SELF ASSESSMENT REPORT (SAR) FORMAT
Master of Computer Applications (MCA)

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(January 2024)

SAR Contents

PART A: Institutional Information

1. Name and Address of the Institution: Amity University Maharashtra
Mumbai - Pune Expressway Bhatan, Somathne, Panvel, Mumbai, Maharashtra 410207

2. Type of the Institution: (Tick the applicable choice)

University	√
Deemed University	
Autonomous	
Affiliated	
Any Other (Please specify)	

Provide Details:

3. Year of Establishment of the Institution:

2014

4. Ownership Status: (Tick the applicable choice)

Central Government	
State Government	
Grant-in-Aid	
Self-financing	√
Trust	
Society	
Section 25 Company	
Any Other (Please specify)	

Provide Details:

5. Name and Address of the Affiliating University(if any): N/A

6. Other Academic Institutions of the Trust/Society/etc., if any:

Table A6. List of all Institutions running under the same trust/society.

S. No.	Name of the Institution(s)	Year of Establishment	Programs of Study	Location
1	..	..	..	..

7. Details of all the Programs being offered by the Institution:

Table No. A7. Details of all the Programs being offered by the Institution.

S. No.	Program Name	Year of Start	Intake at the start of the program	Increase in intake, if any (from the start)	Year of increase	AICTE Approval	Accreditation Status*
1	B. Tech Biotechnology	2014	50	75	2021	NA	Accredited for duration 2025-2028
2	B.Tech. M. Tech. Dual Biotechnology	2015	15	No	-	NA	Eligible but not applied
3	M. Tech. Biotechnology	2015	20	No	-	NA	Eligible but not applied
4	B.Sc. Biotechnology	2016	20	35	2022	NA	Eligible but not applied
5	M.Sc. Biotechnology	2015	35	45	2021	NA	Eligible but not applied
6	B.A. (H) App. Psychology	2015	10	10	2015	NA	Not eligible for accreditation
				20	2018	NA	
				50	2019	NA	
				70	2020	NA	
				95	2021	NA	
7	M.Sc. (Psychology)	2019	75	75	2019	NA	Eligible but not applied
				100	2020	NA	
				135	2021	NA	
8	M.Phil. (Clinical Psychology)	2017	8	No	-	NA	Not eligible for accreditation
9	B.Sc. (IT)	2015	20	35	2023	NA	Eligible but not applied
10	B.CA	2015	10	10	2015	NA	Eligible but not applied
				55	2020	NA	
				75	2022	NA	
				120	2023	NA	
11	M.CA	2015	60	No	2015	NA	Applying for the first time
12	B.A (Political Science)	2018	10	No	-	NA	Not eligible for accreditation
13	B.A (Liberal Arts)	2020	20	No	-	NA	Not eligible for accreditation
14	B.SW	2017	5	10	2023	NA	Not eligible for accreditation
				10	2020	NA	Not eligible for accreditation

15	Master of Social Work	2016	5	15	2021	NA	
16	B.TTM	2015	10	35	2022	NA	Not eligible for accreditation
17	M.TTM	2020	15	No	-	NA	Not eligible for accreditation
18	B. Tech (AME)	2016	10	15	-	NA	Eligible but not applied
19	B. Tech (ANE)	2016	15	20	2021	NA	Eligible but not applied
20	B.A (LLB)	2014	60	No	-	NA	Not eligible for accreditation
21	B. Com (LLB)	2018	60	No	-	NA	Not eligible for accreditation
22	BBA(LLB)	2015	60	No	-	NA	Not eligible for accreditation
23	LLB	2015	60	No	-	NA	Not eligible for accreditation
24	LLM	2015	60	No	-	NA	Not eligible for accreditation
25	B.Arch.	2015	40	80	2023	NA	Not eligible for accreditation
26	B.ID	2015	10	20	2018	NA	Not eligible for accreditation
				40	2019	NA	
27	B. Planning	2015	5	15	2019	NA	Not eligible for accreditation
28	B.Sc. (Chemistry)	2016	5	No	-	NA	Not eligible for accreditation
29	B.Sc. (Mathematics)	2018	5	10	2019	NA	Not eligible for accreditation
30	B.Sc. (Physics)	2015	5	15	2019	NA	Not eligible for accreditation
31	B. Statistics	2018	5	No	-	NA	Not eligible for accreditation
32	M.Sc. (AC)	2019	5	10	2021	NA	Not eligible for accreditation
33	M.Sc. (AP)	2019	10	No	-	NA	Not eligible for accreditation
34	M.Sc. (AM)	2019	10	No	-	NA	Not eligible for accreditation
35	B.A.(M&G)	2020	10	20	2021	NA	Not eligible for accreditation
36	B.Sc. (Animation and VFX)	2020	110	No	-	NA	Not eligible for accreditation
37	B.Sc. (A & VG)	2015	20	60	2018	NA	Not eligible for accreditation
				110	2019	NA	

38	B.A. (Journalism and Mass communication)	2021	5	No	-	NA	Not eligible for accreditation
39	M.A. (A & PR)	2015	5	15	2018	NA	Not eligible for accreditation
				25	2019	NA	
				30	2022	NA	
40	M.A. (FTR)	2016	10	30	2023	NA	Not eligible for accreditation
41	M.A. (Film and TV)	2020	10	No	-	NA	Not eligible for accreditation
42	M.A. (Journalism and Mass Communication)	2015	10	15	2018	NA	Not eligible for accreditation
				20	2019	NA	
				30	2020	NA	
43	B.A. (Film Making)	2020	10	No	-	NA	Not eligible for accreditation
44	B. Tech (CE)	2014	20	No	-	NA	Eligible but not applied
45	B. Tech (CSE)	2014	60	60	-	NA	Applying first time
46	B. FA	2015	10	15	2018	NA	Not eligible for accreditation
				25	2019	NA	
				30	2020	NA	
47	B. Des (FC)	2020	10	20	2021	NA	Not eligible for accreditation
48	B. Des (FD)	2015	10	30	2018	NA	Not eligible for accreditation
				40	2019	NA	
49	B. Des (FSID)	2018	5	15	2019	NA	Not eligible for accreditation
50	B. Des (TPD)	2016	5	No	-	NA	Not eligible for accreditation
51	M.DS (Fashion Technology)	2018	5	10	2021	NA	Not eligible for accreditation
52	B.A. (English)	2017	10	20	2018	NA	Not eligible for accreditation
				30	2021	NA	
53	B.A. (French)	2015	5	10	2019	NA	Not eligible for accreditation
54	MBA (Logistics and SCM)	2018	20	35	2019	NA	Eligible but not applied
55	BBA (Real Estate and Urban Infrastructure)	2017	10	No	-	NA	Eligible but not applied
56	MBA (CPM)	2017	60	No	-	NA	Accredited for duration 2026-2028

57	BBA	2014	30	60	2016	NA	Eligible but not applied
				100	2018	NA	
				120	2023	NA	
58	B.Com. (H)	2015	10	20	2022	NA	Eligible but not applied
59	MBA (Marketing and Sales)	2015	25	No	-	NA	Accredited
						NA	
60	B.Sc. (Clinical Psychology)	2015	20	105	2018	NA	Not eligible for accreditation
				170	2019	NA	
				210	2021	NA	
61	M.A. (Clinical Psychology)	2015	5	25	2023	NA	Not eligible for accreditation
62	B. Tech (ME)	2014	15	No	-	NA	Eligible but not applied
63	B. Tech (AE)	2014	40	40	-	NA	Eligible but not applied
						NA	
						NA	

8. Programs to be considered for Accreditation vide this application:

Table A8. List of programs to be considered for accreditation.

S. No.	Name of the Department	Name of the Program
1.	Amity Institute of Information Technology	Master of Computer Applications (MCA)

9. Vision of the Institution:

To make Amity University Maharashtra an Institute of Excellence in Higher Education by providing value-based holistic education, including leadership qualities, encouraging research, innovation, and nurturing talent.

10. Mission of the Institution:

To provide quality education catering for diverse contemporary educational and research needs of the Nation with special emphasis on regional aspirations and develop balanced personalities with positive outlook and having leadership qualities.

11. Contact Information of the Head of the Institution and NBA Coordinator, if designated:

i. Head of the Institution

- Name: Prof. (Dr.) A W Santhosh Kumar
- Designation: Vice Chancellor
- Mobile Number: 9994994142
- Email id: vcaum@mum.amity.edu

ii. NBA Coordinator, if designated:

- Prof. (Dr.) Sunil Dhaneshwar
- Designation: Dean IQAC & Accreditations
- Mobile No: 9860864623.
- Email id: sdhaneshwar@mum.amity.edu

PART B: Criteria Summary

Name of the program: Master of Computer Applications (MCA)

Criteria No.	Criteria Name	Mark/Weightage
Program Level Criteria		
1.	Vision, Mission and Program Educational Objectives	60
2.	Program Curriculum and Teaching –Learning Processes	130
3.	Course Outcomes and Program Outcomes	100
4.	Students' Performance	180
5.	Faculty Information and Contributions	200
6.	Facilities and Technical Support	80
7.	Continuous Improvement	50
Institute Level Criteria		
8.	Student Support Systems	80
9.	Governance, Institutional Support and Financial Resources	120
	Total	**1000**

NOTE: If the Institute follows Annual system then in the document wherever word 'Semester' has been used, same shall be read as annual or else semester. The Institutions may use appropriately whichever is applicable

Self-Assessment Report (SAR)

CRITERION 1	Vision, Mission and Program Educational Objectives	60

1. Vision, Mission and Program Educational Objectives (60)

1.1. State the Vision and Mission (5)

Vision of Amity University Maharashtra:

"To make Amity University Maharashtra an Institute of Excellence in Higher Education by providing value-based holistic education, including leadership qualities, encouraging research, innovation, and nurturing talent."

Mission of Amity University Maharashtra:

"To provide quality education catering for diverse contemporary educational and research needs of the Nation with special emphasis on Regional aspirations and develop balanced personalities with positive outlook and having leadership qualities."

Vision of Amity Institute of Information Technology:

"To be an innovation Centric institution in the field of Computer Science and Information Technology education and Create competent professionals for Software Industry".

Mission of Amity Institute of Information Technology:

M1: Develop Human Resources with sound knowledge in theory and practice of computer applications.

M2: Shaping future leaders in Information Technology.

M3: Establish Industry-Academia Collaboration.

M4: Exhibit Best Practices in Information Technology Industry.

M5: Advancing technology education for global impact.

M6: Fostering skills for the digital edge.

1.2. State the Program Educational Objectives (PEOs) of MCA Program (5)

Following are the PEOs of the Master of Computer Applications program.

PEO1: Develop expertise in modern computing technologies.
PEO2: Build intelligent solutions using machine learning techniques.
PEO3: Design secure, and scalable full-stack software systems.
PEO4: Apply Data Analytics for real-world decision making.
PEO5: Lead projects with effective software management skills.

The Program Educational Objectives (PEOs) act as a foundation for shaping the program curriculum

and defining its learning outcomes. These objectives aim to provide students with the essential knowledge, competencies, and professional attributes required to succeed in the domains of software development and use of Innovations in the software engineering processes.

Achieving these PEOs ensures the development of graduates who are not only technically skilled but also demonstrate strong leadership, entrepreneurial mindset, and ethical values, enabling them to thrive in the ever-evolving fields of software development.

1.3. Indicate where and how the Vision, Mission and PEOs are Published and Disseminated among the Stakeholders (15)

The awareness and communication about the Vision, Mission, and PEOs is achieved through the availability of these statements on Institute Website, Course Curriculum, Admission brochure, Placement brochure, Email Signature of Head of the Institute, Institutional Presentations and meetings, Orientation program for new students, Department noticeboards, Directors, and faculty offices, Parent Teacher meetings, and event brochure.

1. **Institute website (https://www.amity.edu/mumbai/aiit/)**

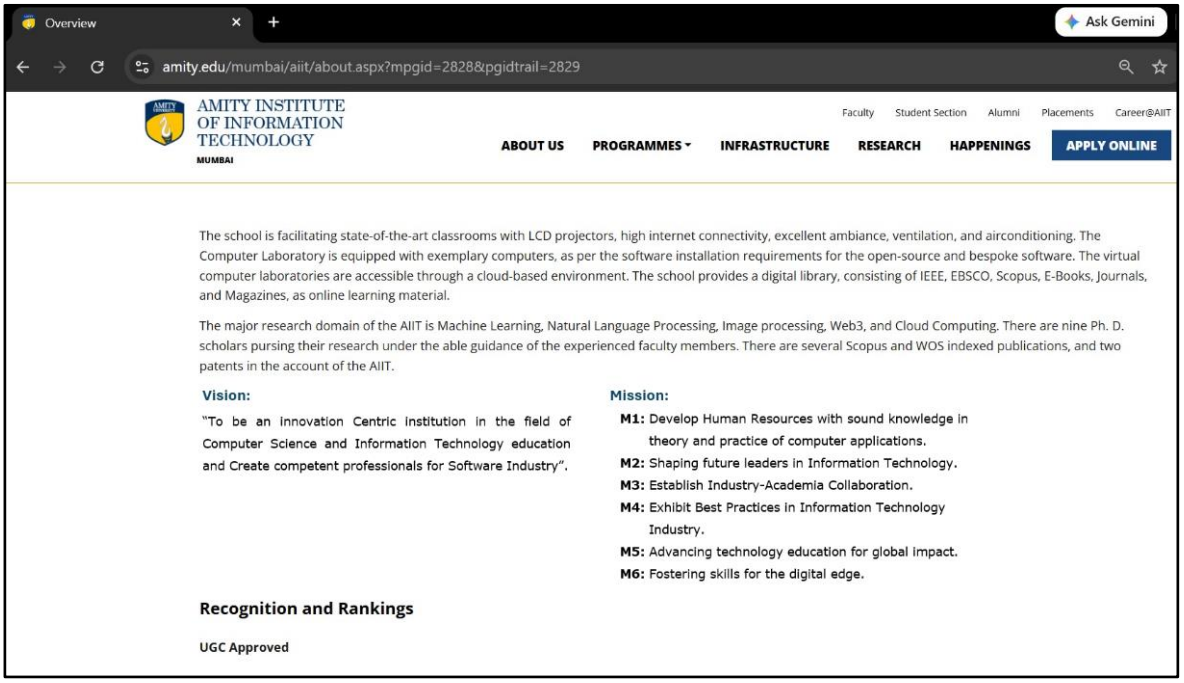


Fig.1.1: Vision and Mission Statement on Institutional Website.

Outlook

plz. print

From Dr. Manoj H Devare <mhdevare@mum.amity.edu>
Date Thu 16/04/2026 3:10 PM
To Bhoir Umesh Ramchandra <buramchandra@mum.amity.edu>

1 attachment (37 KB)
Notice.docx;

plz. print

With Best Regards,

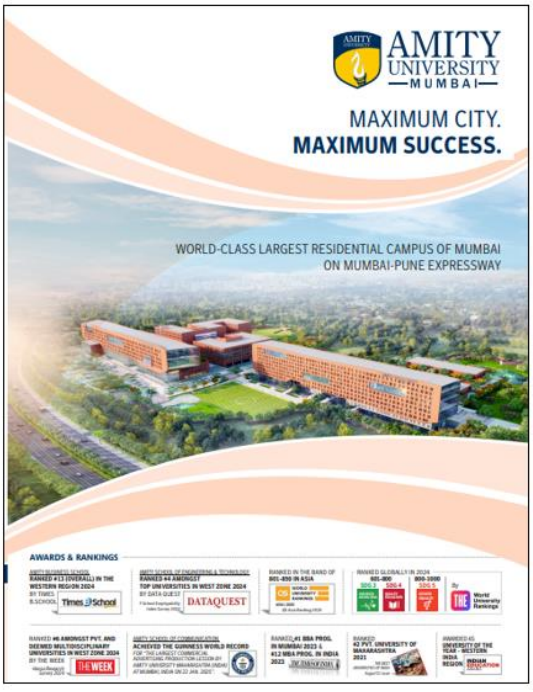
Dr. M H Devare
Professor & HOI AIIT-AUM.
Director, Accreditations and Ranking.
Associate Editor, IJCINI (WoS-ESCI, SCOPUS Indexed Journal).

Vision : "To be an innovation Centric institution in the field of Computer Science and Information Technology education and Create competent professionals for Software Industry".

Mission:

M1: Develop Human Resources with sound knowledge in theory and practice of computer applications.
M2: Shaping future leaders in Information Technology.
M3: Establish Industry-Academia Collaboration.
M4: Exhibit Best Practices in Information Technology Industry.
M5: Advancing technology education for global impact.
M6: Fostering skills for the digital edge.

Fig.1.2: Vision and Mission Statement in HOI Email Signature



Amity Institute of Information Technology

Vision:

"To be an innovation Centric institution in the field of Computer Science and Information Technology education and Create competent professionals for Software Industry".

Mission:

M1: Develop Human Resources with sound knowledge in theory and practice of computer applications.
M2: Shaping future leaders in Information Technology.
M3: Establish Industry-Academia Collaboration.
M4: Exhibit Best Practices in Information Technology Industry.
M5: Advancing technology education for global impact.
M6: Fostering skills for the digital edge.

PEOs of the Master of Computer Applications program.

PEO1: Develop expertise in modern computing technologies.
PEO2: Build intelligent solutions using machine learning techniques.
PEO3: Design secure, and scalable full-stack software systems.
PEO4: Apply Data Analytics for real-world decision making.
PEO5: Lead projects with effective software management skills.

