE GROUP I (CHOOSE ANY ONE)

| THEORY |
|---|
| Cryptography |
| Pervasive Computing |
| Quantum Computing |
| **PRACTICAL** |
| Cryptography Lab |
| Pervasive Computing Lab |
| Quantum Computing Lab |

### ELECTIVE GROUP III (CHOOSE ANY ONE)

| |
|---|
| Information Extraction and Retrieval |
| Optimization Techniques |
| Software Project Management |

### ELECTIVE GROUP V

| |
|---|
| Soft Computing |
| Advanced Computer Networks |
| Distributed Systems |

### VALUE ADDED COURSES (VAC)

| VAC Elective I (Choose Any One) |
|---|
| Environmental Studies |
| Global Citizenship Education and Education for Sustainable Development |

| VAC Elective III (Choose Any One) |
|---|
| Indian Knowledge System |
| Community Engagement & Services |

| VAC Elective II (Choose Any One) |
|---|
| Health & Wellness |
| Gender Sensitization |

## SEMESTER VIII

| |
|---|
| Natural Language Processing |
| R Programming for Machine Learning |
| Research |
| Project |

### ELECTIVE GROUP II (CHOOSE ANY ONE)

| THEORY |
|---|
| Data Compression |
| Cognitive Science and Analytics |
| Fuzzy Logic |
| **PRACTICAL** |
| Data Compression Lab |
| Cognitive Analytics Lab |
| Fuzzy Logic Lab |

### ELECTIVE GROUP IV (CHOOSE ANY ONE)

| |
|---|
| MATLAB Programming |
| Robotics |
| Human Computer Interaction |

### AT THE END OF THE PROGRAM, STUDENTS WILL RECEIVE

- BCA (Honours) Degree in Artificial Intelligence & Deep Learning after 3 years / BCA (Honours with Research) Degree in Artificial Intelligence & Deep Learning after 4 years from ARKA JAIN University.
- Worldwide Valid Joint Certificate and Digital Badges from IBM covering industry-specific subjects and technologies.
- Industry-ready expertise in Artificial Intelligence, Deep Learning, Machine Learning and Data Analytics.

AICTE-APPROVED

3+1 Years

# BCA IN CYBER SECURITY (HONS. / HONS. WITH RESEARCH) IN ASSOCIATION WITH CYBER DOJO

(AS PER NEP 2020)

## BUILDING CYBER SECURITY PROFESSIONALS, ETHICAL HACKERS AND DIGITAL DEFENCE EXPERTS

- Designed in alignment with the Four-Year Undergraduate Program (FYUGP) under NEP 2020.
- Tailor your academic experience over 3+1 years while acquiring essential computing, cyber security and digital defence skills.
- Students can exit after 3 years with a BCA Cyber Security (Honours) Degree.
- 4th Year is optional, leading to BCA Cyber Security (Honours with Research) Degree.
- After 4 years, students may go for a One-Year Master's Degree Program (Lateral Entry).
- Students who complete the Four-Year Bachelor's Honours with Research Degree Program with a minimum CGPA of 7.5 out of 10 may pursue a Ph.D. Program as per UGC (Ph.D.) Regulations aligned with NEP 2020, subject to institutional norms.

## INTRODUCTION

The BCA (Honours with Research) in Cyber Security at ARKA JAIN University is designed to prepare students for the rapidly evolving world of cyber defence, ethical hacking, digital forensics and information security.

Offered in association with Cyber Dojo, the program combines strong computing foundations with specialized knowledge in network security, endpoint protection, vulnerability assessment, penetration testing, digital forensics, cyber laws and incident response. Students gain practical exposure through security laboratories, simulated attack environments, real-world case studies and industry-oriented projects.

The curriculum emphasizes analytical thinking, cyber defence strategies, threat intelligence and hands-on learning, preparing graduates to protect digital infrastructures and combat emerging cyber threats across industries.

## QUICK FACTS

- **ELIGIBILITY :** Candidate should have passed Senior Secondary Examination (10+2) from any recognized Board and should have a valid score card of the entrance exam conducted by the University, AJUCET or CUET.
- **DURATION :** 3+1 Years Full-time (6+2 Semesters)
- **CURRICULUM COMPONENTS :** Core Computing Courses, Cyber Security Specialization Courses, Ethical Hacking Modules, Professional Electives, Research Projects, Industry Exposure and Skill Enhancement Courses.
- **CAREER-FOCUSED CURRICULUM :** A carefully designed blend of Computer Science, Information Security, Ethical Hacking, Digital Forensics, Threat Intelligence and Industry-Oriented Learning.

## PROGRAM DIFFERENTIATORS

- Industry-integrated curriculum developed in association with Cyber Dojo.
- Strong focus on Cyber Security, Ethical Hacking and Digital Defence Technologies.
- Hands-on learning through security labs, cyber drills and simulated attack environments.
- Exposure to Vulnerability Assessment & Penetration Testing (VAPT), Digital Forensics and Incident Response.
- Access to Cyber Dojo learning resources, practical workshops and certification-oriented training.
- Research-oriented curriculum aligned with emerging cyber security trends.
- Strong emphasis on cyber defence, risk management and security operations.
- Career-focused learning ecosystem aligned with evolving industry requirements.

---

## BEST PRACTICES

- **CYBER DOJO-INTEGRATED LEARNING**

  Industry-aligned curriculum, practical learning resources and exposure to real-world cyber security challenges through collaboration with Cyber Dojo.

- **EXPERIENTIAL CYBER SECURITY TRAINING**

  Hands-on learning through cyber security projects, penetration testing exercises, digital forensics investigations and threat analysis activities.

- **ADVANCED CYBER LABS**

  Practical exposure through ethical hacking, network security, digital forensics and cyber defence laboratories.

- **INDUSTRY EXPERT INTERACTIONS**

  Workshops, seminars, guest lectures and mentorship sessions by cyber security professionals and industry experts.

- **RESEARCH & CYBER INNOVATION CULTURE**

  Encouraging students to explore emerging cyber security technologies through research projects, innovation challenges and advanced electives.

