

*Advance Your Career.
Shape the Future.
Modern Curriculum |
AI & Cloud Focus |
Industry-Oriented
Learning | Research
& Innovation*



DEPARTMENT OF COMPUTER APPLICATIONS

Faculty of Science
M.Sc. Advanced Computing
2-Year Program | 88 Credits
Intake: 20 Students
Academic Year 2024-25



M.Sc. Advanced Computing 2026

THE MAHARAJA SAYAJIRAO
UNIVERSITY OF BARODA



MISSION STATEMENT

Vision and mission as perceived by
H. H. Maharaja Sayajirao Gaekwad-III

The progress of a nation requires that its people should be educated. Knowledge is a necessity of man. It instills in him a desire to question and to investigate, which leads him on the path of progress. Education, in the broadest sense, must be spread everywhere. Progress can only be achieved by the spread of education. Cooperation is necessary to achieve any worthy end and this readiness to cooperate will not be found in people if they are not educated.

ABOUT THE UNIVERSITY

The Maharaja Sayajirao University of Baroda, established in 1949, is one of India's premier public universities located in Vadodara, Gujarat.

With a legacy of academic excellence spanning over seven decades, MSU Baroda is recognized for its commitment to research, innovation, and holistic education.

The university is home to diverse faculties, fostering interdisciplinary learning and producing graduates who lead across industry and academia.

*"Shaping the next
generation of technology
leaders through rigorous
academics and
innovation."*

— Prof. Vipul Kalamkar,
Head, Dept. of Computer Applications

OUR DEPARTMENT

FACULTY OF SCIENCE

The Faculty of Science at MSU Baroda is a hub of scientific inquiry and academic excellence, offering cutting-edge programs across multiple disciplines including computing and technology.

DEPT. OF COMPUTER APPLICATIONS

Established to meet the growing demand for computing professionals, the Department offers programs at the intersection of technology, management, and innovation — preparing graduates for global careers.

HEAD'S MESSAGE

The rapid evolution of computing technologies demands professionals with advanced knowledge and practical expertise. Designed specifically for graduates of Computer Applications, Computer Science, Information Technology, and related disciplines, the M.Sc. Advanced Computing programme equips students with the skills needed to excel in today's technology-driven world.

With a strong focus on innovation, research, and practical implementation, the programme aims to develop highly skilled computing professionals ready for careers in advanced software engineering, AI systems, cloud platforms, intelligent automation, and technology-driven industries.



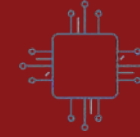
PROGRAM STRUCTURE

The M.Sc. Advanced Computing is a 2-year full-time postgraduate program offered by the Department of Computer Applications, Faculty of Science, The Maharaja Sayajirao University of Baroda.

Designed to meet the demands of the modern technology industry, the program combines rigorous academic training with practical, industry-oriented learning.

With a total of 88 credits spread across 4 semesters, students gain deep expertise in emerging technologies and are prepared for leadership roles in the IT sector.

*2-Year Program | 88
Credits | 20 Seats | 4
Semesters | Full-Time
Project & Internship*



PROGRAM HIGHLIGHTS

AI & EMERGING TECHNOLOGIES

Artificial Intelligence & Machine Learning, Large Language Models (LLMs), Generative AI, and Computer Vision form the core of the technology curriculum, equipping students with cutting-edge skills.

CLOUD & DEVOPS

Comprehensive training in Cloud Computing platforms, DevOps practices, MLOps pipelines, and Cybersecurity ensures students are industry-ready from day one.

INTAKE & CREDENTIALS

Limited intake of 20 students per batch ensures personalized mentorship. The program concludes with a full-time Industry Project or Internship, bridging academia and real-world technology environments.



CURRICULUM STRUCTURE

The M.Sc. Advanced Computing program spans 2 years across 4 structured semesters, totaling 88 credits.

Each semester builds progressively — from computing foundations to advanced AI, cloud systems, and real-world project work.

Students choose a specialization track in Semester 3, aligning their studies with career goals in AI, Systems, or Emerging Computing.

*Four semesters. 88 credits.
One transformative journey
into advanced computing.*



SPECIALIZATION TRACKS

ARTIFICIAL INTELLIGENCE

Focus Areas: Deep Learning, Generative AI, LLMs, Computer Vision, Intelligent Systems, AI Applications

Career Roles: AI Engineer, Machine Learning Engineer, Data Scientist, AI Research Associate, NLP Engineer

CLOUD COMPUTING & DEVOPS

Focus Areas: Cloud Infrastructure, Containers & Virtualization, CI/CD Pipelines, Kubernetes, Cloud Security, Distributed Systems

Career Roles: Cloud Engineer, DevOps Engineer, Site Reliability Engineer, Platform Engineer, Infrastructure Architect

CYBERSECURITY

Focus Areas: Application Security, Ethical Hacking, Security Operations, Network Security, Secure System Design, Cloud Security

Career Roles: Security Analyst, Cybersecurity Consultant, Security Engineer, SOC Analyst, Information Security Specialist



ELIGIBILITY & ADMISSION

To be eligible for the M.Sc. Advanced Computing program, applicants must hold a 3-year undergraduate degree in Computer Applications, Computer Science, Computer Engineering, or Data Science with a minimum of 50% marks or equivalent CGPA from a recognized university.