Fig. 1.3 Excerpt of admission broacher showing Vision, and Mission Statement.

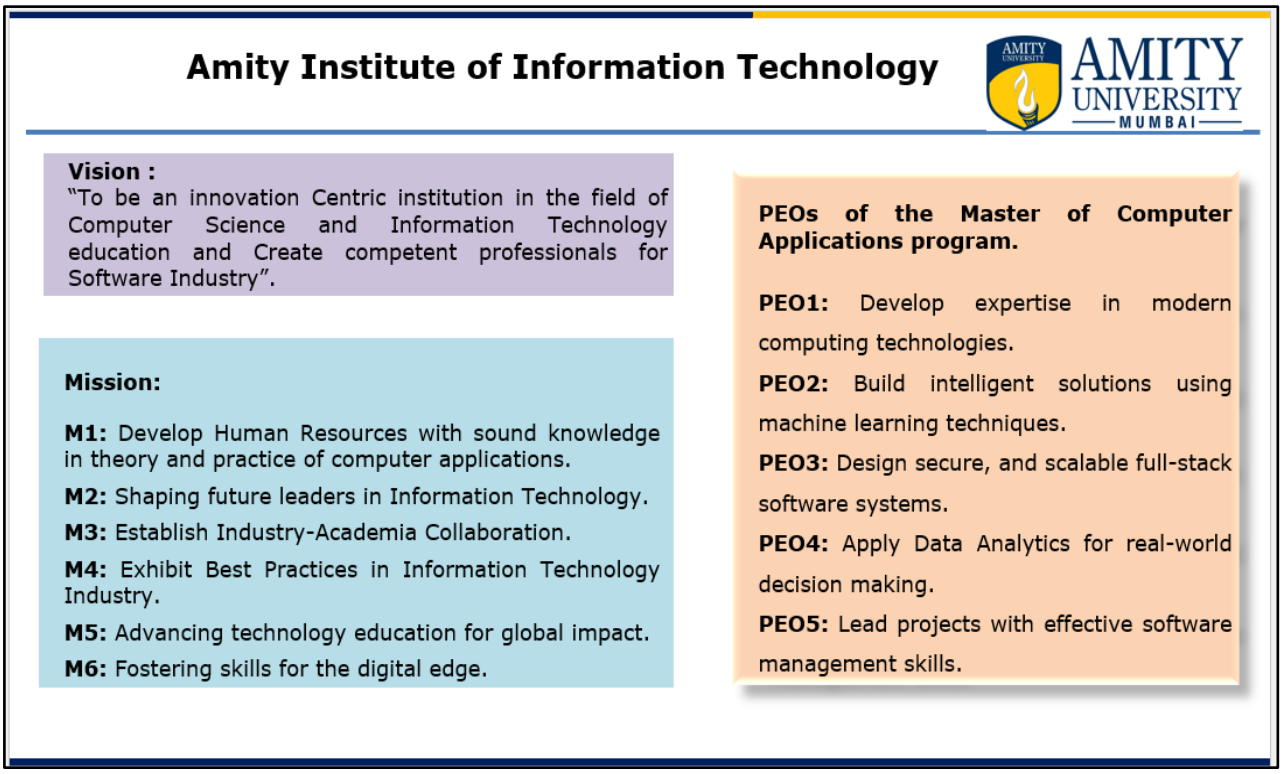


Fig. 1.4 Institutional Presentation Slide to Various Stakeholders.

Table 1.1: Internal and External Stakeholders at AIIT

Communication through	Internal Stakeholder	External Stake holder
Institute Website	**Yes**	**Yes**
Course curriculum	**Yes**	
Admission brochure	**Yes**	**Yes**
Email Signature from HoI	**Yes**	**Yes**
Institutional Presentation and meetings	**Yes**	
Orientation program of new students	**Yes**	**Yes**
Department notice boards, directors, and faculty offices	**Yes**	
Parent Teachers Meeting	**Yes**	**Yes**

1.4. State the Process for Defining the Vision & Mission and PEOs of the Program (20)

The Departmental Academic Committee (DAC) and the Program Assessment Committee (PAC) for MCA serve as primary engines for drafting, reviewing, and refining the institutional statements. The DAC acts as the initiator and technical architect of the statements. Its role is focused on the initial stages of the lifecycle. DAC is responsible for facilitating the drafting of the provisional Vision, Mission, and

Program Educational Objectives (PEOs). They translate the raw inputs from faculty brainstorming and stakeholder feedback into structured academic statements. The DAC committee ensured the first version of these statements aligns with the higher-level institutional directives (Amity University and AIIT School goals) before they are sent for wider assessment.

The DAC works alongside the PAC to incorporate rigorous feedback, ensuring the language is clear and practically applicable to the department's needs. The PAC acts as the evaluator and quality assurance body. Its role is focused on alignment and continuous improvement. The PAC assesses the drafted PEOs to ensure they are measurable and align with the desired outcomes of the MCA program. The PAC provides a formal review of the statements, evaluating them against stakeholder needs and academic rigor. A critical function of the PAC is managing the "Continuous Feedback & Improvement Loop." As the diagram indicates, the PAC analyses ongoing feedback and results, triggering a return to the ideation stage if the Vision, Mission, or PEOs require further refinement to stay relevant.

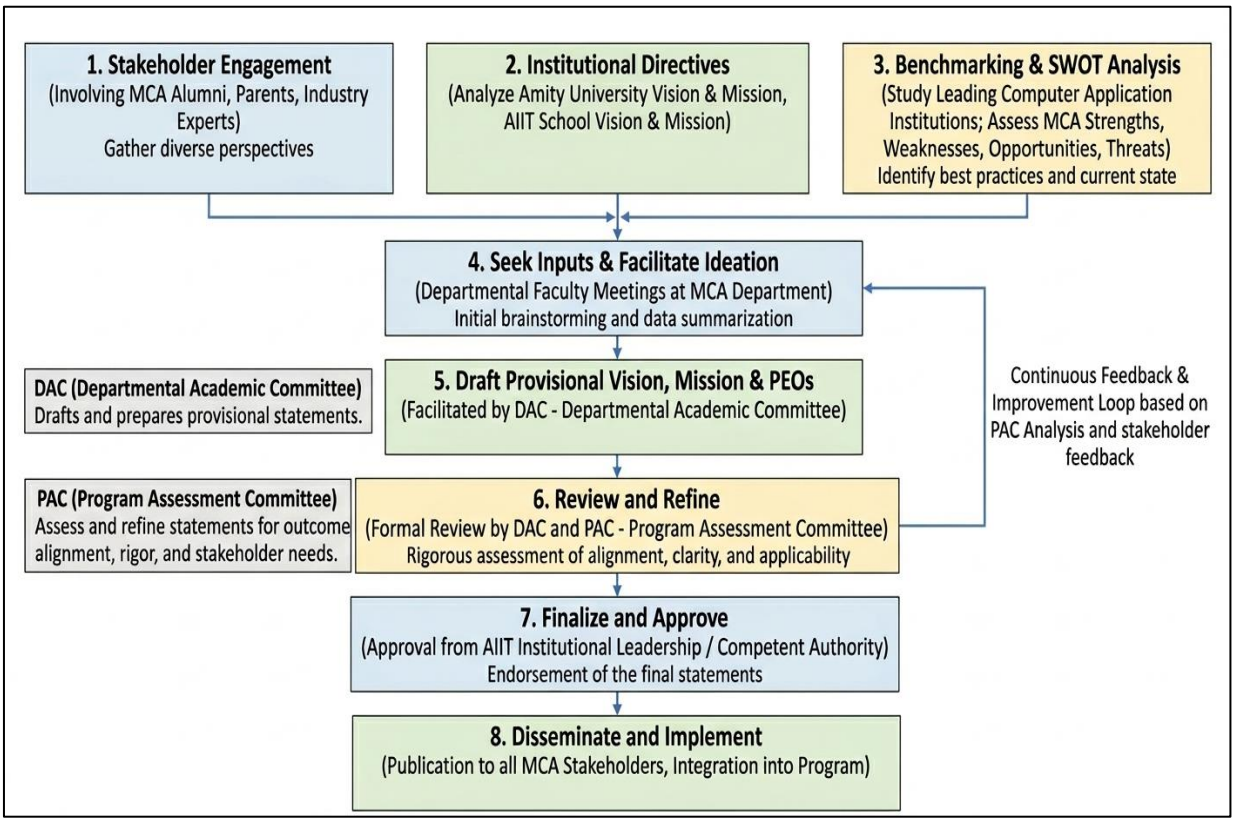


Fig. 1.5 Process for formulating Vision, Mission, and PEOs

By following the process, the Vision and Mission of the school, and PEOs of MCA Program are effectively communicated. The understanding by both internal and external stakeholders fosters a shared sense of purpose and commitment towards achieving the program's goals. As shown in figure 5, Vision, Mission and PEO formulation is an open loop for necessary adaptation. As per the changing scenario and disruptive technologies in the market, the feedback is taken on the regular interval.

Current vision, mission and PEOs are finalized after the necessary learning from the observation, inputs from the internal and external stakeholders. Necessary documentation of the inputs during the internal stakeholders' meetings, interviews, interactions and feedback through the electronic records is maintained. The vision and mission is aligned with the broader vision of the Amity University Maharashtra. The vision is defined to achieve the strategic plan and for the betterment of the current students, and future aspirants planning to pursue their post graduate degree in Computer Applications in the MCA department. The faculty members continuously see the best practices followed in Information Technology and related Industries to maintain high quality outcomes through the established processes.

1.5. Establish Consistency of PEOs with Mission of the Department (15)

Table 1.2 Establish Consistency of PEOs with Mission of the MCA Department

PEO Statements	M1	M2	M3	M4	M5	M6
PEO1: Develop expertise in modern computing technologies.	3	3	3	3	2	3
PEO2: Build Intelligent solutions using Machine Learning Techniques	3	2	2	3	3	2
PEO3: Design secure, scalable full-stack software systems.	2	3	3	2	3	3
PEO4: Apply data analytics for real-world decision making.	3	2	2	3	3	2
PEO5: Lead projects with effective software management skills	3	3	2	3	3	3

Table 1.3 Mission – PEOs Matrix – Justification and rational of the mapping

PEO Statements	Mission M1	Correlation	Justification and Rationale of Mapping
PEO1: Develop expertise in modern computing technologies.	M1	3	Students develop strong theoretical and practical knowledge through structured curriculum, laboratory sessions, coding practices, flipped classroom approach, and case study-based learning.
	M2	3	Leadership skills are developed through participation in hackathons, workshops, and technical club activities, supported by collaborative and experiential learning approaches.
	M3	3	Exposure to industry practices is provided through internships, seminars, guest lectures, and technical workshops.
	M4	3	Leadership skills are developed through participation in Hackathons, Workshops, and Technical Club activities, supported by collaborative and experiential learning approaches.
	M5	2	Students receive exposure to global practices through academic activities and certifications, with opportunities for further enhancement through Industry and International Collaborations.
	M6	3	Strong digital competencies are developed through practical exposure to modern tools and technologies in real-world and project-based environments.
PEO2: Build intelligent solutions suing machine	M1	3	A strong foundation in Programming, Mathematics, and Data Structures and Algorithms is built through structured learning, practical exercises, and problem-based learning approaches.

learning techniques	M2	2	Leadership exposure focuses on technical skill development, team-based and managerial activities using Behavioral Science.
	M3	2	Strong exposure to industry practices is facilitated through seminars, guest lectures, and Project-based, summer Internship Learning activities.
	M4	3	Students apply machine learning best through project-based learning, case studies, and flipped classroom methodologies.
	M5	3	The program aligns with global trends in Artificial Intelligence and machine learning technologies.
	M6	2	Students develop practical skills using tools such as Python and TensorFlow for building and deploying machine learning models through project-based learning.
PEO3: Design secure, scalable full-stack software systems.	M1	2	Students gain knowledge through coursework and projects, with opportunities for further enhancement through advanced learning and practical exposure.
	M2	3	The ethical secure practices are followed through the cyber security and the cyber forensics theory and laboratory course. The same techniques are used by the students while developing their software applications.
	M3	3	Strong industry exposure through internships, and experiential learning approaches.
	M4	2	Best practices are incorporated through project-based learning and guided implementation of software development processes.
	M5	3	Aligned with global system design standards in the DevOps and agile techniques used in the software development.
	M6	3	Hands-on experience with modern frameworks and tools is provided through practical and project work. The security tools and blockchain based applications are developed by the students through the smart contract deployment on the Ethereum.
PEO4: Apply data analytics for real-world decision making.	M1	3	Strong analytical and problem-solving skills are developed through data analysis projects, programming assignments, and real-world case studies.
	M2	2	Students develop leadership abilities through analytical thinking and decision-making during communication skills, behavioral science and learning foreign language for global exposure.
	M3	2	Industry interaction is facilitated through guest lectures, seminars, and selected collaborative activities.
	M4	3	Best practices in data analytics, predictive modeling and visualization are implemented through hands-on projects, enabling students to analyze and present data effectively.
	M5	3	The curriculum emphasizes data analytics skills aligned with global industry demand, preparing students for data-driven roles such as sentiment analysis in diverse sectors.
	M6	2	Students develop practical skills using tools such as Python, SQL Server tools for data analysis, visualization, and real-world decision-making.
PEO5: Lead projects with effective software management skills	M1	3	Communication and project management skills are enhanced through team-based projects, presentations, and collaborative learning activities.
	M2	3	Students develop leadership and teamwork skills through team building, flipping classroom discussions, and collaborative learning activities.
	M3	2	Exposure to industry practices is facilitated through seminars, guest lectures, and software team and project management activities.
	M4	3	Hands-on experience in Agile methodologies and software lifecycle activities.
	M5	3	Students receive exposure to come with innovative sustainable solutions addressing global issues and reaching the global

			audience.
	M6	3	Practical exposure to industry-standard tools such as Git, Github, Maven, Jenkins and similar modern software project management tools.

CRITERION 2	Program Curriculum and Teaching Learning Process	130

2. Program Curriculum and Teaching Learning Process (130)

2.1. Program Curriculum (50)

In the case of autonomous institutions, the following sub-criteria and marks will be applicable to the program curriculum (50)

2.1.1. State the Process for Designing the Program Curriculum (15)

The process of MCA curriculum development and revision is carried out in a systematic and participatory manner to ensure academic quality, industry relevance, and alignment with national education policy 2020. Initially, a program development team is constituted comprising senior faculty members and subject experts who are responsible for designing and reviewing the curriculum. This team undertakes a detailed analysis of the guidelines issued by the University Grants Commission (UGC) along with a comprehensive review of the provisions outlined in the NEP 2020. After the introduction of NEP 2020, all relevant provisions such as flexibility, skill-based learning, and outcome-based education are carefully incorporated into the curriculum framework.

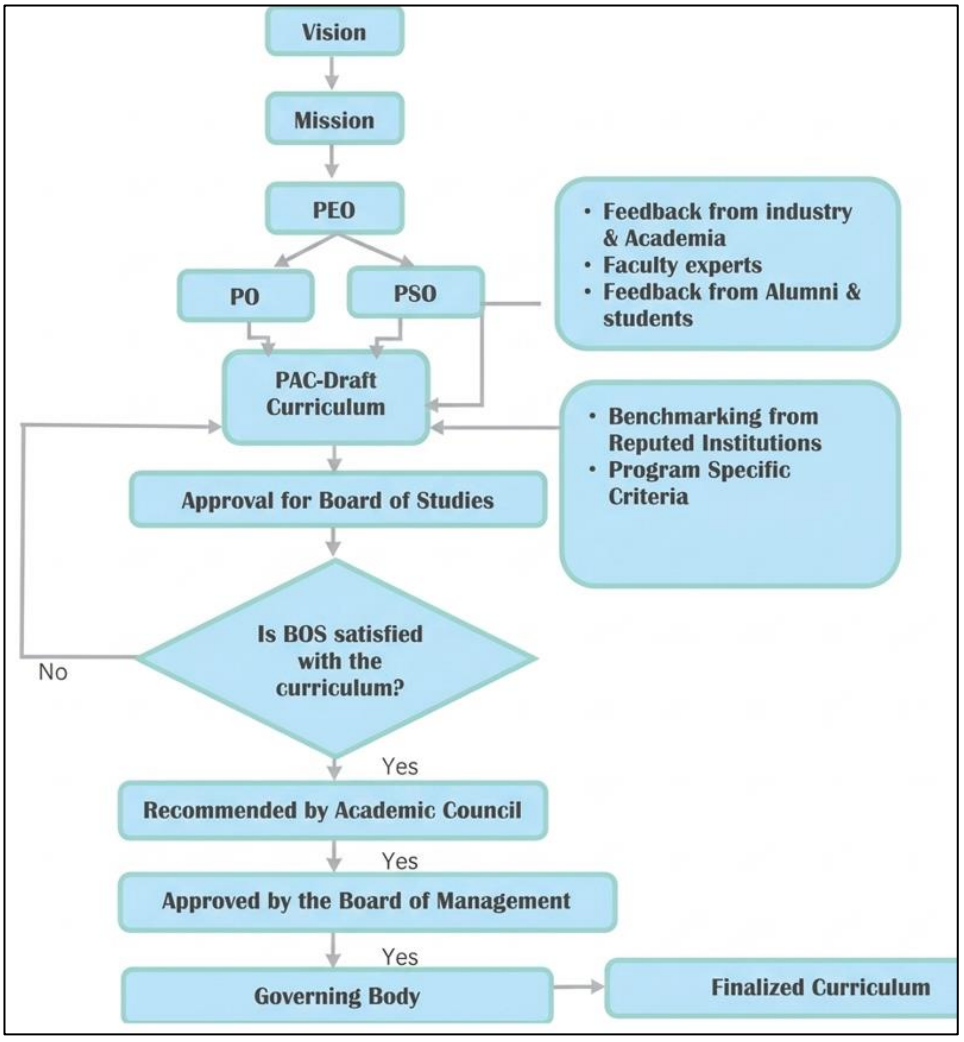


Fig 2.1 Initial Process of Designing the Program Curriculum.