---

## PROGRAM TAKEAWAYS

Upon successful completion of the program, students will:

- Build strong foundations in Computer Science, Networking and Information Security.
- Develop expertise in Cyber Security, Ethical Hacking and Digital Defence Technologies.
- Gain practical exposure through cyber labs, security simulations, projects and industry interactions.
- Learn to identify vulnerabilities, assess risks and secure digital infrastructures.
- Acquire skills in Incident Response, Threat Intelligence, Digital Forensics and Security Operations.
- Develop analytical thinking, cyber investigation and problem-solving capabilities.
- Gain proficiency in security tools, frameworks and cyber defence technologies.
- Enhance employability through industry-oriented learning and practical skill development.
- Develop research aptitude in Information Security and Cyber Defence.
- Be prepared for higher education, research and advanced cyber security careers.

# CAREER OPPORTUNITIES

### Cyber Security Operations

- Cyber Security Analyst
- Security Operations Centre (SOC) Analyst
- Security Administrator
- Threat Intelligence Analyst

### Ethical Hacking & Testing

- Ethical Hacker
- Penetration Tester
- Vulnerability Assessment Analyst
- Security Auditor

### Network & Infrastructure Security

- Network Security Engineer
- Cloud Security Associate
- Security Architect
- Infrastructure Security Analyst

### Digital Forensics & Incident Response

- Digital Forensics Analyst
- Incident Response Specialist
- Malware Analyst
- Information Security Investigator

### Governance, Risk & Compliance

- Information Security Consultant
- Data Privacy Officer
- Compliance Analyst
- Cyber Risk Consultant



# MAJOR HIGHLIGHTS

- Industry-integrated curriculum developed in association with Cyber Dojo.
- Strong focus on Cyber Security, Ethical Hacking and Digital Defence Technologies.
- Hands-on learning through cyber labs, VAPT exercises and practical security projects.
- Exposure to Digital Forensics, Threat Analysis and Security Operations.
- Access to Cyber Dojo training resources and certification-oriented learning.
- Strong emphasis on employability, cyber resilience and future-ready security skills.

## KEY COURSES

- **SEMESTER I :** Network from Security Perspective, Operating Systems from Security Perspective, Problem Solving using C
- **SEMESTER II :** Network Defence, End Point Security, Object Oriented Programming with Java
- **SEMESTER III :** Network Analysis, Python Programming, Compliance & Data Protection
- **SEMESTER IV :** Network & Systems VAPT, Post Exploitation and Advanced Techniques, Database Management Systems
- **SEMESTER V :** Incident Response & Redressal, Web Application Security, Data Mining and Data Analysis
- **SEMESTER VI :** Threat Analysis, Security Operations Advanced, Software Engineering
- **SEMESTER VII* :** Research Methodology, Cryptography and Network Security, Introduction to Big Data
- **SEMESTER VIII* :** Natural Language Processing, R Programming for Machine Learning, Research Project

## THE CYBER DOJO ADVANTAGE

- **IMMERSIVE TRI-LAB ENVIRONMENT**

  Experience a unique blend of Micro Labs, Simulation Labs and specialized Red, Blue and Purple Drill Labs modeled on real-world cyber defence and attack scenarios.

- **EXPERT-LED PRACTICAL TRAINING**

  Learn directly from seasoned cyber security professionals through hands-on labs, live simulations and skill-building workshops.

- **INDUSTRY CERTIFICATION SUPPORT**

  Guided preparation for globally recognized cyber security certifications that enhance employability and professional credibility.

- **REAL-WORLD SECURITY EXPOSURE**

  Develop practical expertise through cyber defence exercises, threat simulations and industry-focused learning activities.

- **CAREER-READY SKILL DEVELOPMENT**

  Build industry-relevant competencies in cyber defence, digital forensics, ethical hacking and information security management.

- **ENHANCED EMPLOYABILITY**

  Acquire future-ready skills aligned with the growing demand for cyber security professionals across industries.

# PROGRAM STRUCTURE

- The BCA (Honours with Research) in Cyber Security Program consists of 6+2 Semesters.
- Students have the option to graduate with a BCA Cyber Security (Honours) Degree after Six Semesters.
- The 7th and 8th Semesters are optional and lead to a BCA Cyber Security (Honours with Research) Degree
- During the 7th and 8th Semesters, students undertake advanced specialization courses and research projects in Cyber Security, Ethical Hacking and Digital Defence Technologies.

## SEMESTER I

| |
|---|
| Network from Security Perspective |
| Operating Systems from Security Perspective |
| Operating Systems from Security Perspective Lab |
| Discrete Mathematics |
| Business Communication |
| Problem Solving using C |
| Problem Solving using C Lab |
| VAC Elective I |

## SEMESTER II

| |
|---|
| Network Defence |
| End Point Security |
| End Point Security Lab |
| Cyber Law and Digital Ethics |
| Numerical & Statistical Methods |
| Object Oriented Programming with Java |
| Object Oriented Programming with Java Lab |
| VAC Elective II |

## SEMESTER III

| |
|---|
| Network Analysis |
| Python Programming |
| Python Programming Lab |
| Data Structure and Algorithms |
| Data Structure and Algorithms Lab |
| Compliance & Data Protection |
| Management Information System |
| Corporate Communication |

## SEMESTER IV

| |
|---|
| (Elective I Theory) |
| (Elective I Practical) |
| (Elective II Theory) |
| (Elective II Practical) |
| Network & Systems VAPT |
| Post Exploitation and Advanced Techniques |
| Database Management Systems |
| Database Management Systems Lab |
| VAC Elective III |

## SEMESTER V

| |
|---|
| Incident Response & Redressal |
| Web Application Security |
| Web Application Security Lab |
| Mobile Application Development |
| Mobile Application Development Lab |
| (Elective III Theory) |
| (Elective III Practical) |
| Data Mining and Data Analysis |

## SEMESTER VI

| |
|---|
| Software Engineering |
| Threat Analysis |
| Threat Analysis Lab |
| (Elective IV Theory) |
| (Elective IV Practical) |
| Security Operations Advanced |
| Project with Internship |