Admission is conducted through the GCAS (Gujarat Common Admission Schedule) portal. Candidates must register online on GCAS portal, and also register on MSU admission portal for entrance examination.

Shortlisted candidates will be called for counselling based on their entrance exam scores and academic merit.

Shaping tomorrow's tech leaders through rigorous selection and merit-based admission.



ADMISSION PROCESS

STEP 1: REGISTER

Apply online through the [GCAS portal](#). Upload required documents including mark sheets, degree certificate, and valid ID proof before the deadline.

STEP 2: ENTRANCE EXAM

Register for Entrance examination of [MSU admission portal](#). Appear for the university entrance examination. Syllabus covers Programming (C/C++/Java/Python), Data Structures, DBMS, Computer Networks, Mathematics, and Logical Reasoning.

STEP 3: GET ADMISSION OFFER

Admissions will be purely based on merit of the candidate in the entrance examination. The successful candidates will be sent admission offers. The admission can be confirmed by accepting the offer and payment of fees.



ENTRANCE EXAMINATION SYLLABUS

A. Core Computer Science (50%)

Programming and Problem-Solving, Data Structures, Computer Organization, Operating Systems, Database Management Systems, Computer Networks & Web Fundamentals

B. Mathematical Foundations (20%)

Discrete Mathematics, Linear Algebra, Calculus, Probability & Statistics

C. Analytical and General Aptitude (20%)

Logical Reasoning, Analytical reasoning, Quantitative Aptitude

D. Data Science, AI & Emerging Technology Awareness (10%)

Data Science fundamentals, AI/ ML Fundamentals, Cloud computing, Big Data, Data Privacy, Cyber security

*Your core competencies
essential for Advanced
Computing will help you to
secure admission*

WHAT WILL BE TESTED?

CORE COMPUTER SCIENCE

You should be strong in fundamentals of Computer Science

MATHEMATICAL FOUNDATIONS

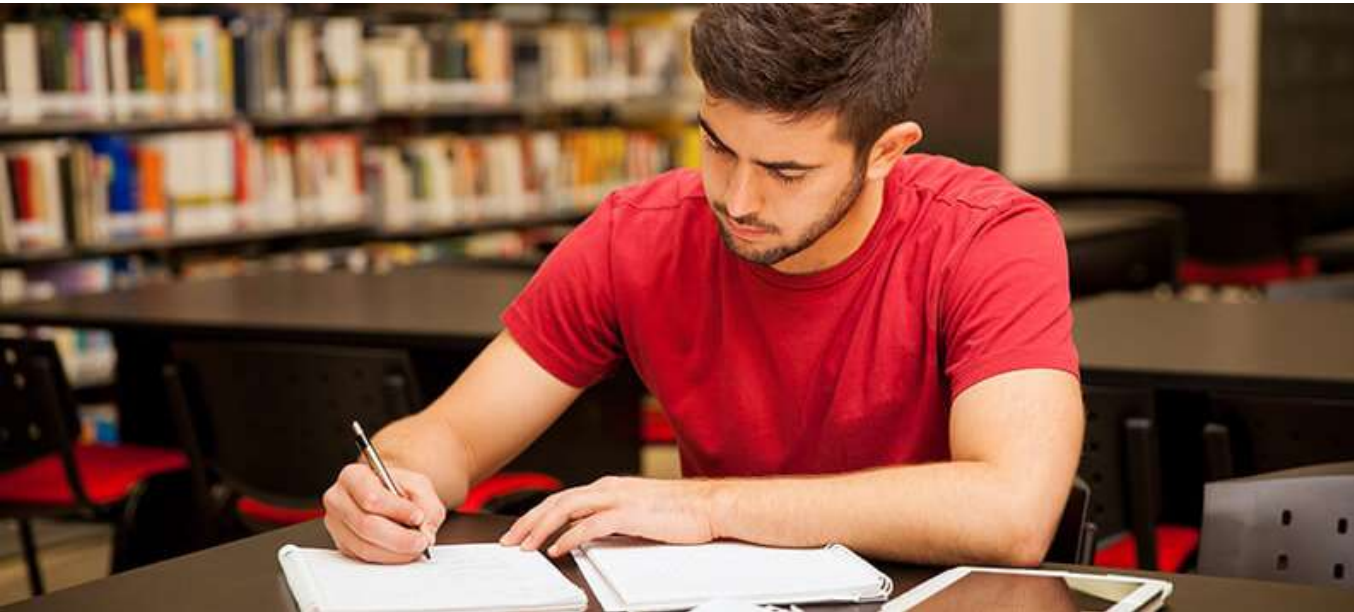
Your knowledge of Mathematical foundations will give you an edge.

ANALYTICAL AND GENERAL APTITUDE

We will also test your analytical and general aptitude.

DATA SCIENCE, AI & EMERGING TECHNOLOGY AWARENESS

The computing field is developing fast. If you have been keeping an eye on emerging technologies, you will be benefited.



*Where knowledge
blooms like a lotus
and burns bright like
a flame of wisdom.*



Apply Now

CONTACT US

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Join us

THE MAHARAJA SAYAJIRAO
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