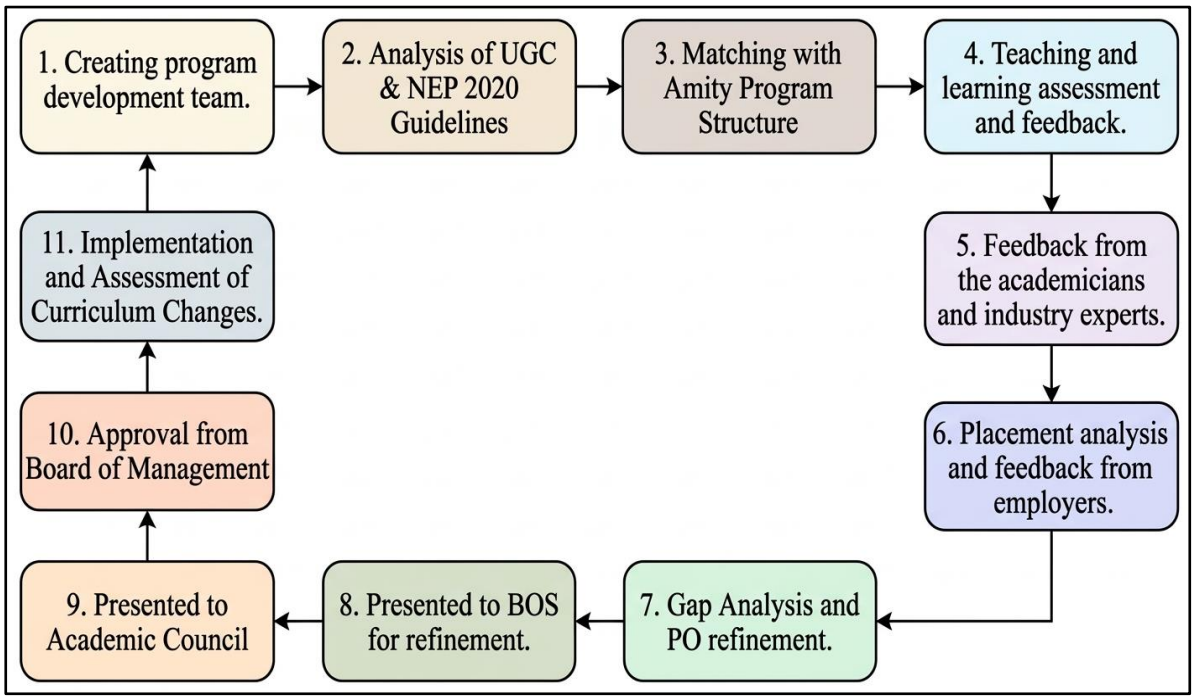


Fig. 2.2 Process for Revision in the Program curriculum

The proposed structure is then mapped with the existing institutional framework to ensure consistency with the university's academic model. Emphasis is placed on effective teaching-learning processes, assessment strategies, and continuous feedback mechanisms. Feedback is actively collected from academicians and industry experts to incorporate contemporary trends and technological advancements. In addition, placement records and employer feedback are analysed to understand industry expectations and enhance employability outcomes.

Based on these inputs, a gap analysis is conducted to identify areas for improvement, leading to refinement of Program Outcomes (POs) and course structures. The revised curriculum is then presented before the Board of Studies (BoS) for further academic deliberation and refinement. Subsequently, it is submitted to the Academic Council for approval, ensuring that all academic standards and regulatory requirements are met. Final approval is obtained from the Board of Management.

Once approved, the curriculum is implemented effectively, followed by continuous assessment and periodic review to ensure its relevance and effectiveness in achieving desired learning outcomes.

2.1.2 State the Components of the Program Curriculum (10)

The core courses of the MCA program are designed by considering the skill and knowledge requirement in the Tech-Industry specially focusing on the Software Industry. The MCA curriculum is thoughtfully designed to be industry-ready, contemporary, and aligned with evolving technological trends by integrating core computing fundamentals with emerging technologies, practical labs, and industry-oriented learning. The program electives are offered mostly related to the core courses; however, specialized and advanced topics of Computer Application are also included. The real essence of credit

system is perfectly utilized in MCA curriculum design, which accommodates essential and contemporary topics of Information Technology domain. The appropriate weightages are given to achieve balance between theory and practical aspects. The credit structure of MCA Program at AIIT provides the equal number of theory and practical hours for core courses.

The foundation of the curriculum is built through core subjects such as Data Structures and Algorithms, Operating Systems, Computer Networks, and DBMS, supported by their respective laboratories. These courses ensure that students develop strong problem-solving abilities, computational thinking, and a deep understanding of system-level concepts, which are essential for any IT professional.

Programming and software development skills are enhanced through courses like C & C++, Java, Advanced Java (Spring), Python (Django & Kivy), ASP.NET & C#, and Android Programming along with their labs. These subjects expose students to multiple programming paradigms, frameworks, and application development environments, making them versatile developers capable of working across platforms including web, mobile, and enterprise systems.

The curriculum emphasizes modern web and application development through Advanced Web Technologies (React.js), UI/UX Design Lab, and DevOps Concepts Lab. These courses ensure that students are proficient in front-end technologies, user-centric design, and continuous integration and deployment practices, which are critical in today's agile software industry.

Emerging and advanced technology domains form a significant part of the curriculum, including Machine Learning, Natural Language Processing, Cloud Computing (Azure & AWS), Big Data Processing, Blockchain Architecture, Cyber Security, Cyber Forensics, Soft Computing, Image Processing, and Optimization Techniques. These courses prepare students for high-demand roles in AI, data science, cloud engineering, and cybersecurity.

Practical exposure is further strengthened through extensive laboratory work, summer internships, and a final project/dissertation, enabling students to apply theoretical knowledge to real-world problems. Additionally, courses like Research Methodology and Mathematical Aptitude support analytical thinking and research skills. Overall, the curriculum ensures holistic development by combining theoretical knowledge, hands-on practice, industry feedback, and emerging technology trends, making graduates highly employable and future ready.

Looking into the requirement of the essential soft skills and communication skills, the program consists of 8 credits of Communication skills and Behavioral Science courses. These courses cover the interesting classroom activities to polish the communication skill, improving inter-personal relations, by understanding the concepts of how the mind works, how people behave in groups, how people make choices, and ow culture influences behavior. The MCA Program at AIIT has unique approach to make the students industry ready and equip them with the foreign language. Student can select any one foreign language out of German, French or Spanish. Students learn from the classroom sessions of 8 credits of the selected foreign language as an open elective. Multinational companies prefer candidates with foreign language skills because they can handle international clients, work in global teams easily and are suitable for overseas assignments. FL learning includes understanding cultural norms, etiquette, adapting to different work environments, and respecting

diversity.

The course on Mathematical Aptitude prepares the students for the first semester for the commencement of the placements organized by the placement cell. The Optimization technique course covers important aspects of Linear Programming, Assignment and Transportation problems and Project Management topics.

The Summer internships, and final Semester Projects are the Non-Teaching Credit Courses (NTCC) which include the Systematic Planning and execution of the milestone-based evaluation, and guidance for the quality outcomes in terms of the student learning.

Table 2.1 Various components of the program curriculum

MCA Batch 2023-25			
Course Component	**Curriculum Content (% of total no. of credits of the program)**	**Total no. of Contact Hours**	**Total no. of Credits**
Program Core	59.80	1230	61
Program Electives	9.80	195	10
Open Electives	7.85	120	8
Skill Courses	7.85	120	8
Seminar/ Project work/ Internships/ Industrial training/ Visits	14.70	0	15
Any other (Specify)	0	0	0
		Total no. of Credits	102

2.1.3 Program Curriculum Structure (10)

Table 2.2: Program Structure MCA Batch 2023-25

MCA (Semester-I) **MCA Batch 2023-25**						
SNo.	**Course Code**	**Course Name**	**Lecture Hrs. Per Week**	**Tutorials Hrs. Per Week**	**Practical Hrs. Per Week**	**Total Credits**
Program Core						
1	IFT4101	Operating Systems	3	0	0	3
2	IFT4102	Android Programming	3	0	0	3
3	IFT4103	Advanced Web Technologies (React.js)	2	0	0	2
4	IFT4104	Operating Systems Lab (Unix)	0	0	2	1
5	IFT4105	DevOps Concepts Lab	0	0	2	1
6	IFT4107	Python (Django & Kivy) Programming	2	0	0	2
7	IFT4108	Java Lab	0	0	2	1
8	IFT4109	Python Programming Lab	0	0	2	1
9	IFT4110	Advanced Web Technologies (React.js) Lab	0	0	2	1
10	IFT4111	Android Programming Lab	0	0	2	1
11	IFT4112	Mathematical Aptitude	3	0	0	3
Skill Courses: Communication Skills & Behavioural Science						
12	BEH4151	Self-Development & Interpersonal Skills	1	0	0	1
13	CSS4151	Basics of Communication	1	0	0	1
Open Electives: Foreign Language (Select any One for 3 credit)						

14	LAN4151	French-I	3	0	0	3
14	LAN4152	German-I	3	0	0	3
14	LAN4153	Spanish–I	3	0	0	3
		Total				**24**

MCA (Semester-II)
MCA Batch 2023-25

SNo.	Course Code	Course Name	Lecture Hrs. Per Week	Tutorials Hrs. Per Week	Practical Hrs. Per Week	Total Credits
Program Core						
1	IFT4106	Business Intelligence Lab (SQL Server SSIS)	0	0	2	1
2	IFT4201	Computer Networks	2	0	0	2
3	IFT4203	Machine Learning	2	0	0	2
4	IFT4205	Natural Language Processing	2	0	0	2
5	IFT4206	Data Structures and Algorithms	2	0	0	2
6	IFT4207	C & C++ Lab	0	0	2	1
7	IFT4208	Computer Networks Lab	0	0	2	1
8	IFT4210	Machine Learning Lab	0	0	2	1
9	IFT4212	Natural Language Processing Lab	0	0	2	1
10	IFT4213	Data Structures and Algorithms Lab	0	0	2	1
11	IFT4214	Optimization Techniques	3	0	0	3
Skill Courses: Behavioural Science and Communication Skills						
12	BEH4251	Behavioural Communication and Relationship Management	1	0	0	1
13	CSS4251	Interpersonal Communication	1	0	0	1
Open Electives: Foreign Language (Select any one for 3 Credits)						
14	LAN4251	French -II	3	0	0	3
14	LAN4252	German -II	3	0	0	3
14	LAN4253	Spanish -II	3	0	0	3
Program Electives- I						
15	IFT4217	Software Engineering & UML	3	0	0	3
16	IFT4218	Oracle DBA	2	0	0	2
17	IFT4219	Oracle DBA Lab	0	0	2	1
18	IFT4204	Cloud Computing (Azure & AWS)	2	0	0	2
19	IFT4211	Cloud Computing (Azure & AWS) Lab	0	0	2	1
		Total				**25**

MCA (Semester-III)
MCA Batch 2023-25

SNo.	Course Code	Course Name	Lecture Hrs. Per Week	Tutorials Hrs. Per Week	Practical Hrs. Per Week	Total Credits
Program Core						
1	IFT4301	Image Processing	2	0	0	2
2	IFT4302	Cyber Security	2	0	0	2
3	IFT4303	Bigdata Processing	2	0	0	2
4	IFT4304	Blockchain Architecture	2	0	0	2
5	IFT4307	UI/UX Design Lab	0	0	2	1
6	IFT4309	Image Processing Lab	0	0	2	1
7	IFT4310	Cyber Security Lab	0	0	2	1
8	IFT4311	Bigdata Processing Lab	0	0	2	1

9	IFT4312	Blockchain Architecture Lab	0	0	2	1
10	IFT4315	DBMS Lab	0	0	2	1
Skill Courses: Communication Skills & Behavioural Science						
11	BEH4351	Leading through Teams	1	0	0	1
12	CSS4351	Corporate Communication	1	0	0	1
Open Electives: Foreign Language (Select any one for 2 credits)						
13	LAN4351	French-III	2	0	0	2
13	LAN4352	German-III	2	0	0	2
13	LAN4353	Spanish–III	2	0	0	2
Program Electives – II (Select any one for 3 Credits)						
14	IFT4306	Soft Computing	2	0	0	2
15	IFT4314	Soft Computing Lab	0	0	2	1
16	IFT4313	Term Paper	3	0	0	3
17	IFT4314	Software Project Management	2	0	0	2
18	IFT4315	Software Project Management Lab	0	0	2	1
Project/ Internship						
19	IFT4308	Summer Internship Evaluation	0	0	0	5
		Total				**26**

MCA (Semester-IV)
MCA Batch 2023-25

SNo.	Course Code	Course Name	Lecture Hrs. Per Week	Tutorials Hrs. Per Week	Practical Hrs. Per Week	Total Credits
Program Core						
1	IFT4401	Advanced Java (Spring)	3	0	0	3
2	IFT4402	Research Methodology	2	0	0	2
3	IFT4405	Advanced Java (Spring) Lab	0	0	2	1
4	IFT4406	Research Methodology Lab	0	0	2	1
5	IFT4411	ASP.NET & C# Programming	3	0	0	3
6	IFT4412	ASP.NET & C# Programming Lab	0	0	2	1
Skill Courses: Communication Skills & Behavioural Science						
7	BEH4451	Professional Excellence	1	0	0	1
8	CSS4451	Communication in Context	1	0	0	1
Program Electives – III (Select any 1 for 4 Credits)						
9	IFT4403	Cyber Forensics	3	0	0	3
10	IFT4407	Cyber Forensics Lab	0	0	2	1
11	IFT2413	Software Testing and Quality Assurance	3	0	0	3
12	IFT2415	Software Testing and Quality Assurance Lab	0	0	2	1
13	IFT2414	Open-Source Technologies (PHP & MySQL)	3	0	0	3
14	IFT2416	Open-Source Technologies (PHP & MySQL) Lab	0	0	2	1
Project/ Dissertation						
15	IFT4404	Project / Dissertation	0	0	0	10
		Total				**27**

Seminar/Project work/Internship/Industrial training/Visits may be considered as practical.

2.1.4 Overall Quality and Level of Program Curriculum (10)

The MCA program reflects a high overall quality and academic rigor through its well-structured and industry-aligned curriculum, supported by experienced and qualified faculty members. Core subjects such as Data

Structures and Algorithms, Operating Systems, Computer Networks, and DBMS build strong theoretical foundations, while advanced courses like Machine Learning, Natural Language Processing, Cloud Computing (Azure & AWS), Cyber Security, Blockchain Architecture, and Big Data Processing ensure students are equipped with emerging technological skills. Programming-focused courses including Java, Python (Django & Kivy), ASP.NET & C#, and Advanced Web Technologies (React.js) further strengthen development expertise. The program is delivered using effective pedagogical methods such as ICT-enabled teaching, case studies, project-based learning, and continuous assessment. Faculty members contribute significantly through excellent research publications, active involvement in sponsored projects, and IPR filings, thereby enriching the academic environment and ensuring that teaching is aligned with current research trends.

The program is further strengthened by robust infrastructure and well-equipped laboratories that support hands-on learning across all domains. Each theoretical subject is complemented by practical lab sessions, enabling students to gain real-world exposure and technical proficiency. Opportunities provided through the E-Cell encourage entrepreneurship, innovation, and startup culture among students. Strong industry interactions, guest lectures, workshops, and internship opportunities enhance practical knowledge and employability. Dedicated placement support ensures that students are well-prepared for recruitment in core IT companies. The emphasis on Summer Internships, Term Papers, and Project/Dissertation ensures high-quality execution of final projects, often addressing real-world problems. Overall, the MCA program effectively integrates quality curriculum, experienced faculty, modern infrastructure, research excellence, and industry engagement to produce competent and industry-ready graduates.

2.1.5 New Initiatives Towards Education Policy at the Programme Level (5)

Indian Language support in Teaching and Learning.

Special support for the subset of students who wish to get separate mentoring in the language other than English. The regular teaching in the classroom is done in English Language, whereas the separate mentoring sessions are arranged to the subset of students who wish to learn in the Indian Language. The students are identified from the entire set of MCA students who wish to learn certain topics from curriculum in Indian Language. Subsets of students are identified to who wish to learn certain topics from curriculum either in Indian Language, or in Mother Tongue. The basic intention behind doing this is the hypothesis that learners learn better in the language which he/ she knows very well.