## SEMESTER VII

| |
|---|
| Research Methodology |
| DSE - V |
| Cryptography and Network Security |
| Introduction to Big Data |
| Operating System |
| Operating System Lab |

## SEMESTER VIII

| |
|---|
| Natural Language Processing |
| R Programming for Machine Learning |
| Research |
| Project |

### ELECTIVE GROUP I (CHOOSE ANY ONE)

| THEORY |
|---|
| Cloud Security |
| Industrial Control Systems Security |
| Information Security |
| **PRACTICAL** |
| Cloud Security Lab |
| Industrial Control Systems Security Lab |
| Information Security Lab |

### ELECTIVE GROUP II (CHOOSE ANY ONE)

| THEORY |
|---|
| Biometric Security |
| Advance Web Programming |
| Security Operation Advanced |
| **PRACTICAL** |
| Biometric Security Lab |
| Advance Web Programming Lab |
| Security Operation Advanced Lab |

### ELECTIVE GROUP III (CHOOSE ANY ONE)

| THEORY |
|---|
| Computer Forensic |
| Enterprise Java |
| Ethical Hacking |
| **PRACTICAL** |
| Computer Forensics Lab |
| Enterprise Java Lab |
| Ethical Hacking Lab |

### ELECTIVE GROUP IV (CHOOSE ANY ONE)

| THEORY |
|---|
| Optimization Techniques |
| Artificial Intelligence |
| Convolutional Neural Network |
| **PRACTICAL** |
| Machine Learning & its applications Lab |
| Artificial Intelligence Lab |
| Convolutional Neural Network Lab |

### ELECTIVE GROUP V

| |
|---|
| Soft Computing |
| Advanced Computer Network |
| Distributed System |

| VAC – ELECTIVE -II |
|---|
| Health & Wellness |
| Gender Sensitization |

| VAC – ELECTIVE -I |
|---|
| Environmental Studies |
| Global Citizenship Education and Education for Sustainable Development |

| VAC – ELECTIVE -III |
|---|
| Indian Knowledge System |
| Community Engagement & Services |

## AT THE END OF THE PROGRAM, STUDENTS WILL RECEIVE

- BCA Cyber Security (Honours) Degree after 3 years / BCA Cyber Security (Honours with Research) Degree after 4 years from ARKA JAIN University.
- Certified Cyber Security Professional Certification from Cyber Dojo.
- Industry-ready expertise in Cyber Security, Ethical Hacking, Digital Forensics and Security Operations.

# PLACEMENTS HIGHLIGHTS

**130+**

SELECTIONS


**13**

DUAL OFFERS

**03**

TRIPLE OFFERS

**20+**

COMPANIES RECRUITED

HIGHEST PACKAGE

**10.3 LPA**

PhonePe

AVERAGE PACKAGE

**4.1 LPA**

—

HIGHEST SELECTIONS

**48**

(SELECTIONS)

apollo TYRES

# PLACEMENTS 2026 At a Glance

## SHYAM SUNDER PANDEY

BCA-AI (Batch 2023-26)

₹ 10.3 LPA

PhonePe

## RAJNISH KUMAR SINGH

BCA-AI (Batch 2023-26)