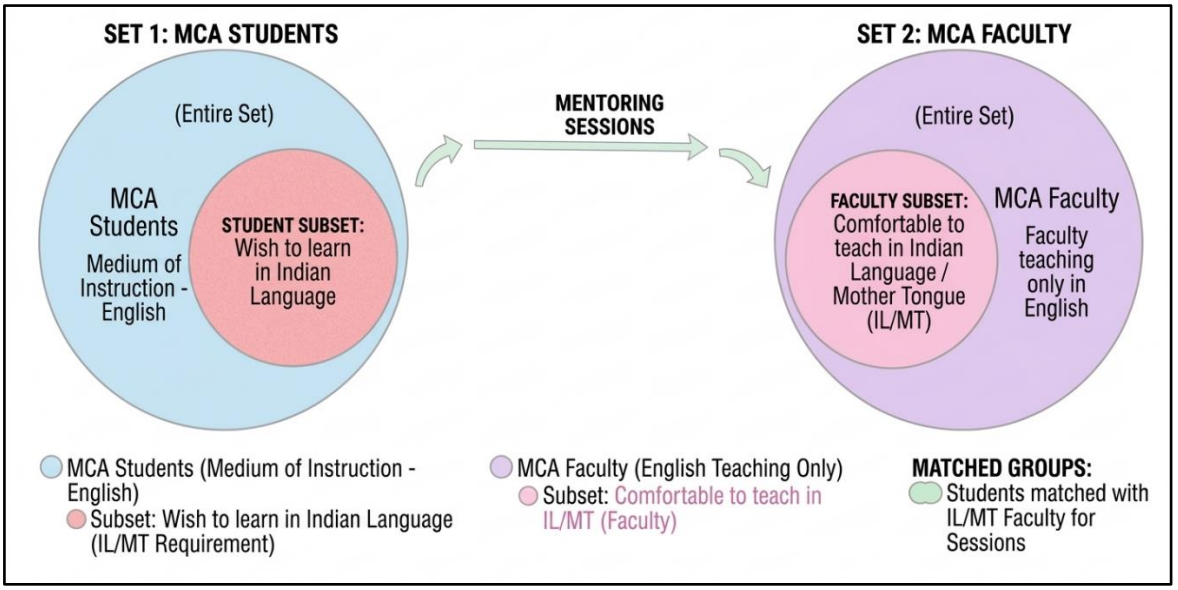


Fig. 2.2 Indian Language support in the Teaching and Learning.

Similarly, the faculty members from the MCA department are identified those who are comfortable to teach in Indian Language to the subset of the students. Finally, the mentoring sessions are organized after matching the student requirement and the Indian Language Speaking faculty members. Bilingual support in teaching and learning is provided. These efforts focus on removing language barriers for students, especially those from rural backgrounds, while maintaining technical rigor. The choice for option to get special mentoring sessions to learn in language they are most comfortable with to better grasp complex technical concepts.

The AI Based Translation tools

The tools like Google Translate, Microsoft Translator, IndicTrans2, Sarvam Translate, IndicTranslate, and AnuvadPro are suggested to the students to translate the English to Indian Languages. The AI based tools NaturalReader, Speechify, and Amazon Polly are used to provide mentorship for conversion of the text to voice for better understanding of the difficult technical topics.

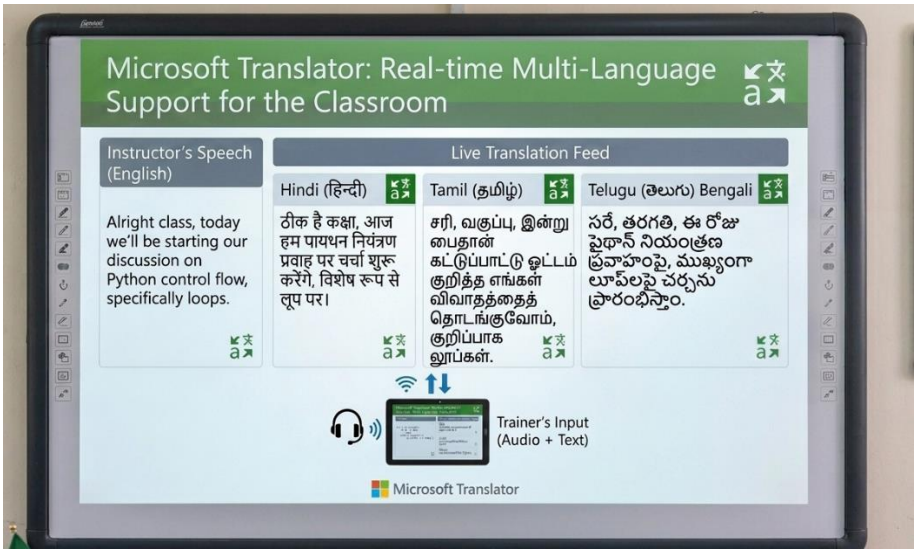


Fig. 2.3 Use of Microsoft Translator for Indian Language Support.

Support for promotion to the Indian Knowledge System

The MCA Department actively promotes the Indian Knowledge System (IKS) by organizing a comprehensive five-day workshop aimed at integrating traditional Indian wisdom with modern computing practices. The workshop was successfully conducted with the objective of creating awareness among students about the richness of India's intellectual heritage and its relevance in contemporary technological domains.

During the workshop, expert speakers and academicians introduced students to key aspects of the Indian Knowledge System, including ancient contributions to mathematics, algorithms, logic, linguistics, and knowledge representation. Sessions highlighted concepts such as the structured grammar of Sanskrit, principles of logic found in Nyaya philosophy, and early computational thinking evident in classical Indian texts. These sessions helped students appreciate the foundational ideas that resonate with modern

computer science. Introduce faculty and students to India's historical, philosophical, scientific, and cultural knowledge traditions.

IKS workshop encourage interdisciplinary teaching and research rooted in Indian epistemologies. Enable educators to integrate IKS into contemporary curricula, pedagogy, and academic discourse. Promoted understanding of India's civilizational heritage through scholarly interpretation and field-based insights. Interactive activities, case studies, and group discussions were conducted to demonstrate the application of IKS concepts in present-day technologies such as artificial intelligence, natural language processing, and data organization. Students also explored the ethical and holistic approach of Indian traditions towards knowledge, sustainability, and problem-solving.

The workshop encouraged students to think innovatively by blending traditional knowledge with modern tools. It provided a platform for interdisciplinary learning and inspired students to undertake projects and research in areas connecting IKS with computing. Overall, the five-day workshop effectively strengthened awareness and appreciation of the Indian Knowledge System among MCA students, fostering a sense of cultural pride while enhancing their academic and professional perspectives.

2.2 Teaching Learning Process (80)

2.2.1 Initiatives in Teaching and Learning Process (15)

The MCA program at AIIT, under Amity University Mumbai, has implemented a structured and innovative teaching–learning process to enhance academic quality and student outcomes. The program integrates real-world best practices from the Information Technology Industry. The industry-oriented problem solving, and modern tools such as Python frameworks, Microsoft Azure Cloud platforms, AWS Cloud are used to demonstrate the development and deployment of the software applications in Platform as Service (PaaS) online tools. The data analytics is performed using the SQL Server and in-built tools such as SSIS and SSAS.

Flipped Classroom

The flipped classroom methodology is used to better understand the topic through the student's active participation in the classroom and laboratory work. The well-planned flipped class learning is implemented to boost the learning curve. The Indirect Gamification is used by the faculty members to encourage the student's participation in the real-world problem solving through the Hacktoberfest Challenge. Collaborative learning is encouraged through group projects, peer discussions, and seminars.

Fig. 2.4 Flipped Class Activity as a Innovative Pedagogy

Fig. 2.5 Flipped Class Activities as a Innovative

Use of Learning Management System

The innovative pedagogy instructional material is made available to the learners through the institutional Amity Learning Management System (ALMS). The flip class makes the students not only to study prior to the classroom activity, but also collaboratively work to learn all facets of the topic. During the flip class, the LMS based Quiz and the assignment is also solved by the students. This equips the faculty member to evaluate learners continuously. The deadline-based quiz and assignments on the LMS makes the students prepare themselves for the future time management techniques.

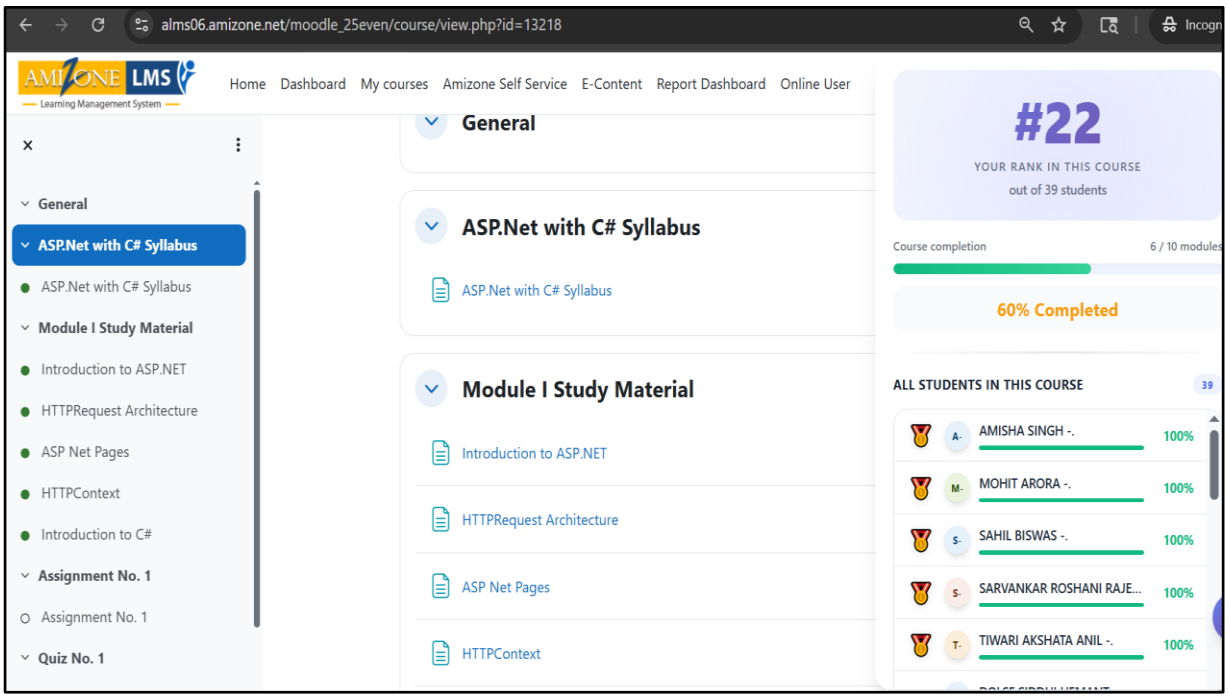


Fig. 2.6 Student Access to Learning Management System.

Use of Modern Tools in Software Development

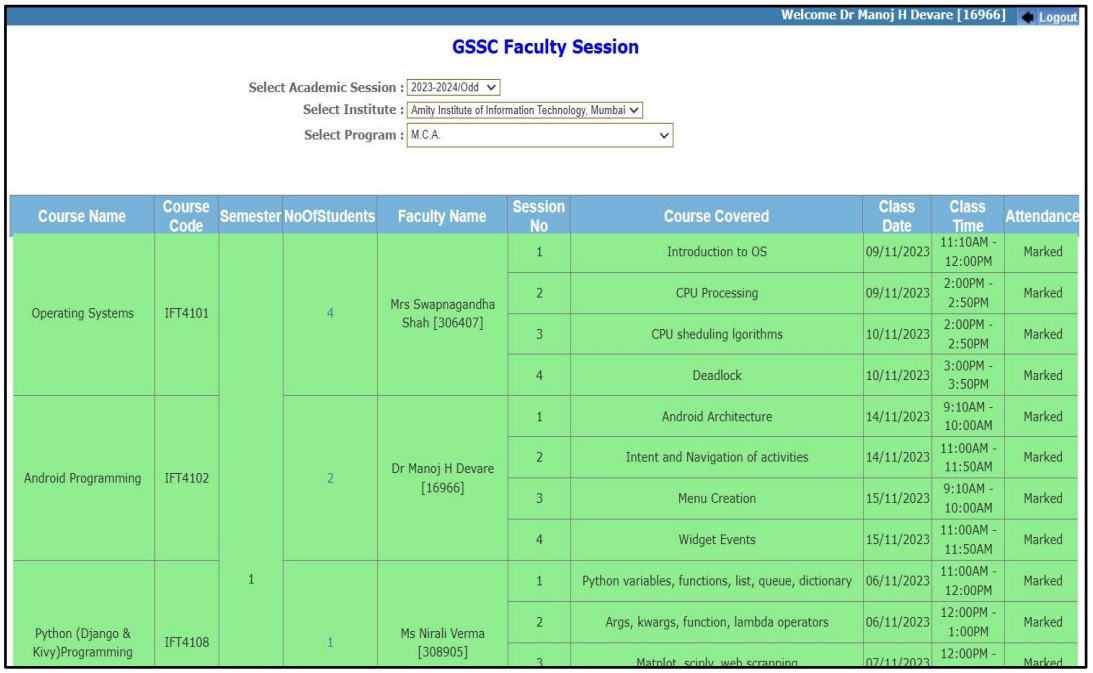
This participation enhanced the industry-based tools usage such as Git and GitHub for the Version Controlling Systems (VCS). The modern software engineering and project management through the continuous integration (CI) and Continuous Deployment (CD) is taught through the modern automation server tool Jenkins. The build tool such as Maven is the part the DevOps Concepts laboratory work. The infrastructure as a service tool Terrafarm is taught along with the Azure cloud tools and services. The concept of the containerization of the application is done through the Docker Tool. The Cyber forensics investigation of the digit evidence is done through the Autopsy tool from the Kali Linux. Similarly, the analysis of the FAT file system, NTFS file system is done through the dd tool. The modern tools such as Anaconda, Jupyter, Colab, Visual Studio Code are used by the instructors to teach the Python programming language concepts. The Netbeans IDE and Eclipse is also used for the Core Java and advanced Java Concepts implementation.

The faculty feedback by the students is collected before the end semester examination. Students submit the faculty feedback through the Amizone ERP system. The feedback submitted by the students is for all courses learnt in that semester. The feedback is quantitative and qualitative in nature. Through the analysis of the feedback, faculty can introspect themselves for the further improvements in the teaching and learning process. The bright students are encouraged to take the advanced assignments of writing research papers and complete the objective driven research project work.

Guided Self-Study Classes

The Guided Self-Study Classes (GSSC) remedial classes are conducted for the students who might not have been able to pass the course. There are four GSSC classes conducted for each of the courses where the backlog courses are sought. These classes are conducted by faculty members to clear the doubts on the difficult topics and encouraged the students for the necessary improvements to achieve

learning outcomes of the course. The GSSC is the mechanism to assist the weak students.



Welcome Dr Manoj H Devare [16966] Logout

GSSC Faculty Session

Select Academic Session : 2023-2024/Odd
Select Institute : Amity Institute of Information Technology, Mumbai
Select Program : M.C.A.

Course Name	Course Code	Semester	NoOfStudents	Faculty Name	Session No	Course Covered	Class Date	Class Time	Attendance
Operating Systems	IFT4101	1	4	Mrs Swapnagandha Shah [306407]	1	Introduction to OS	09/11/2023	11:10AM - 12:00PM	Marked
					2	CPU Processing	09/11/2023	2:00PM - 2:50PM	Marked
					3	CPU sheduling lgorithms	10/11/2023	2:00PM - 2:50PM	Marked
					4	Deadlock	10/11/2023	3:00PM - 3:50PM	Marked
Android Programming	IFT4102		2	Dr Manoj H Devare [16966]	1	Android Architecture	14/11/2023	9:10AM - 10:00AM	Marked
					2	Intent and Navigation of activities	14/11/2023	11:00AM - 11:50AM	Marked
					3	Menu Creation	15/11/2023	9:10AM - 10:00AM	Marked
					4	Widget Events	15/11/2023	11:00AM - 11:50AM	Marked
Python (Django & Kivy)Programming	IFT4108		1	Ms Nirali Verma [308905]	1	Python variables, functions, list, queue, dictionary	06/11/2023	11:00AM - 12:00PM	Marked
					2	Args, kwargs, function, lambda operators	06/11/2023	12:00PM - 1:00PM	Marked
					3	Matplot, scipy, web scrapping	07/11/2023	12:00PM -	Marked

Fig. 2.7 Record of Guided Self Study Classes Conducted.

Use of ICT Tools

Laboratory sessions are carefully designed with clear objectives, hands-on execution, systematic record maintenance, and analytical interpretation of results. The ICT tools such as LCD projector is used for the effective demonstrations of the practical work. The programming language concepts in Python, C++, Java, Solidity, and JavaScript etc. concepts are demonstrated and students are asked to complete the laboratory work based on the demonstration. One step ahead to that, the projects are developed based on this practical work.

Additional Lectures by Eminent Academicians

Additional lectures delivered by reputed academicians provide significant value to MCA students by enriching their academic and professional development beyond the prescribed curriculum. These expert sessions expose students to advanced concepts, current research trends, and emerging technologies that may not be fully covered in regular classroom teaching. Renowned academicians often bring deep subject expertise and a research-oriented perspective, which helps students develop critical thinking, analytical abilities, and a deeper understanding of complex topics. Such lectures also bridge the gap between theoretical knowledge and practical application by presenting real-world case studies, innovative methodologies, and interdisciplinary approaches. Students gain insights into areas such as artificial intelligence, data science, cybersecurity, and cloud computing from experts actively working in these domains. This enhances their awareness of industry expectations and future career opportunities. Moreover, interactions with distinguished academicians inspire students to pursue higher studies, research, and innovation. They also provide guidance on project work, publications, and career pathways. These sessions often encourage curiosity, independent learning, and academic excellence.