₹ 8.1 LPA

Codeyoung

tcs

ANKIT SAW

AMIT KR MAHATO

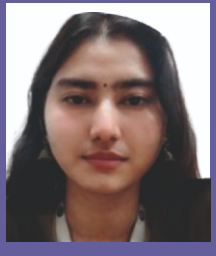
URVASHI GOPI KRISHANAN

DIYA KUMARI MUKHI

zoloSAAS

MAHWISH PERWEEN

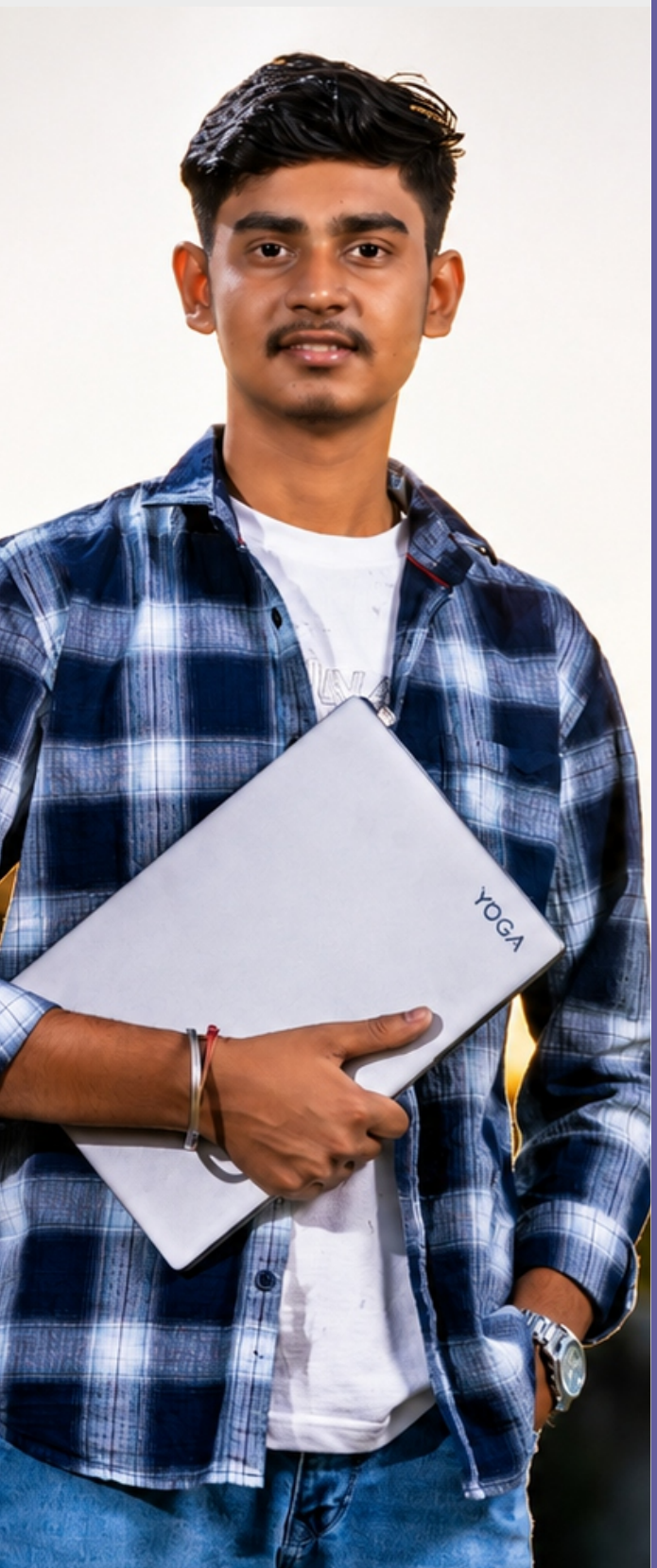
RAHUL DEWAAN



VAISHNAVI KUMARI

## CRAFT CODE. CREATE CAREERS. CONQUER THE FUTURE.
## WORK FOR MNCS & TECH GIANTS

**BCA STUDENTS PLACED IN DELOITTE**




| | |
|---|---|
| TATA CONSULTANCY SERVICES | 4 ₹7.39 LPA |
| MOVIDU | ₹6 LPA |
| ÆNEXZ Innovate. Automate. Dominate | 12 ₹6 LPA |
| Teleperformance | 3 ₹6 LPA |
| LEARNING ROUTES | ₹5.70 LPA |
| UNLOX | 6 ₹5 LPA |
| apollo TYRES | 48 |

and many more...

# OUR ALUMNI

LEADING THE CHARGE, SHAPING THE FUTURE.

**AYUSH PRAJAPATI**
**BATCH 2019-22**
Senior Software Engineer
Accenture, Kuala Lumpur, Malaysia
M. Sc. in Advanced Computer Science
The University of Sheffield

**AMIT MAZUMDAR**
**BATCH 2021-24**
Specialist
PwC Acceleration
Centers, Bengaluru

**JIGYASA SINGH**
**BATCH 2022-25**
Associate Analyst 1
AML RightSource

**KASTURI SHARMA**
**BATCH 2022-25**
Associate Software Engineer
Accenture

**RISHAV RAJ**
**BATCH 2021-24**
Analyst
Deloitte, Delhi

**AAKANKSHA SINHA**
**BATCH 2019-22**
PGP-LSM from IIM Kozhikode

**SHREYA TIWARI**
**BATCH 2018-21**
Deloitte, Bengaluru

**KRISHANU DEY**
**BATCH 2018-21**
Software Engineer
JPMorgan Chase & Co.

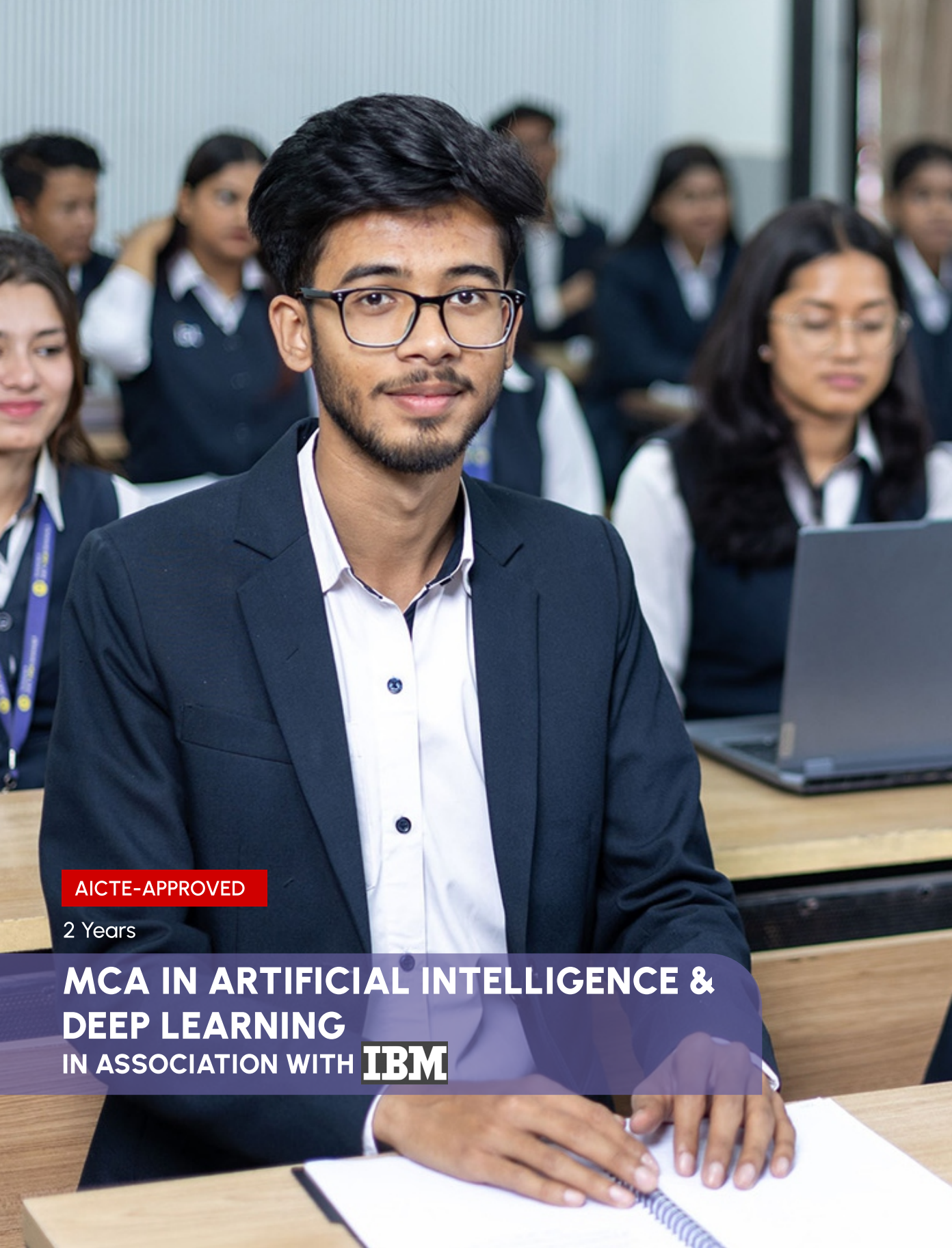
**HARSHIT KR. SHARMA**
**BATCH 2019-22**
Senior System Associate
Infosys, Pune

## FLYING OFFICER
# LOKESH SHARMA
**BATCH 2021-24 & FORMER AJU NCC CADET**

AFCAT Commissioned Officer in the
Air Force Academy, Hyderabad

# MADHUMITA MUNDA
**BATCH 2020-23**

Masters in Data Analytics
From Aston University, Birmingham,
England



AICTE-APPROVED

2 Years

# MCA IN ARTIFICIAL INTELLIGENCE & DEEP LEARNING

## IN ASSOCIATION WITH IBM

## BUILDING AI PROFESSIONALS, DATA SCIENTISTS AND TECHNOLOGY LEADERS OF TOMORROW

The Master of Computer Application (MCA) in Artificial Intelligence & Deep Learning at ARKA JAIN University is a future-focused postgraduate program designed to prepare students for leadership roles in the rapidly evolving world of Artificial Intelligence, Data Science and Intelligent Computing.

Developed in association with IBM, the program combines strong computing foundations with advanced specialization in Artificial Intelligence, Deep Learning, Machine Learning, Predictive Analytics, Cloud Computing and Data Science. Students gain hands-on exposure through industry-integrated learning, live projects, simulation-based training and practical applications using modern AI tools and technologies.

The program equips learners with analytical, technical and problem-solving capabilities required to develop intelligent systems, automate business processes and create innovative AI-driven solutions for real-world challenges.

## QUICK FACTS

- **ELIGIBILITY :** Passed BCA / B.Sc. (IT) / Bachelor Degree in Computer Science Engineering or equivalent degree.

  OR

  Passed B.Sc. / B.Com. / B.A. / B.Tech. / B.Voc. with Mathematics at 10+2 level or Graduation level (with additional bridge courses as per University norms).

  Obtained at least 50% marks (45% for reserved category candidates) in the qualifying examination.

  Should have a valid score card of AJUCET or CUET.
- **DURATION :** 2 Years Full-time (4 Semesters)
- **CURRICULUM COMPONENTS :** Core Computing Courses, Artificial Intelligence & Deep Learning Specialization Courses, Professional Electives, Projects, Research Work and Industry-Oriented Learning.
- **CAREER-FOCUSED CURRICULUM :** A carefully designed blend of advanced computing concepts, Artificial Intelligence, Machine Learning, Data Analytics, Cloud Technologies, Research and Industry Exposure.

## PROGRAM TAKEAWAYS

Upon successful completion of the program, students will:

- Build strong foundations in advanced computer applications, software development and intelligent computing systems.
- Develop expertise in Artificial Intelligence, Deep Learning, Machine Learning and Predictive Analytics.
- Gain practical exposure through laboratories, projects, case studies and industry-oriented assignments.
- Learn to design, develop and deploy AI-powered applications for real-world business challenges.
- Develop analytical thinking, computational problem-solving and research capabilities.
- Gain proficiency in Data Analytics, Cloud Computing and emerging digital technologies.
- Learn to apply AI techniques for automation, prediction and intelligent decision-making.
- Enhance employability through industry-integrated learning and professional skill development.
- Develop innovation and research capabilities in emerging areas of Artificial Intelligence.
- Be prepared for higher education, research and advanced technology careers.

## CAREER OPPORTUNITIES

### Artificial Intelligence Careers

- AI Engineer
- Deep Learning Engineer
- Machine Learning Engineer
- Computer Vision Engineer
- NLP Engineer

### Data Science & Analytics

- Data Scientist
- Data Analyst
- Predictive Analytics Specialist
- Business Intelligence Analyst

### Software Development & Cloud

- AI Software Developer
- Cloud Application Developer
- Full Stack Developer
- Software Engineer

### Emerging Technology Roles

- Robotics Engineer
- Automation Engineer
- AI Solutions Architect
- Blockchain Technology Specialist

### Research & Innovation

- AI Research Associate
- Research Scientist
- Technology Consultant
- Academic Researcher

## KEY HIGHLIGHTS

- Industry-integrated curriculum developed in association with IBM.
- Strong focus on Artificial Intelligence, Deep Learning, Machine Learning and Data Science.
- Hands-on learning through laboratories, live projects and case studies.
- Exposure to IBM technologies, tools and industry practices.
- Research-oriented learning with advanced electives and project work.
- Strong emphasis on employability, innovation and career readiness.

## KEY COURSES

- **SEMESTER I :** Object Oriented Programming & Design (Java), Data Visualization, Research Methodology & IPR
- **SEMESTER II :** Data Structures, Cloud Fundamentals, Database Management System
- **SEMESTER III :** Advanced Java, Data Analytics using Python, Predictive Analytics
- **SEMESTER IV :** Artificial Intelligence & Deep Learning, Research Project

# PROGRAM STRUCTURE

- The MCA (Artificial Intelligence & Deep Learning) Program consists of 4 Semesters.
- Students undergo intensive coursework during the first three semesters, followed by advanced specialization, research and project work in the final semester.
- The curriculum integrates core computing concepts with emerging technologies such as Artificial Intelligence, Deep Learning, Data Analytics and Cloud Computing, enabling students to develop industry-relevant expertise and research capabilities.