Table: 2.3 Additional Lectures by Eminent Academicians

Sr. No.	Academic Speaker	University / Institute	Topic of talk
1	Dr. Mansi Baheti,	Department of Computer	Database

	Assistant Professor	Science and IT, Dr. Babasaheb Ambedkar Marathwada University.	Normalization
2	Dr. Sonali Kulkarni, Associate Professor	Dept. of Computer Science and IT, BAMU Aurangabad.	Big Data Visualization
3	Dr. Tanurup Das, Assistant Professor	Forensics Science, WBNUJS, Kolkata.	Digital Forensics in the 21st Century
4	Dr. Devarshi Mehta, Associate Professor.	Faculty of Computer Technology (MCA) GLS University, Ahmedabad.	Role of Machine Learning in Natural Language Processing
5	Dr. Darshita Kalyani, Assistant Professor	GLS University, Ahmedabad	Project Management Using the Concept of Agile
6	Dr. Darshan Hable Assistant Professor	Amity School of Applied Science, Amity University Mumbai.	Computer Architecture
7	Dr. Jeyavel J, Assistant Professor	Amity School of Engineering and Technology, Amity University Mumbai.	Cloud Computing (Azure and AWS)
8	Dr. Dipak Raskar Assistant Professor	Amity School of Engineering and Technology, Amity University Mumbai.	Machine Learning
9	Dr. Sameer Kulkarni Associate Professor	Amity Business School Amity University Mumbai.	Research Methodology

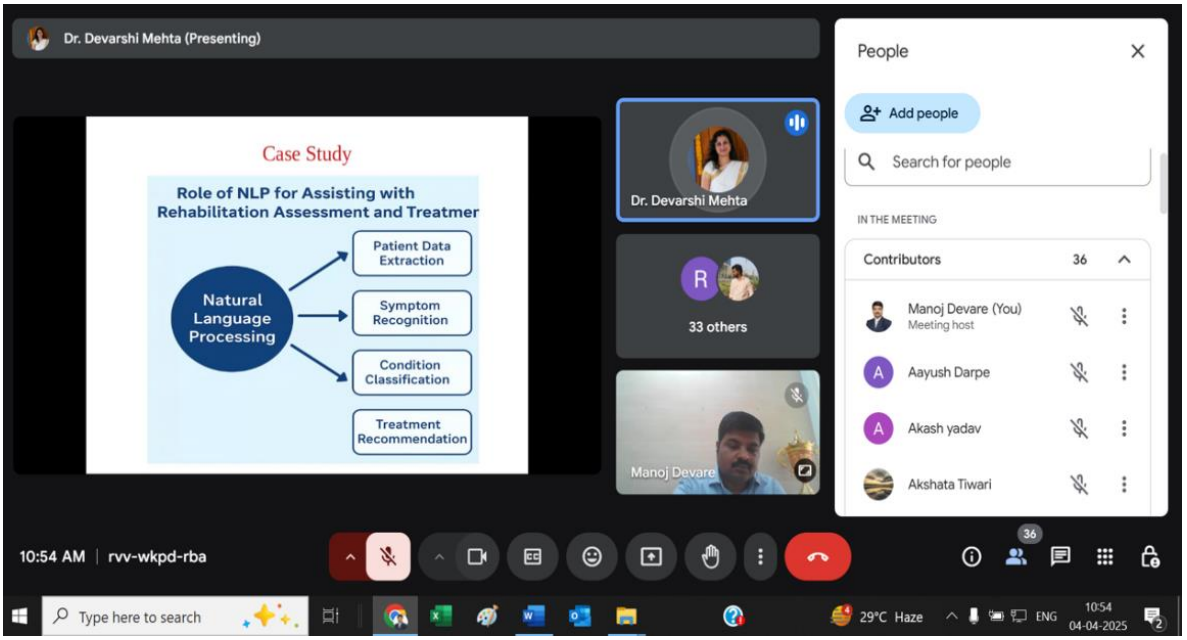


Fig. 2.8 Additional Lectures by Eminent Academician.

Quality of Laboratory experiments

he quality of laboratory experiments is maintained at a high standard through careful planning, relevance to course outcomes, and alignment with current industry practices, ensuring that students gain meaningful hands-on experience. Each experiment is designed with clear objectives, well-defined procedures, and expected outcomes, enabling students to understand concepts effectively and apply theoretical knowledge in practice. The systematic conduction of laboratory sessions is ensured through structured schedules, proper documentation, and continuous supervision by faculty members. To further enhance understanding, laboratory demonstrations are delivered using ICT-enabled tools multimedia presentations, and virtual labs, which help in visualizing complex processes and improving engagement. This integrated approach not only strengthens conceptual clarity but also fosters analytical thinking, problem-solving skills, and confidence among students in performing experiments

independently. The lab journals prepared by the students after successful completion, are observed by the faculty members.

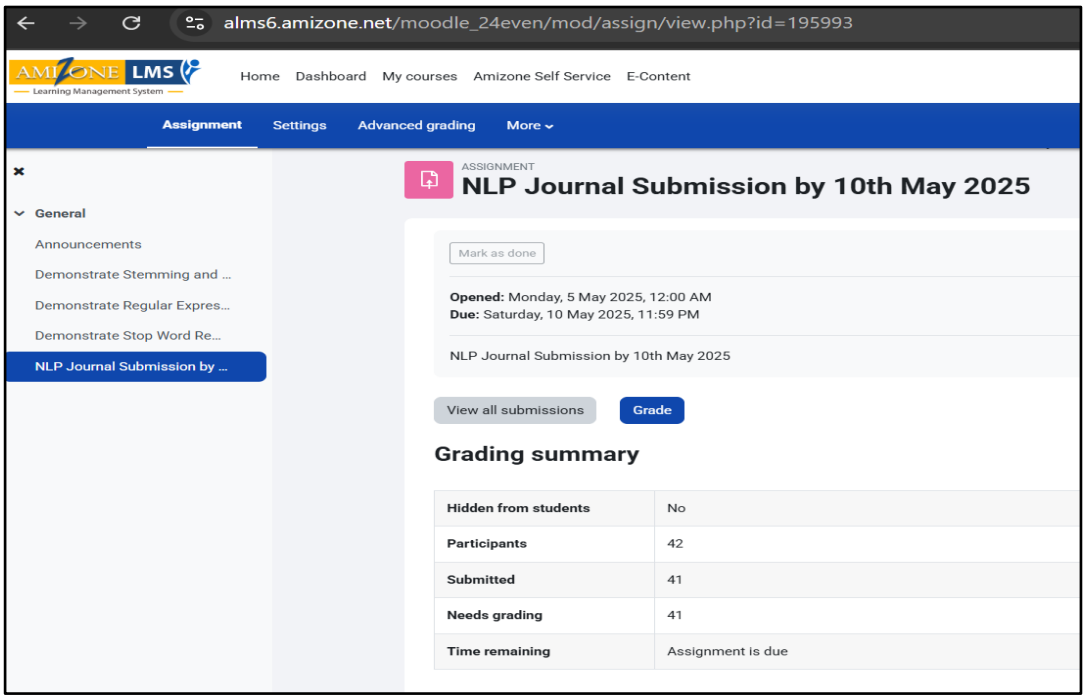


Fig. 2.9 Practical Lab Journal Submission on LMS.

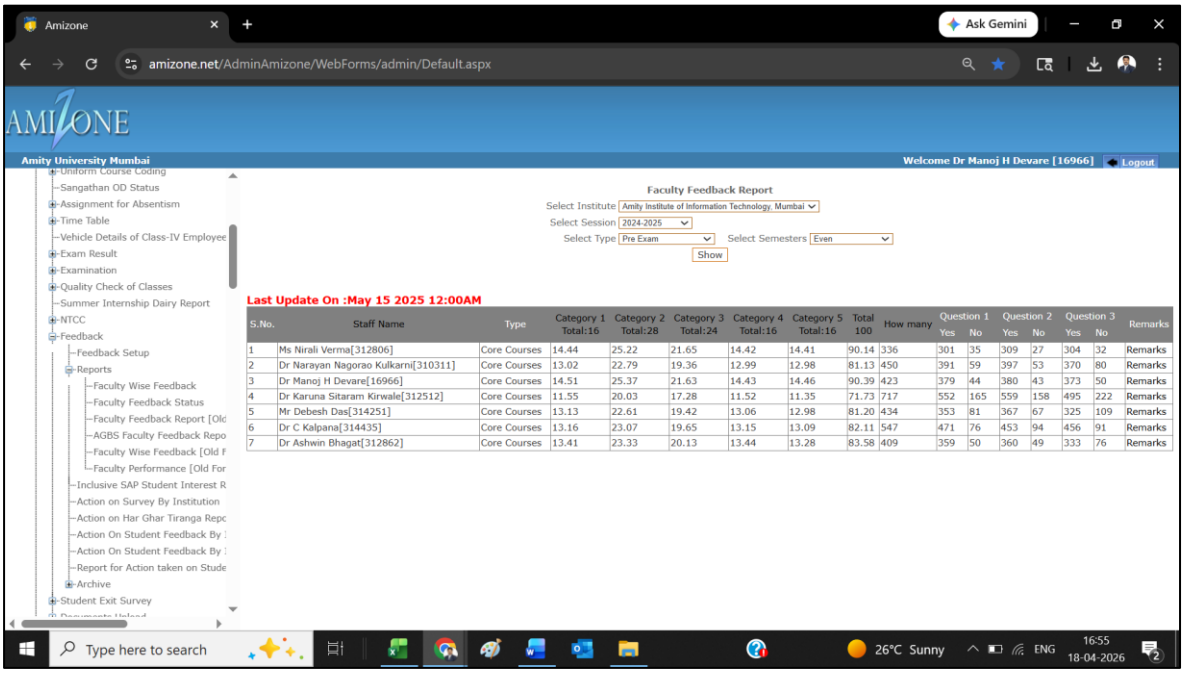
Sample Lab Journal
https://drive.google.com/file/d/1PtI_zgYqwdKOnZrLhgEWm5ytG1nyUVYh/view?usp=drive_link

Conduction of the Tutorial Classes

Tutorial classes conducted in a more focused and interactive environment for students to deepen their understanding of course concepts. Unlike regular lectures, tutorials offer opportunities for personalized attention, where students can clarify doubts, engage in discussions, and practice problem-solving under the guidance of faculty members. These sessions encourage active participation, critical thinking, and collaborative learning through activities such as assignments, case studies, and group discussions. Tutorial classes are particularly beneficial in identifying individual learning gaps and addressing them through targeted support, thereby improving academic performance and confidence. Overall, they complement classroom teaching by reinforcing concepts and promoting a more learner-centric approach to education.

Feedback Collection Process

Student feedback is systematically collected through the Amizone ERP at the end of each examination cycle every semester. A structured questionnaire is used to gather detailed inputs from students regarding course content, delivery methods, learning resources, and the effectiveness of individual faculty members. This continuous and course-wise feedback mechanism ensures that student perspectives are consistently monitored and analyzed.



S.No.	Staff Name	Type	Category 1 Total:16	Category 2 Total:28	Category 3 Total:24	Category 4 Total:16	Category 5 Total:16	Total 100	How many	Question 1		Question 2		Question 3		Remarks
										Yes	No	Yes	No	Yes	No	
1	Ms Nirali Verma[312806]	Core Courses	14.44	25.22	21.65	14.42	14.41	90.14	336	301	35	309	27	304	32	Remarks
2	Dr Narayan Nagorao Kulkarni[310311]	Core Courses	13.02	22.79	19.36	12.99	12.98	81.13	450	391	59	397	53	370	80	Remarks
3	Dr Manoj H Devare[16966]	Core Courses	14.51	25.37	21.63	14.43	14.46	90.39	423	379	44	380	43	373	50	Remarks
4	Dr Karuna Sitaram Kirwale[312512]	Core Courses	11.55	20.03	17.28	11.52	11.35	71.73	717	552	165	559	158	495	222	Remarks
5	Mr Debesh Das[314251]	Core Courses	13.13	22.61	19.42	13.06	12.98	81.20	434	353	81	367	67	325	109	Remarks
6	Dr C Kalpana[314435]	Core Courses	13.16	23.07	19.65	13.15	13.09	82.11	547	471	76	453	94	456	91	Remarks
7	Dr Ashwin Bhagat[312862]	Core Courses	13.41	23.33	20.13	13.44	13.28	83.58	409	359	50	360	49	333	76	Remarks

Fig. 2.12 Course-wise pre-exam feedback by Students.

Feedback Analysis and Action Taken

Based on the feedback received, appropriate corrective actions—such as pedagogical improvements, curriculum adjustments, and faculty development initiatives—are implemented to enhance the overall teaching–learning process. Furthermore, the feedback is transparently integrated into the faculty appraisal system, promoting accountability, quality enhancement, and a student-centric academic environment.

Based on the systematic analysis of the feedback collected from students regarding course teaching, several corrective and improvement-oriented actions were implemented to enhance the overall teaching–learning process. Key concerns such as pace of delivery, clarity of concepts, and the need for more practical examples were addressed by conducting faculty development sessions, encouraging the use of interactive teaching methods, and integrating case studies, real-world applications, and ICT-enabled tools into classroom instruction. Additionally, remedial classes and doubt-clearing sessions were arranged for students requiring extra support, while advanced learners were provided with enrichment activities. Continuous monitoring mechanisms, including periodic reviews and follow-up feedback, were also established to ensure that the actions taken effectively improved student satisfaction and learning outcomes.

Encouraging Bright Students

The MCA program follows a structured and transparent approach to identify and encourage bright students by considering both direct academic performance and holistic development indicators. High-performing students are identified through continuous internal assessments, semester-end examinations, project work, and laboratory performance. Additional weightage is given to students who demonstrate exceptional analytical ability, innovation in projects, and consistency in academic excellence across semesters. Alongside direct assessment, students actively participating in extracurricular and co-curricular activities—such as technical competitions, hackathons, coding contests, research publications, paper presentations, and leadership roles in clubs—are also recognized as bright performers. This dual approach ensures that talent is identified not only through grades but also through initiative, creativity, and overall engagement.

To encourage these bright students, the program provides multiple academic and professional development opportunities. They are offered mentorship by faculty members for advanced projects, research work, and publications, and are motivated to participate in national and international conferences. Recognition is given through merit certificates, awards, and appreciation during academic events. Bright students are also encouraged to take up leadership roles in team projects and student bodies, enhancing their managerial and collaborative skills. In some cases, they are provided opportunities for internships, industry interactions, and participation in innovation and entrepreneurship activities. This continuous encouragement fosters a culture of excellence, motivates peer learning, and helps students achieve higher academic, research, and career outcomes.

Fig. 2.13 Encouragement to the Bright Student to write article in Algorithm Newsletter.

Fig. 2.14 Bright Student Participation in the Paper Presentation in International Conference

Fig. 2.15 Bright Student Participation in the Paper Presentation in International Conference

Fig. 2.16 Bright Student Participation in the Hackathon

Fig. 2.17 Bright Student Participation in the Hackathon

Assisting Weak Students

The MCA program adopts a systematic and supportive approach to identify and assist weak students by closely monitoring their direct assessment performance and classroom engagement. Students are identified as needing additional support based on their scores in internal assessments, quizzes, laboratory work, and end-semester examinations, particularly if they consistently perform below the expected

benchmarks. In addition, faculty members observe classroom behavior to identify students who show low participation, lack of interaction, hesitation in asking questions, or irregular attendance. This combination of academic performance data and passive classroom involvement helps in early identification of students who may be struggling conceptually or lacking confidence.

To support these students, the program implements targeted remedial measures such as extra tutoring sessions, doubt-clearing classes, and simplified instructional materials to strengthen fundamental concepts. Faculty provide personalized mentoring, encouraging students to actively participate in discussions, presentations, and group activities to improve confidence and communication skills. Peer-assisted learning is also promoted, where stronger students help weaker ones in collaborative settings. Continuous feedback is provided through regular assessments and one-on-one interactions to track improvement. These interventions not only enhance academic performance but also motivate students to become more engaged, self-reliant, and confident learners, ensuring their overall academic progression and success.