## SEMESTER I

| |
|---|
| Business Communication |
| Basics of Programming Languages |
| Basics of Programming Languages Lab |
| Mathematical Foundation for Computer Applications |
| Object Oriented Programming & Design (Java) |
| Object Oriented Programming & Design (Java) Lab |
| Research Methodology & IPR |
| Data Visualization |
| Data Visualization Lab |
| VAC Elective I |

## SEMESTER II

| |
|---|
| Data Structures |
| Data Structures Lab |
| Cloud Fundamentals |
| Cloud Fundamentals Lab |
| Web Development using PHP |
| Database Management System |
| Database Management System Lab |
| Cyber Law and Digital Ethics |
| VAC Elective II |
| Elective I |

## SEMESTER III

| |
|---|
| Advanced Java |
| Advanced Java Lab |
| Data Analytics using Python |
| Data Analytics using Python Lab |
| Predictive Analytics |
| Predictive Analytics Lab |
| Design & Analysis of Algorithms |
| Elective II |
| Corporate Communication |

## SEMESTER IV

| |
|---|
| Artificial Intelligence & Deep Learning |
| Artificial Intelligence & Deep Learning Lab |
| Elective III |
| Project |
| Research |

## PROFESSIONAL ELECTIVES

| ELECTIVE GROUP I |
|---|
| Advanced Data Structures & Algorithms |
| Cryptography |
| Parallel Computing |
| Data Communication & Networking |
| Wireless & Mobile Networks |

| ELECTIVE GROUP II |
|---|
| Blockchain Technology |
| Machine Learning & Applications |
| Computer Graphics & Multimedia |
| Software Testing |
| NoSQL |

| ELECTIVE GROUP III |
| --- |
| Optimization Techniques & Queuing Theory |
| Mobile Application Programming |
| Fuzzy Sets & Applications |
| Image Processing & Pattern Classification |
| Quantum Computing |

## AT THE END OF THE PROGRAM, STUDENTS WILL RECEIVE

- Master of Computer Application (MCA) Degree in Artificial Intelligence & Deep Learning from ARKA JAIN University.
- Worldwide Valid Joint Certificate and Digital Badges from IBM covering industry-specific subjects and technologies
- Industry-ready expertise in Artificial Intelligence, Deep Learning, Machine Learning and Data Analytics.

# PLACEMENTS 2026 At a Glance

## AMISHA BHENGRA

MCA (Batch 2023-26)

**₹ 7.1 LPA**

TATA CONSULTANCY SERVICES

**ABHISHEK DAS**
MCA (Batch 2024-26)

**CHANDRIMA BHOWMICK**
MCA (Batch 2024-26)

**₹ 6 LPA**

QUANTUM QUBE TECH LTD

| | |
|---|---|
| TATA CONSULTANCY SERVICES | ₹7.39 LPA |
| PLANETSPARK | ₹6.5 LPA |
| QUANTUM QUBE TECH LTD | ₹6 LPA |
| Teleperformance | 7 ₹ 6 LPA |

## OUR MCA GRADUATES DRIVE INNOVATION, TACKLE COMPLEX CHALLENGES, & LEAD AS INDUSTRY EXPERTS.

**REETURAJ CHATTERJEE**
BATCH 2018-20
Senior Software Engineer at SourceFuse Technologies

**RAHUL KUMAR**
BATCH 2020-22
Software Engineer, Clapingo

**SUDHANSHU RANJAN**
BATCH 2020-22
Co-founder and Course Director, Clapingo, New Delhi

**A.S. SITHALAKSHMI**
BATCH 2022-24
Software Engineer
Accenture

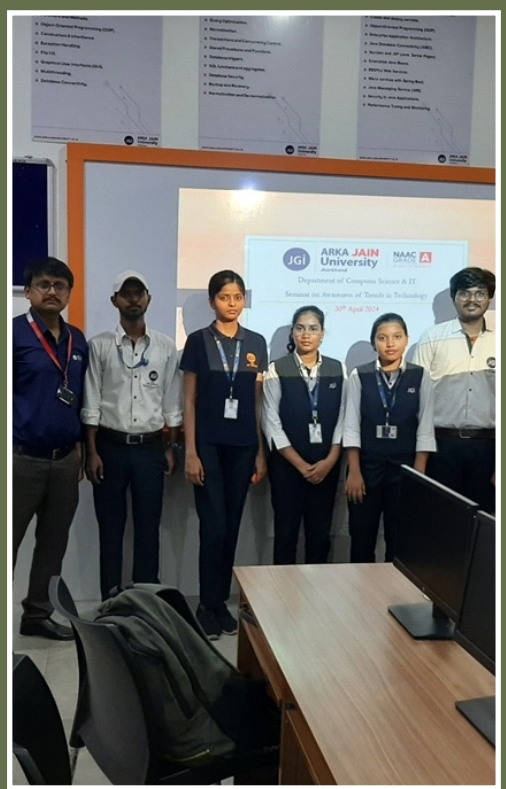
**ABHIJIT KUMAR MAHATO**
BATCH 2022-24
Systems Engineer
TCS Digital, Kolkata

## RECRUITERS WHO BELIEVE IN OUR TALENT

PlanetSpark
Quantum Qube Tech Ltd
Teleperformance
TCS Tata Consultancy Services
UNLOX
VED Venturing Digitally
VEPS Infotech
Vyze Inc.
accenture
QUESS Winning Together
BRIDGE Systems & Services
IntelliPaat

IT CLUB
DEPARTMENT OF COMPUTER SCIENCE & IT,
ARKA JAIN UNIVERSITY

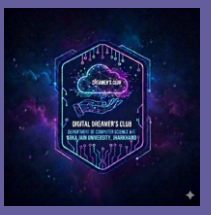
The IT Club at ARKA JAIN University is a student's gateway to the cutting edge of information technology. Throughout the year, the club hosts tech quizzes, expert guest talks, and hands on workshops that keep students plugged into the latest trends—from AI and cybersecurity to cloud computing and IoT. Whether it is about decoding code or exploring emerging tools, the IT Club provides the perfect platform to the students from across the university to learn, experiment, and network with industry leaders and fellow tech enthusiasts thus enabling them to stay ahead of the curve and turn passion for technology into real world skills!


The Hacksmith's Club at ARKA JAIN University is a dynamic community for students passionate about coding, problem-solving, cybersecurity, and hackathons. Through coding challenges, hackathons, capture-the-flag competitions, workshops, and technical bootcamps, the club nurtures innovation, logical thinking, and collaborative learning. It empowers students to develop real-world solutions, strengthen their programming skills, and stay ahead in the ever-evolving world of technology.


The Spandan Club at ARKA JAIN University is dedicated to fostering holistic personality development and student engagement beyond academics. The club organizes cultural events, leadership activities, social initiatives, awareness campaigns, team-building exercises, and community outreach programmes that nurture creativity, communication, confidence, and social responsibility. It provides students with opportunities to discover their talents while contributing meaningfully to society.


The Developer's Club at ARKA JAIN University brings together aspiring software developers to design, build, and innovate. The club organizes coding sessions, application development workshops, open-source contribution drives, project showcases, and expert interactions to help students gain hands-on experience in software development. It encourages creativity, teamwork, and continuous learning while preparing students for successful careers in the software industry.




The Digital Dreamer's Club at ARKA JAIN University provides a platform for students to explore the creative side of technology. From UI/UX design, digital content creation, web designing, branding, and multimedia production to emerging digital trends, the club promotes innovation and creativity. Through workshops, competitions, collaborative projects, and industry interactions, students develop digital skills that prepare them for careers in the modern digital economy.


The Circuit Crafter's Club at ARKA JAIN University serves as a hub for students interested in electronics, embedded systems, Internet of Things (IoT), robotics, and hardware innovation. The club conducts hands-on workshops, circuit design competitions, prototype development sessions, technical demonstrations, and industry interactions to strengthen practical knowledge. It inspires students to transform innovative ideas into functional solutions while building strong technical and problem-solving skills.

## BUILD SMARTER, CONNECT DEEPER, INNOVATE FASTER

With state-of-the-art labs, we bring AI, Data Analytics, IoT, and Cybersecurity closer to the learner — enabling the development of next-gen applications and resilient digital ecosystems.

- AI Lab
- IoT Lab
- Data Science Lab
- Multimedia Lab
- Explore. Experiment. Excel.

## NEXT-GEN VALUE-ADDED COURSES TO FUTURE-PROOF YOUR TECH SKILLS

Gain an edge with industry-relevant modules like:

- Soft Computing
- Embedded Systems & IoT
- Robotic Process Automation (RPA) Tools
- Cyber Security

Empowering you with the tools, technologies, and thinking that define tomorrow.

## PARTNERED WITH THE BEST — FROM GLOBAL ANALYTICS TO TECH TITANS, WE SHAPE FUTURE-READY PROFESSIONALS WITH MEANINGFUL MOUS

Our strategic MoUs with leading industry partners—IoA, UK; Cyber Dojo, and IBM—have been instrumental in shaping our BCA and MCA offerings into truly contemporary programs. Through collaboration with IoA UK, students gain access to global educational standards and certification pathways that enhance their academic credentials. Our partnership with Cyber Dojo brings state of the art cybersecurity training, including immersive labs and real world simulations, directly into the classroom. Meanwhile, the IBM alliance infuses both programs with cutting edge AI and deep learning content, hands on experience with enterprise grade tools, and co developed curricula that mirror industry demands. In all, these MoUs ensure our graduates emerge not only theoretically strong, but also practically adept and industry ready.

# BEYOND THE CLASSROOM

A YEAR OF INNOVATION, ENGAGEMENT & CELEBRATION

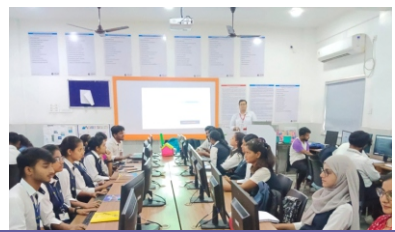
WORKSHOP ON CYBER SECURITY


INDUSTRIAL VISIT TO ATOMIC MINERAL DIRECTORATE (AMD), JAMSHEDPUR


INDUSTRIAL VISIT TO THE SOFTWARE TECHNOLOGY PARKS OF INDIA (STPI) , RANCHI

PARTICIPANTS DURING DEVFEST-24, AT JHARKHAND UNIVERSITY OF TECHNOLOGY, RANCHI

OUTBOUND TRAINING



OBSERVATION OF CYBER JAGROOKTA (AWARENESS) DIWAS

3-DAY WORKSHOP ON SOFTWARE DEVELOPMENT PROCESS & INTEGRATION OF POWER BI, DATABASE

STUDENTS DURING YOGA SESSION AS PART OF ORIENTATION-INDUCTION PROGRAM

RUBAROO – WELCOME FUNCTION FOR FIRST YEAR STUDENTS

## FROM CHAMPIONSHIP PODIUM FINISHES AND INNOVATION CHALLENGES TO PRESTIGIOUS HONOURS AND PREMIER INSTITUTIONS, OUR STUDENTS CONTINUE TO MAKE THEIR MARK ACROSS DIVERSE FIELDS.





ANUJ SHARMA STUDENT OF BCA IN CYBER SECURITY
(BATCH : 2024-27) WON GOLD MEDAL IN
THE STATE DEADLIFT CHAMPIONSHIPS

# Centre for Capacity Building and Human Resource Development (CCHRD)

Building Capacity. Developing Skills. Creating Leaders.

The CCHRD aims to enhance the skills and capabilities of students, faculty, staff members, and external stakeholders.

## Purpose of Establishment:

The CCHRD is dedicated to fostering growth and development through targeted capacity-building initiatives for the students. Further, it aims to create a supportive environment for continuous learning and professional advancement for faculty and staff members as well as external stakeholders

## Benefits of Establishment:

1. **Skill Enhancement for Students:** Providing specialized training, courses and workshops to equip students with industry-relevant skills and competencies.
2. **Professional Development for Faculty and Staff:** Offering professional development and faculty development programs to enhance teaching methodologies, research capabilities, and administrative efficiency.
3. **Support for External Stakeholders:** Engaging with industry partners and community members fostering collaboration, and sharing expertise in the form of management development programs.
4. **Resource Hub:** Serving as a central resource for accessing the latest knowledge, tools, and techniques in various fields of study and practice.
5. **Career Advancement:** Facilitating career growth and opportunities for all participants by bridging the gap between academic knowledge and practical application.