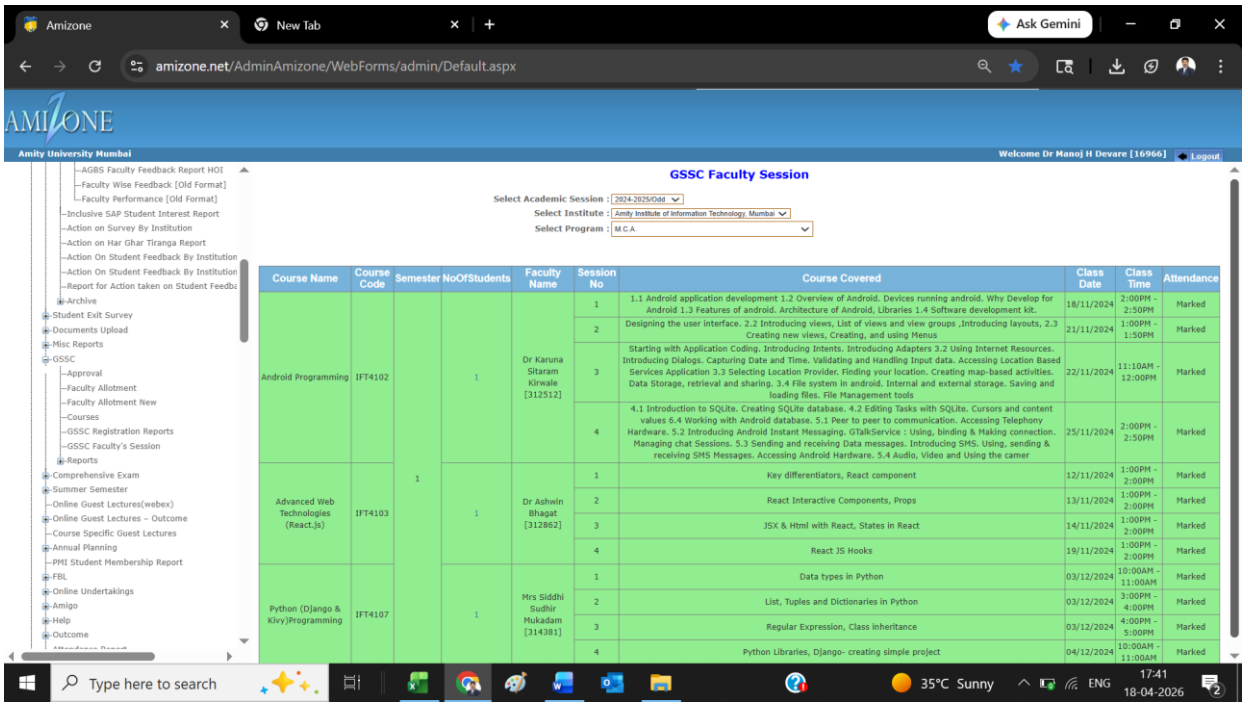


Fig. 2.18 GSSC Classes to assist Weak Students.

2.2.2 Quality of Internal Semester Question Papers, Assignments and Evaluation (20)

A comprehensive quality assurance mechanism is implemented for internal question papers and assignments, aligned with programming competencies and Bloom's Taxonomy. The questions cover all levels of the Bloom's taxonomy to check the learning outcomes of the learners. Whenever possible, the core course question papers comprise of the evaluating technical concept understanding, algorithm understanding, tracing, numerical solving, case studies and programming aspects in the theory. The quality of the question papers is checked through the question paper moderation. The moderation of the question papers includes the marks allocation to the question, Course outcome mapping to Bloom's Taxonomy mapping. The questions in the question paper are also reviewed to have limited weightage to the first and second level of the pyramid. The case studies included in the question papers covers

application of the course knowledge in all aspects of learning.

AMITY UNIVERSITY MAHARASHTRA
Amity Institute of Information Technology
M.C.A Semester III
Mid Semester Exam – Sep 2022
IFT4301 - Image Processing

Date - *Duration: 1 Hr* *Total Marks : 30*

Q.1 Answer the following in short (Any Five)

Q.No.	Questions	Marks	CO & BT Level
Q.1	Explain the complete Digital Image Processing system with a neat diagram. Discuss each component briefly.	6 Marks	CO1, BL2
Q.2	Describe Image Sampling and Quantization in detail. Explain how they affect image resolution and quality with examples.	6 Marks	CO2, BL3
Q.3	Define the basic relationships between pixels Illustrate with diagrams • 4-connectivity • 8-connectivity • m-connectivity	6 Marks	CO1, BL3
Q.4	A grayscale image has **8 intensity levels (3-bit)**. Quantize the following values: [15, 70, 130, 220] • Show mapping • Write output	6 Marks	CO2, BL3
Q.5	Given the following **3×3 image matrix**: $\begin{bmatrix} 12 & 18 & 24 \\ 18 & 30 & 36 \\ 24 & 36 & 48 \end{bmatrix}$ a) Apply a **mean filter (3×3)** and compute the new center pixel value b) Apply a **median filter (3×3)** and compute the new center value	6 Marks	CO2, BL4
Q.6	Given pixel values: **[5, 10, 15, 20, 25, 30, 35]** a) Compute **mean** b) Compute **variance**	6 Marks	CO2, BL3

Fig. 2.9 Mid Semester Question paper following Course Outcome and Bloom's Taxonomy Levels

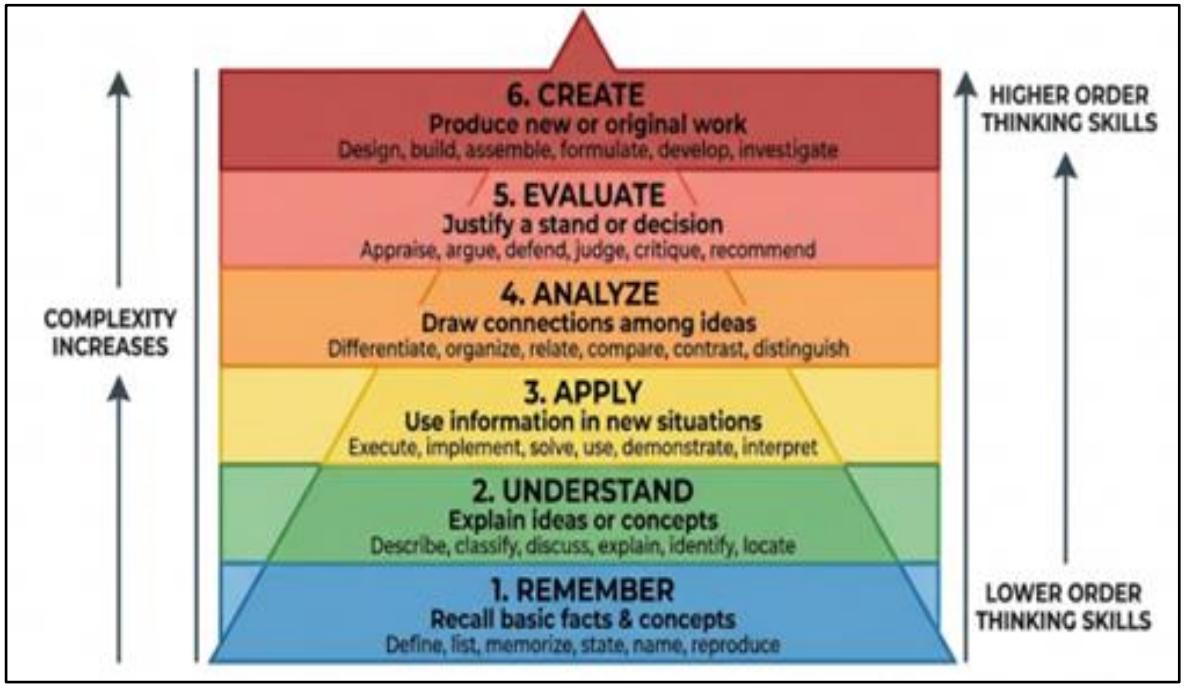


Fig. 2.10 Blooms' Taxonomy Levels

The module-wise assignments, and Quizzes on LMS are used for the continuous evaluations. Out of 30

marks in the continuous evaluation, five marks are assigned for the evaluation rubrics of assignment submission on LMS and five marks for the quizzes to be completed as per the deadline.

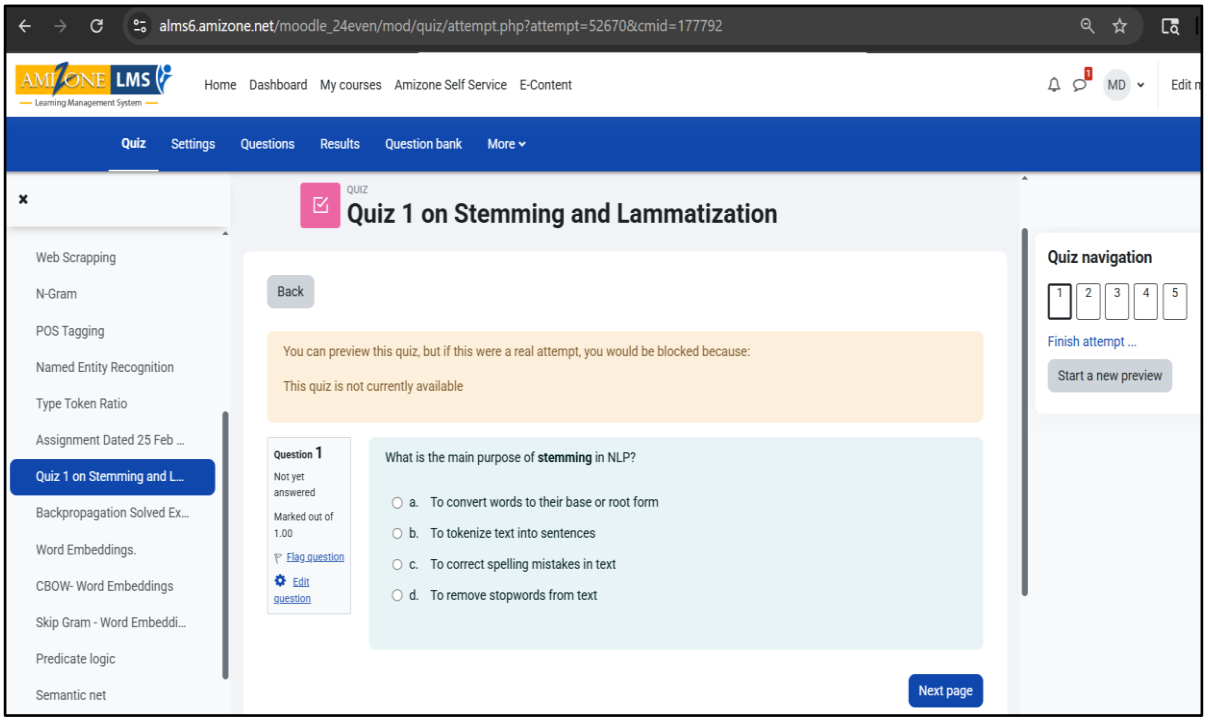


Fig. 2.11 Quiz on LMS for continuous Evaluation.

Initiatives & Implementation:

Question papers and assignments are designed using a structured blueprint ensuring balanced coverage of Course Outcomes (COs) and Bloom's levels (Remember, Understand, Apply, Analyze, Evaluate, Create). Emphasis is placed on programming-based problem solving, case studies, debugging tasks, mini-projects, and real-world applications. A two-level moderation process is followed, including peer review and approval by the program coordinator, ensuring clarity, difficulty balance, and outcome alignment. Assignments incorporate modern tools, coding platforms, and collaborative tasks to foster critical thinking and innovation.

Evaluation Rubrics:

Rubrics are defined for each assessment, focusing on parameters such as problem understanding, algorithm design, coding efficiency, correctness, documentation, innovation, and analytical ability. Weightage is mapped to higher-order skills like analysis, evaluation, and creation, ensuring objective and transparent assessment. The practical work quality is checked through the standard coding conventions such as SOLID principles, Hungarian notations are followed, documentation is done and uniqueness in the program writing is checked. The algorithm design with careful consideration of the time complexity is required to be followed in the coding.

Table 2.3a : Evaluation Rubrics for the Programming Assignment

Sr. No.	Parameter	Description	Weightage (%)
1	Problem Understanding & Analysis	Ability to interpret the problem, apply logical reasoning, and demonstrate analytical thinking	20%
2	Algorithm Design & Efficiency	Development of optimized algorithms with proper time complexity considerations	20%
3	Coding & Correctness	Writing accurate, efficient code that executes correctly and meets requirements	20%
4	Coding Standards & Documentation	Adherence to SOLID principles, naming conventions, and proper code documentation	20%
5	Innovation & Uniqueness	Creativity in solution design and originality in program implementation	20%

Impact Analysis:

The structured approach has led to improved student performance in programming skills, enhanced logical reasoning, and increased ability to solve complex problems. Students demonstrate better engagement, creativity, and preparedness for industry challenges. Continuous feedback and result analysis further refine assessment strategies, ensuring sustained quality enhancement in learning outcomes. The impact is not only observed in terms of the student score in the examination, but their active participation in the various events, and undertaking the outcome based projects, and software development.

2.2.3 Quality of Students Projects (15)

Project Identification & Allotment:

The faculty guides are allocated to the students before the commencement of the final semester. Maximum two students are allowed for one project; to divide the task as pe the work break down structure. However, in exceptional cases, it is allowed to have maximum 5 students in a one group, as per the scope of the project. The initial session is conducted by the guide to make them aware about the journey of the project work and ethical aspects of the project documentation and unique outcomes to be achieved through the quality research work.

It is encouraged to the students to do the literature review on the topic of their interest and read approximately twenty published research papers. The published research papers are made available through the guidance session that how to access the E-Library through the Amizone student login. The initial stage is to submit the project proposal with clear four objectives mentioned after the research gap identification. A First draft of the project proposal is required to be submitted by the students after gap identification. The IEEE or APA style is followed for referencing the published work. It is encouraged to the students to undertake research project. In case, if the technical project of full stack development is the choice of the student, then the Software Requirement Specification (SRS) document is being submitted by the student consisting of the UML diagram as the Analysis of the system. The project proposal is refined till the required level of the proposal quality is achieved.

Project Evaluation Milestones:

Once, the proposal is accepted and approved, the student is asked to start on the innovative idea to convert it into product, application or research work. Faculty guide makes sure that the plagiarism reports are checked through the Turnitin Plagiarism tool. A project quality is ensured through a structured, outcome-based and multidisciplinary approach. The inter-disciplinary nature of the project is encouraged, and accordingly the objectives and the scope of the project is defined by the project guide.

Table: 2.4 Project Evaluation Milestones

Phase	Milestone of Project Work Evaluation
1	Synopsis/Proposal Submission and Approval.
2	Objective Formulation / Requirement Analysis and Design (SRS, UML Diagrams).
3	Interim Progress (Coding/Implementation of core modules).
4	Final Submission (Project Report, Code, and Documentation).
5	Final Viva Voce/Demonstration.

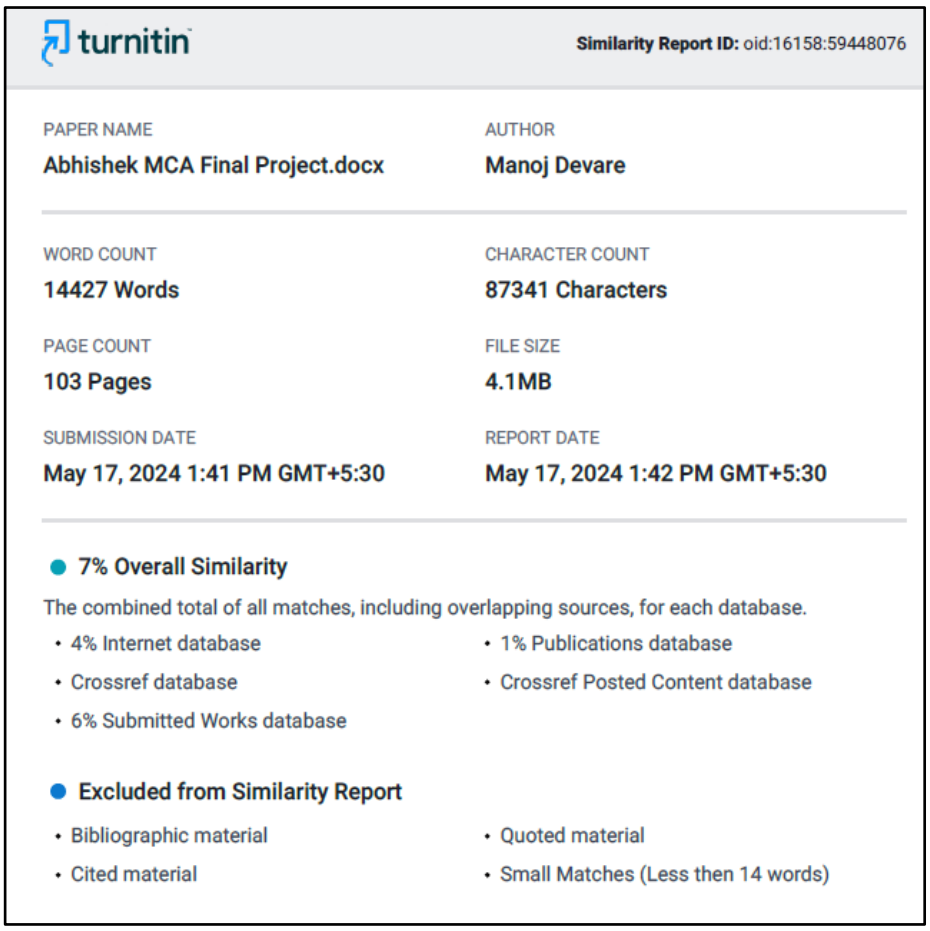
Projects are identified through industry problem statements, research trends, and societal needs. Students select projects across domains such as application development, product design, research, or review-based studies. Faculty mentors are allotted based on domain expertise, ensuring alignment with emerging technologies like Database oriented full stack development, Innovative UI/UX Design, DevOps tool Integration, Blockchain, Image processing, Natural Language Processing, Data Science, and Cloud computing.

Quality and Ethical Standards in Project work

The project reports in the MCA program are evaluated with strict adherence to ethical and standard academic considerations to ensure originality, integrity, and quality of research work. Students are guided to follow proper research methodologies, accurate data representation, and appropriate citation practices while preparing their project reports. Emphasis is placed on maintaining transparency, avoiding fabrication or falsification of data, and upholding professional ethics throughout the project development process.

A robust plagiarism check mechanism is implemented at Amity University through the Amizone ERP software. All project reports are mandatorily routed through the Amizone system, where they undergo systematic plagiarism detection using integrated tools. This process ensures that the submitted work is original and complies with prescribed similarity index norms. In cases where the similarity exceeds acceptable limits, students are required to revise and resubmit their reports after proper corrections and referencing.

This structured evaluation framework not only enforces academic honesty but also instils ethical research practices among students. It prepares them to adhere to global standards in research and professional environments, thereby enhancing the credibility and authenticity of their academic work.



turnitin

Similarity Report ID: oid:16158:59448076

PAPER NAME
Abhishek MCA Final Project.docx

AUTHOR
Manoj Devare

WORD COUNT
14427 Words

CHARACTER COUNT
87341 Characters

PAGE COUNT
103 Pages

FILE SIZE
4.1MB

SUBMISSION DATE
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- Small Matches (Less then 14 words)

Fig. 2.19 The Turnitin plagiarism report generated through the Amizone ERP.

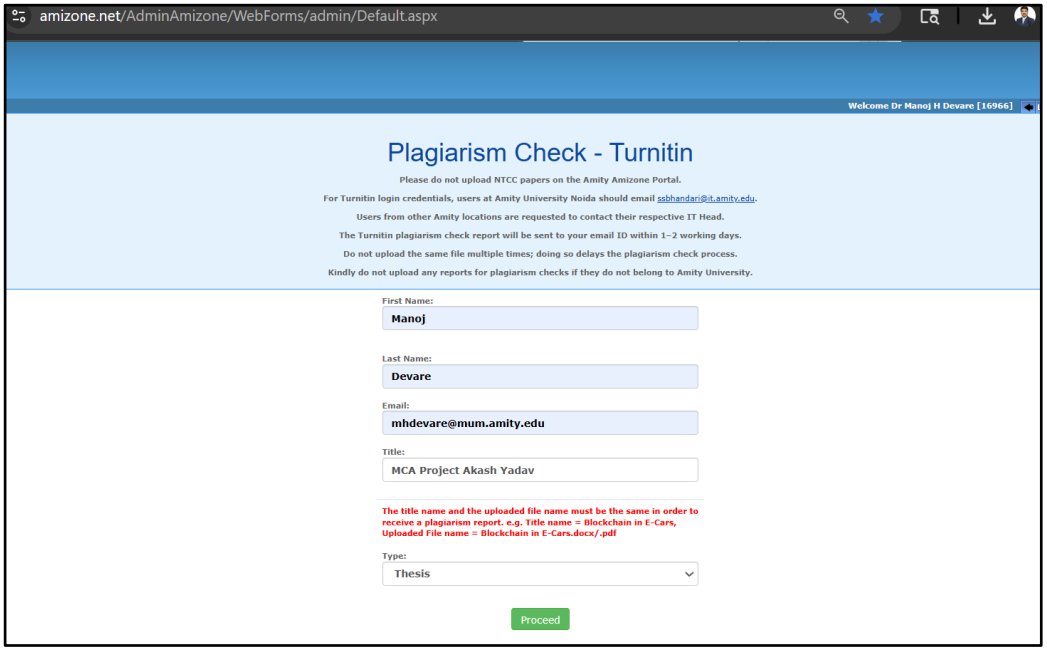


Fig. 2.20 User Interface for the Turnitin Access through Amizone

Table: 2.5 List of selected projects from MCA 2025 Pass out Batch

Sr. Nr.	Student Name	Enrolment No	Project Title	Type	Domain
1	Ms TANYA SIBI	A710145023003	AI Image Classifier: Using Deep Learning	Research	Disciplinary
2	Mr VISHWESH NEELESH	A710145023004	A Comparative Study of Credit Card Fraud Detection using Advanced Ensemble Machine Learning Algorithms.	Research	Disciplinary
3	Ms NAIR APURVA PRAMOD	A710145023051	A Minimal AI Mobile App For Student Mental Wellness And Study Efficiency	Application	Interdisciplinary
4	Ms YOGESHWAR ASHWINI GANESHAN	A710145023016	Adaptive Traffic Signal Control using Reinforcement Learning	Model	Interdisciplinary
5	Mr RAHUL THAKUR	A710145023022	AI Based Financial Report Parser	Application	Interdisciplinary
6	Mr CHAVARE SHREYAS SANJAY	A710145023010	AI Resume Analyzer: Enhancing Resume Quality with Streamlit and Machine Learning	Research	Interdisciplinary
7	Mr MUHAMMED HASIN P	A710145023066	Air Quality Index Monitoring System using Arduino Nano	Model	Interdisciplinary
8	Mr NAVEEN SINGH	A710145023049	An Eye Tracking Based Cursor Navigation System	Research	Multidisciplinary
9	Mr HARPUDE ADARSH ARUN	A710145023067	Blaze: Fast Website Creation and Design Tuning via AI	Research	Interdisciplinary
10	Mr BHAVSAR SUMIT RAVINDRA	A710145023046	Carmatch- Personalized Vehicle Recommendation System	Model	Multidisciplinary
11	Mr THOMBARE RAJ VASANT	A710145023059	Decentralized Voting System using Ethereum Blockchain	Application	Disciplinary
12	Ms JADHAV MRUNMAYI SHRIKANT	A710145023058	Deep Learning Based Framework For Facial Emotion Recognition	Research	Interdisciplinary
13	Mr SURYWANSHI RUSHIKESH RAVINDRA	A710145023032	Deep Learning -Based Object Detection and Tracking for Real- Time Applications	Application	Interdisciplinary
14	Mr MAYURESH GIRISH DHAVALIKAR	A710145023029	Deepfake and Video Manipulation Detection using ResNet and Temporal Convolution Networks (TCN)	Application	Interdisciplinary

15	Ms SAKSHI SHAHAJI PAWAR	A710145023008	Design and Implementation of a Next-Gen Redis System with Native AI Integration for Intelligent Data Workloads	Research	Interdisciplinary
16	Ms ELADI SHWETA SHRIKANT	A710145023035	Digital Evidence Management using Blockchain	Research	Interdisciplinary
17	Mr JIDNESH SANTOSH PAWAR	A710145023023	Enhancing Coreference Resolution with World Knowledge Integration in a Hybrid GNN+BERT Model	Application	Disciplinary
18	Mr RAJDEEP DEB	A710145023005	FashionSync: AI- Free Smart Color- Based Outfit Recommender	Model	Interdisciplinary
19	Mr KARTHIK	A710145023055	Harnessing Pretrained Language Models For Temporal And Sentiment Based Stock Market Forecasting	Research	Disciplinary
20	Mr SURAJ ASHOK TIWARI	A710145023013	LLM Based Voice Call System	Research	Interdisciplinary
21	Mr DEVERSH BELE	A710145023034	Machine- Learning Based PPE Kit Detection	Research	Interdisciplinary
22	Mr YASH SHARMA	A710145023041	Orchestra8: Cloud- Native AIOps Platform for Application Performance Monitoring and Security Enforcement in Multi-Cluster Environments	Research	Interdisciplinary
23	Mr SONAWANE VEDANT JITENDRA	A710145023036	Performance Analysis of Load Balancing Algorithms in NGINX Deployed on Azure Virtual Machines	Research	Disciplinary
24	Mr NARKHEDE GUNVANT BHUSHAN	A710145023030	Phisbusters- Breaking the Phishing Chain with AI.	Research	Disciplinary
25	Mr PATIL CHINMAY SUDHIR	A710145023060	SmartQuery: An AI-Powered Search Chatbot Built with Flask	Application	Disciplinary
26	Ms SAMANT PRAPTI SANDEEP	A710145023038	Voice- Assisted Real-Time Object Detection System for Visually Impaired Individuals	Research	Interdisciplinary

Table 2.5: List of selected projects from MCA 2024 Pass out Batch

Sr. No	Student Name	Enrolment No	Project Title	Type	Domain
1	Ms Nair Aishwarya Sudhakaran	A710145022040	AI Based Safety In Smart Society Management System	Application	Disciplinary
2	Mr Dhiraj Pawar	A710145022041	Crowdfunding Platform Using Blockchain	Research	Interdisciplinary
3	Ms Sutanni Paul	A710145022043	Customer Centric Efficient Product Searching In E-Commerce	Research	Interdisciplinary
4	Ms Krithika Manikantan	A710145022010	Evaluating Effectiveness of UI/UX Design for Electrical Vehicle Taxi Services	Research	Interdisciplinary
5	Mr Mhatre Pranit Jaywant	A710145022025	Grocery Identification In Shopping Mall Using Image Processing	Model	Interdisciplinary
6	Ms Samruddhi Pabale	A710145022018	Hand Sign Detection	Application	Multidisciplinary
7	Mr Sanju Sharma	A710145022049	Implementing Facial Recognition for Automated Student Attendance Marking	Research	Disciplinary
8	Mr Abhishek Singh	A710145022044	Mood Mapper	Research	Interdisciplinary
9	Ms Thoppil Athira Sudhakaran	A710145022023	Psychological chatbot Embedded Mobile Application for Metal Health Wellbeing	Model	Interdisciplinary
10	Ms Chavi Jain	A710145022017	Public Health Surveillance And Machine Learning	Research	Interdisciplinary
11	Mr Sannakki Akshay Sahadeo	A710145022003	QR Code Based Certificate Verification Using Blockchain	Research	Interdisciplinary
12	Ms Thakur Janhavi Devendra	A710145022019	Real Time Voice Emotion Detection EV Taxi	Research	Interdisciplinary
13	Mr Debesh Das	A710145022009	Research Impact Prediction Using NLP Techniques	Application	Interdisciplinary
14	Mr Patel Saad Bashir	A710145022035	School Administration	Model	Interdisciplinary
15	Mr Khan Abdul Kalam Mohammad Aslam	A710145022020	Self-Balancing Robot	Research	Interdisciplinary
16	Mr Manna Nilesh Chittaranjan	A710145022022	Smart Home Automation	Research	Interdisciplinary

17	Mr Karade Ashish Suresh	A710145022002	Stroke Prediction Using Machine Learning	Model	Interdisciplinary
18	Mr Shaikh Mohd Raihan Mohd Aslam	A710145022047	Student Performance Prediction Model	Application	Interdisciplinary
19	Ms Jeel Samani	A710145022034	Sustainable Strategies Predication for Shopkeepers	Application	Interdisciplinary
20	Mr Kashyap Ashish Surendra	A710145022007	Tourism Using Virtual Reality	Research	Interdisciplinary

Table 2.6: List of selected projects from MCA 2023 Pass out Batch

Sr. No	Student Name	Enrolment No	Project Title	Type	Domain
1	Ms NISHAD APARNA SUSHIL	A710145021001	Air Pollution Detection	Research	Interdisciplinary
2	Ms MARILYN MATHAI	A710145021002	Water Pollution Detection	Research	Interdisciplinary
3	Ms KIRTI PANDEY	A710145021004	Soil Pollution (Land Pollution) Detection	Research	Interdisciplinary
4	Mr ATHERV PATIL	A710145021005	AI Assistant to Enhance Mood of People	Application	Interdisciplinary
5	Mr BHANDARI ANISH ANIL	A710145021007	Assessing the Alignment Between Website UI/UX and Target Audience Persona	Application	Disciplinary
6	Mr VARPE AJIT ARJUN	A710145021008	Object Recognition and Volume Calculation using Deep Learning and Computer Vision Techniques	Research	Disciplinary
7	Mr SACHIN KUMAWAT	A710145021009	Federated Learning- Based Image Classification Platform	Research	Disciplinary
8	Mr PARKAR GUFRAN ABDUL GAFFAR	A710145021010	Crime Prediction with Clustering	Research	Interdisciplinary
9	Mr DHAPOLA BHUPESH CHANDAN	A710145021012	Extracting and Analyzing UI/UX Characteristics for Web Design Optimization	Research	Disciplinary
10	Ms ARTHI PIRASH KUDAL	A710145021016	Filter Bubble	Research	Interdisciplinary
11	Mr YADAV DEEPAKKUMAR MAHENDRA	A710145021019	Financial Trading Application	Application	Interdisciplinary
12	Mr ADIVAREKAR SAURABH TANAJI	A710145021020	Measuring the Effectiveness of Adapting DevOps Tools and Techniques.	Research	Disciplinary
13	Mr CHAUHAN RAJ KAMLESH	A710145021021	SMS Spam Detection	Research	Disciplinary

Implementation & Monitoring:

Projects are executed in phases—proposal, design, development, testing, and deployment. Continuous monitoring is conducted through periodic reviews, progress presentations, and coding demonstrations. Students are encouraged to consider cost-effectiveness, environmental sustainability, safety, ethical practices, and adherence to industry standards.

Evaluation Rubrics:

Assessment is based on well-defined rubrics including problem relevance, innovation, design methodology, coding quality, testing rigor, documentation, and demonstration of working prototypes. Additional weightage is given for research publications, patents, and participation in competitions or awards.

Table: 2.7 Final Project Work Evaluation Rubrics.

Sr. No.	Evolution Criteria	Weightage (%)
1	Project Foundation and Problem Definition	**15**
2	Methodology and Design Rigor	**15**
3	Technical Competence and Implementation	**20**
4	Testing, Validation, and Results	**20**
5	Documentation and Technical Writing	**20**
6	Presentation and Défense (Viva Voce)	**10**

PO Mapping & Multidisciplinary Approach:

Table: 2.8 Course Outcomes for the Project work

CO	Project work Course Outcomes
1	Understand and apply concepts of real-life problem solving through development of technical projects.
2	Design and prepare a comprehensive project proposal including scope, objectives, and timeline.
3	Apply research methodologies and analytical skills to solve problems using ML, Image Processing, NLP, Data Analytics, and BI tools.
4	Develop software applications using technologies such as JSP, Android, PHP, ASP.NET with backend database integration.
5	Analyse project requirements and implement appropriate technical solutions effectively.
6	Prepare detailed project documentation, dissertation, and reports following standard formats.

Table: 2.9 Project work Course Outcome mapping with Program outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
1	2	3	2	2	1	1	0	2
2	1	2	1	1	2	3	0	2
3	2	3	2	3	1	1	0	2
4	3	2	2	3	1	1	0	2

5	2	3	2	2	1	1	1	2
6	1	2	1	1	3	2	0	2

Projects address key Program Outcomes (Pos) such as problem analysis, modern tool usage, ethics, teamwork, and lifelong learning. Interdisciplinary integration (e.g., healthcare, finance, IoT) enhances real-world applicability, justified through tangible solutions and measurable societal or industrial impact.

Impact Analysis:

This approach results in high-quality, industry-relevant projects, improved technical competence, research orientation, and increased student achievements in publications and innovation platforms. The selected MCA student publications collectively demonstrate the effective application of emerging technologies such as artificial intelligence, image processing, and IoT to address real-world problems. Projects on air pollution and water contamination detection showcase the use of computer vision for environmental monitoring, while the Arduino-based air quality system highlights practical implementation of IoT for real-time data collection. Additionally, the development of a deep learning–based mobile application for foot deformity detection reflects the integration of AI in healthcare, enabling accessible and efficient diagnostic support. The outcome has resulted in Scopus indexed publications and working models.

Alongside technical solutions, the research also emphasizes analytical and societal dimensions of computing. Studies on text quality and citation impact illustrate the use of AI in academic research evaluation, while work on real-time moderation of harmful online content highlights the role of AI in promoting digital well-being and ethical technology use. With several works published through reputed platforms like IGI Global Scientific Publishing and Springer and presented at international forums such as International Symposium on Innovation in Information Technology and Application (ISIITA 2026), these outcomes reflect strong research capability, innovation, and societal relevance.

Table: **2.10** MCA Student Publication Details as a Outcome of projects.