## CCHRD: A Hub for Capacity Building & Holistic Skill Development, Creating Excellence through

Student Development Programs
Management Development Programs (MDPs)
Outbound Training & Experiential Learning Exercises
Industry Visits
Capacity Building & Skill Development Workshops
Dialogue with Leaders Series
Corporate Mentoring
Digital Literacy Initiatives
Career Readiness & Interview Preparation
Industry-Driven Skill Development Workshops
Mental Well-being Support
Data Analytics Training
Foreign Language Learning
Competitive Examination Preparation

## Outbound Training for Experiential Leadership & Team Development

The Centre for Capacity Building and Human Resource Development (CCHRD) regularly conducts outbound training exercises designed to blend fun with experiential learning beyond the classroom environment. These structured outdoor activities aim to strengthen teamwork, leadership qualities, and self-confidence while enhancing physical fitness and mental resilience. Through engaging, interactive, and problem-solving-based challenges, students develop practical skills, adaptability, and a collaborative spirit—preparing them for real-world professional demands in a dynamic and holistic manner.




MoU with Markhub24, a cognitive marketing intelligence and learning platform

# LEARNING BY DOING

## PROJECT & APPLICATION-BASED LEARNING

At the School of Engineering & IT, students learn through hands-on projects, coding assignments, industry-integrated learning, and practical applications. The curriculum combines classroom learning with real-world exposure through programming labs, AI and cybersecurity projects, internships, hackathons, workshops, and certification programs. Through collaborations with IBM, Cyber Dojo, and IoA (UK), students gain industry-relevant skills and practical experience that prepare them for careers in software development, artificial intelligence, cybersecurity, data analytics, and emerging technologies.

- Live Projects & Case Studies
- Industry Training & Internships
- Coding & Development Lab
- AI & Cyber Security Practice
- Innovation & Hackathons

## LIBRARY

The Central Library offers a rich collection of textbooks, journals, e-resources, technical publications, and digital learning materials across computing and technology domains. Supported by modern infrastructure, digital databases, and research resources, it serves as an important knowledge hub for students pursuing computer applications, artificial intelligence, cybersecurity, software development, and emerging technology disciplines.

## AARAMBH – STUDENT INDUCTION PROGRAM

Aarambh is a structured induction programme designed to help students transition smoothly into university life. It includes orientation sessions, faculty interactions, technology awareness programmes, peer engagement activities, and skill-development sessions. The programme enables students to build confidence, communication skills, teamwork, and a strong foundation for academic and professional success.

# INTEGRATED MODE OF TEACHING & LEARNING

At ARKA JAIN University, the School of Engineering & IT adopts an industry-aligned approach to computer applications education, integrating academic learning with practical exposure to create future-ready technology professionals.

**INDUSTRY-INTEGRATED LEARNING & REAL-WORLD EXPOSURE -** Project-based learning, coding assignments, internships, and practical applications enable students to apply concepts to real-world technology challenges.

**WORKSHOPS, CERTIFICATIONS & INDUSTRY INTERFACES -** Regular workshops, certification programmes, expert interactions, and industry sessions expose students to emerging technologies and professional practices.

**INTERACTIVE LEARNING (ONLINE & OFFLINE) -** A balanced mix of classroom teaching, digital platforms, virtual labs, and collaborative learning enhances technical understanding and engagement.

**EXPERT TALKS & SPEAKER SERIES -** Sessions by industry leaders, researchers, and technology professionals provide insights into innovation, technology trends, and career opportunities.

**CASE STUDIES & PRACTICAL UNDERSTANDING -** Real-world case studies, software projects, and problem-solving exercises strengthen analytical thinking and solution-oriented approaches.

**IT CLUB & INNOVATION PLATFORMS -** Technical clubs, hackathons, coding competitions, and innovation activities encourage creativity, collaboration, and continuous learning.

This integrated approach ensures that students develop strong technical foundations, practical expertise, and industry-ready competencies required for success in the evolving digital landscape.

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

## 1. CENTRES

## 2.COMMITTEES

- INTERNAL COMPLAINTS COMMITTEE

## 3. CELLS

- INTERNAL QUALITY ASSURANCE CELL
- 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



















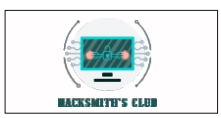


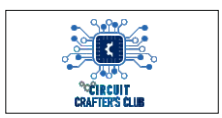










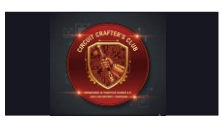











## 8.STUDENT CHAPTERS/ BRANCHES




# ADMISSION PROCESS

## OFFLINE MODE

- Collect the Application Form, and Prospectus by paying the application fee, ₹1000/- (General Category) or ₹ 500/- (SC/ST Category) from
- City Office : D-28, Danish Arcade, Opp. Asian Inn Hotel Dhatkidih, Jamshedpur – 831001, Jharkhand

  or

  University Campus : Opp. Kerala Public School, Mohanpur Gamharia, District Seraikela-Kharsawan Jharkhand – 832108
- Submit the duly-filled application form along with the supporting documents and applicable fees at the City Office or University Campus.

## ONLINE MODE

- Fill out the online application form by visiting: www.arkajainuniversity.ac.in
- Pay the application fee online: ₹ 1000/- (General Category) or ₹ 500/- (SC/ST Category)
- Download and submit the duly-filled application form at the City Office or University Campus.
- After document verification by the University Admission Officer, proceed with the payment of the applicable fees to confirm admission.

# CONTACT DETAILS

**7371037371 | 0657-2220285 | 2312007**

Admission Office : D-28, Danish Arcade,Opposite Asian Inn Hotel, Dhatkidih, Jamshedpur - 831001

Campus Address : Opp. Kerala Public School, Mohanpur, Gamharia, District Seraikela Kharsawan, Jharkhand - 832108

Apply Online: www.arkajainuniversity.ac.in

Email: admission@arkajainuniversity.ac.in


SCAN FOR WEBSITE