MCA Student Name	**Publication Details**
Ms. Nishad Aparna A710145021001 Batch (2021-23)	Devare, M. H., Devare, A. M., & **Nishad, A. S.** (2025). Air Pollution Detection Using Image Processing. In A. Sharma, V. Mansotra, & P. Singh (Eds.), *Citizen-Centric Artificial Intelligence for Smart Cities* (pp. 297-314). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-7832-8.ch012 (**Scopus Indexed**) https://www.igi-global.com/chapter/air-pollution-detection-using-image-processing/378892
Ms Marilyn Mathai A710145021002 Batch (2021-23)	Devare, M. H., Devare, A. M., & **Mathai, M.** (2025). Water Contamination Detection Using Image Processing. In A. Sharma, V. Mansotra, & P. Singh (Eds.), *Citizen-Centric Artificial Intelligence for Smart Cities* (pp. 391-408). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-7832-8.ch015 (**Scopus Indexed**). https://www.igi-global.com/chapter/water-contamination-detection-using-image-processing/378895
Mr PRABHAV MISHRA A710145023068 Mr MUHAMMED HASIN P (A710145023066) Batch (2023-25).	K. S. Kirwale, N. N. Kulkarni, S. K. Kotkar, M. **Hasin P and Prabhav Mishra**, "Air Quality Index Monitoring System Using Arduino Nano (IoT)," *2025 2nd International Conference on Integration of Computational Intelligent System (ICICIS)*, Lohegaon, India, 2025, pp. 1-4, doi: 10.1109/ICICIS65613.2025.11371149. (**Scopus Indexed**). https://ieeexplore.ieee.org/document/11371149
Mr Shivam Sudhakar Margaj (A710145025014)	Kalpana, C., Devare, M., **Margaj, S**. (2026). CrookFoot: An Android-Based Deep Learning Application for Real-Time Foot Deformity Detection and Arch Index Estimation. In: Karsh, R.K., Murugan, R., Laskar, R.H., Schuller, B.W. (eds) Advances on Signal Processing and Computer Vision. SIPCOV 2025. Communications in Computer and Information Science, vol 2848. Springer, Cham. https://doi.org/10.1007/978-3-032-15809-3_28 https://link.springer.com/chapter/10.1007/978-3-032-15809-3_28#citeas

Mr Debesh Das (A710145022009) Batch (2022-24)	Manoj Devare, **Debesh Das**, A Computational Study on Text Quality and Citation Frequency in Research Papers in Yu, P., Mulli, J., Syed, Z., & Umme, L. (Eds.). (2026). *The Impact and Integration of AI: From Research to Realization*. IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3373-1509-6 https://www.igi-global.com/book/impact-integration-research-realization/364838 (Accepted, In-Press)
Ms Bhagya P Bijay Kumar (A710145025019)	C.Kalpana, Manoj Devare and **Bhagya P Bijay Kumar**, AI for Digital Well-Being: Real-Time Moderation of Harmful Online Content presented in International Symposium on Innovation in Information Technology and Application (ISIITA 2026), Bali, Indonesia, Jan. 26-29, 2026. (Presented in Conference)

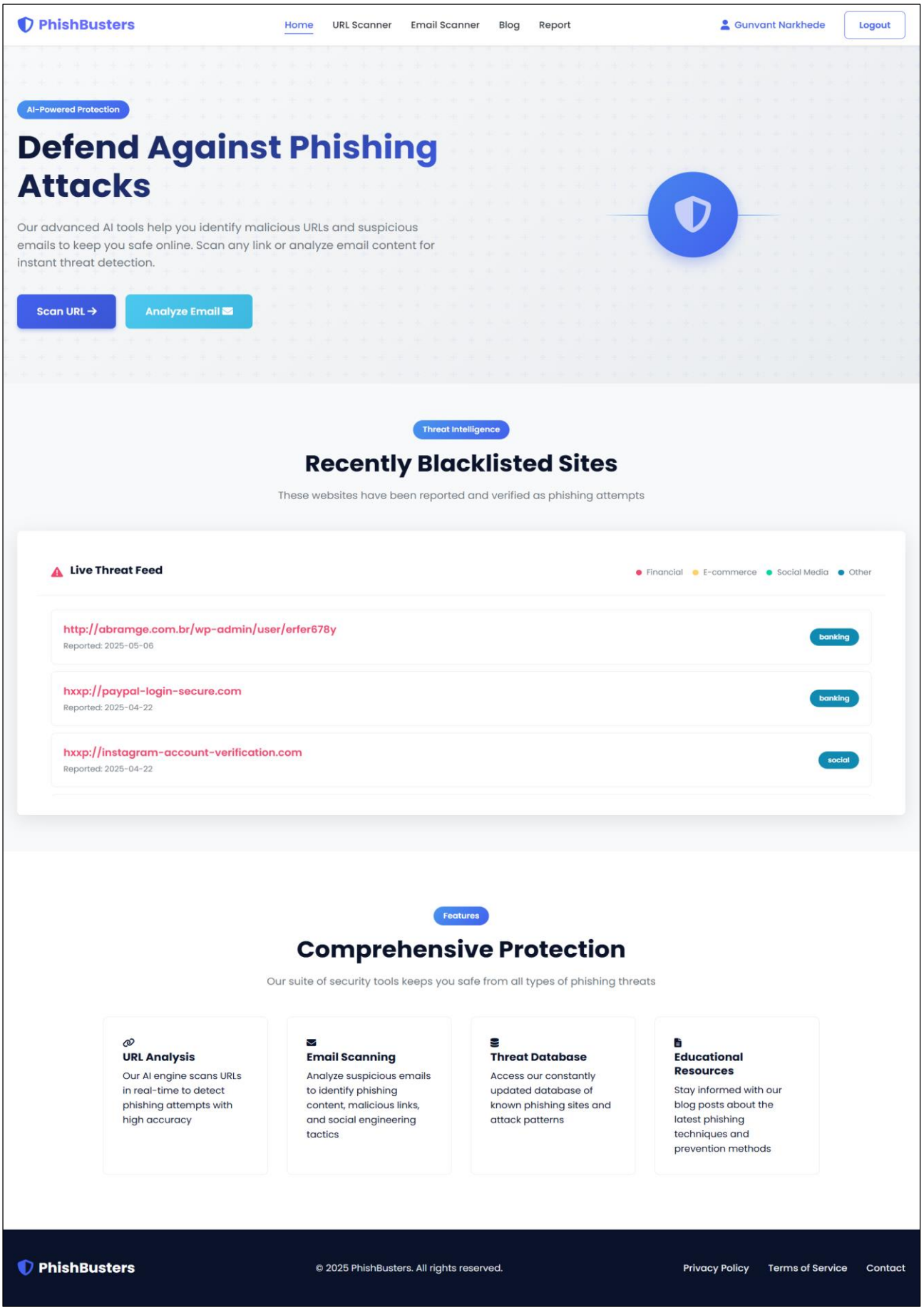


Fig. 2.21 MCA Student project website on Defend against Phishing attack.

Fig. 2.22 Outcome from the MCA Project on Realtime PPE Kit Detection System- Working Prototype.

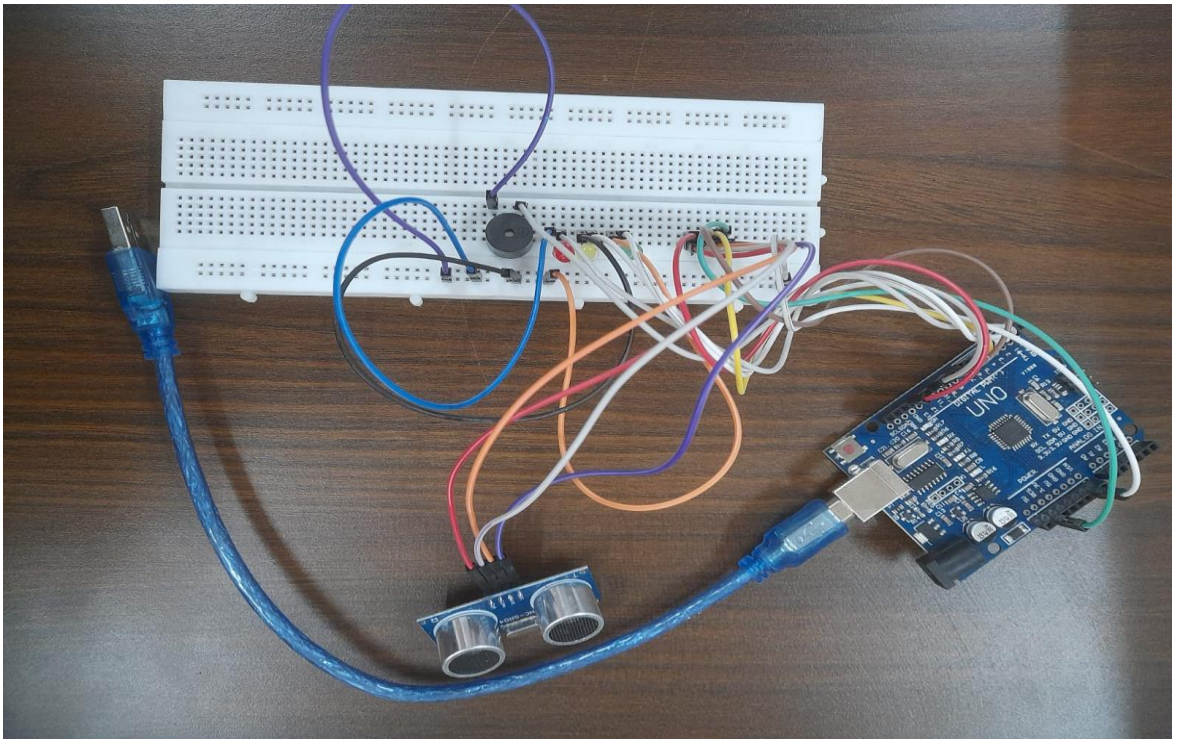
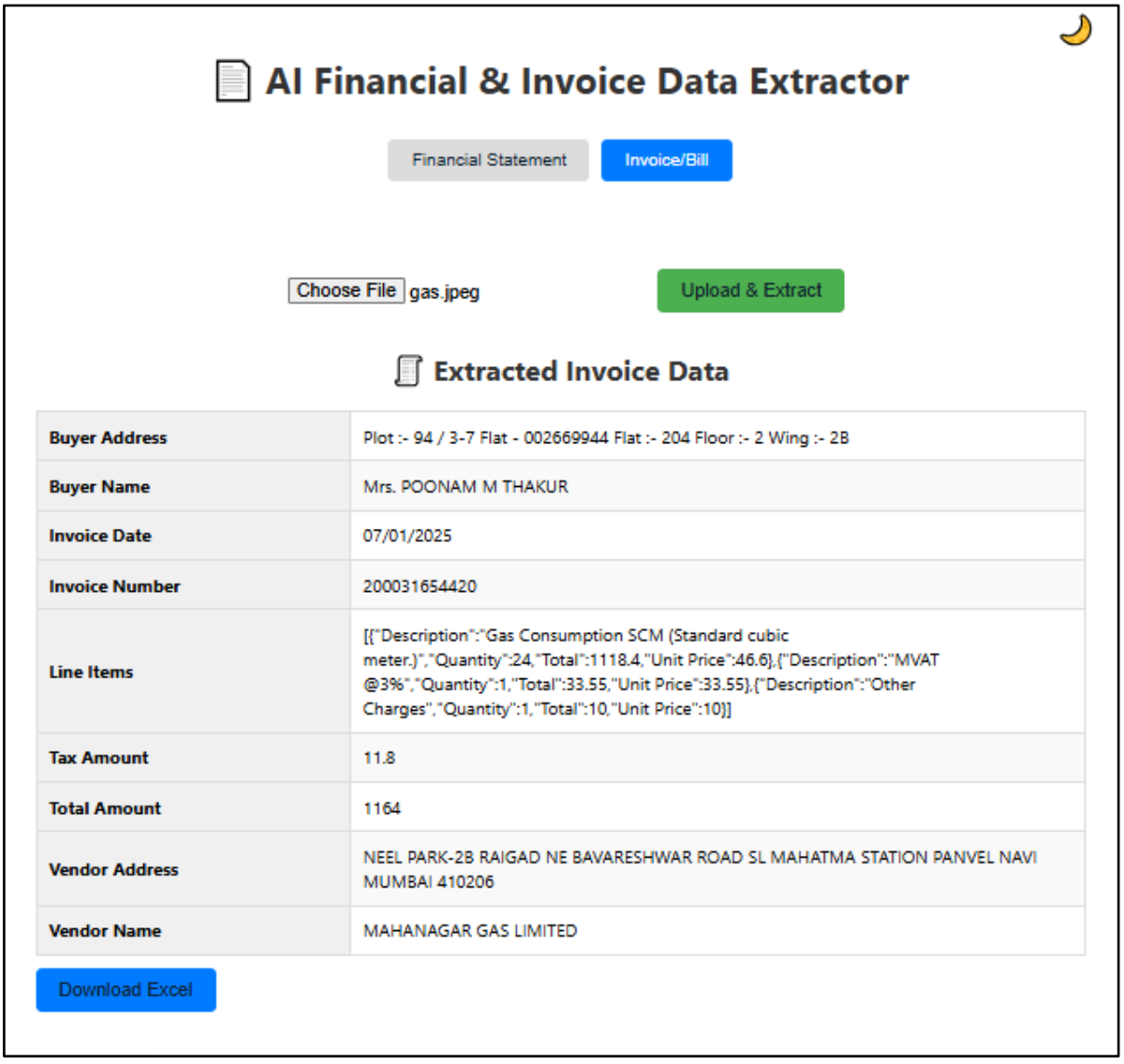


Fig. 2.23 Protype of IoT Based Project



AI Financial & Invoice Data Extractor

Financial Statement | Invoice/Bill

Choose File gas.jpeg | Upload & Extract

Extracted Invoice Data

Buyer Address	Plot :- 94 / 3-7 Flat - 002669944 Flat :- 204 Floor :- 2 Wing :- 2B
Buyer Name	Mrs. POONAM M THAKUR
Invoice Date	07/01/2025
Invoice Number	200031654420
Line Items	[{"Description":"Gas Consumption SCM (Standard cubic meter.)","Quantity":24,"Total":1118.4,"Unit Price":46.6},{"Description":"MVAT @3%","Quantity":1,"Total":33.55,"Unit Price":33.55},{"Description":"Other Charges","Quantity":1,"Total":10,"Unit Price":10}]
Tax Amount	11.8
Total Amount	1164
Vendor Address	NEEL PARK-2B RAIGAD NE BAVARESHWAR ROAD SL MAHATMA STATION PANVEL NAVI MUMBAI 410206
Vendor Name	MAHANAGAR GAS LIMITED

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Fig. 2.24 Outcome from MCA Project on Financial Data Extractor – Working Prototype.

2.2.4 Initiatives Related to Industry Interaction (15) (20)

The MCA department has taken significant initiatives to establish strong collaborations with leading industry partners such as Instron Technologies, Digitech Confidential, ideaForge Technology, Mouri Tech, and Tata Technologies. These Memorandums of Understanding (MOUs) are designed to bridge the gap between academic learning and industry requirements, ensuring that students are well-prepared for real-world challenges. Through these collaborations, MCA students gain access to expert sessions, guest lectures, and hands-on workshops conducted by industry professionals, which provide insights into current trends, tools, and technologies. The partnerships also facilitate internship opportunities, allowing students to work on live projects and gain practical exposure in areas such as software development, data analytics, cloud computing, and emerging technologies. Additionally, these collaborations support curriculum enrichment by incorporating industry-relevant content and case studies, making learning more application-oriented. Students also benefit from placement opportunities, as these companies actively participate in recruitment drives and talent identification programs. Furthermore, joint research initiatives, technical competitions, and hackathons conducted under these MOUs encourage innovation, problem-solving, and teamwork among students. Overall, these industry collaborations significantly enhance the employability, technical competence, and professional readiness of MCA students, ensuring they are aligned with the dynamic needs of the IT industry.

Table: 2.10 List of Collaborations with Industries for MCA program

Company	Purpose of Collaboration	MoU Status
Idea forge Technologies	The purpose of this collaboration to see the opportunities to develop software for the Drones (Unmanned Aerial Vehicles) and establish the center at the MCA Department for the training on the Drone flying, as per the norms of the DGCA. The collaboration is also for providing exposure to the students for the internship opportunities in the Idea forge Technologies.	MoU Active.
Instron Technologies	The purpose is to develop collaborative industry driven projects, training the students, and internship opportunities.	MoU Active.
Digitech Confidential	This International collaboration brought Data protection and compliances awareness through the Awareness Session on the General Data Protection Regulation (GDPR) and related product Development. The plan is to develop a training module for the students based on data privacy and GDPR Regulations.	MoU Active.
Tata Technologies	Learning software development aspects for the Technology industry. This is the Amity University Mumbai's Industry Collaboration for the Quality Aeronautical Engineering education and the guidance to MCA students on the quality software design.	Visit to the Tata Technology laboratory.
Mouri tech Software.	The experts Ms. Kshipra Tatkare, and Mr. Rituraj Patil have delivered sessions on Agile Methodologies and Accessibility Compliances to be followed during the website designing, and Research on Image forgery Detection	Industry Experts delivering sessions on industry best practices.

There are several MOUs at the university level with the foreign universities for the study aboard program.

Amity University Mumbai has established academic collaborations with several reputed foreign universities to provide global exposure and research opportunities to students. Some of the prominent international partner institutions include University of Arizona, University of Florida, University of California Riverside, University of Birmingham, and University Monash. In addition, collaborations such as Uni-Italia further expand opportunities for students to pursue higher education and research in European countries. These partnerships span across domains like Computer Science, Artificial Intelligence, Biotechnology, and Engineering, ensuring multidisciplinary exposure. Students gain opportunities for student exchange programs, semester abroad options, and dual-degree pathways, allowing them to complete part of their studies overseas and earn globally recognized qualifications. These collaborations also facilitate joint research projects, internships, and exposure to international laboratories and advanced technologies. Interaction with global faculty and participation in international conferences enhance students' academic and cultural perspectives. Additionally, such partnerships improve employability by providing global networking opportunities and exposure to international industry practices. Faculty members also benefit through collaborative research, publications, and knowledge exchange with foreign universities. Overall, these international collaborations significantly enrich the academic ecosystem, promote innovation, and prepare students for global careers in the IT and research domains.

Table: 2.11 List of Industry Expert Talks conducted during the assessment period.

Sr. No.	Date of Talk	Industry Speaker	Industry Name	Topic of talk
A.Y. 2022-23				
1	21st April 2023	Mr. B N Phaneendar Founder and Cyber Forensics Investigator	Clue4Evidence Forensics Investigation Lab, Bangalore	How Cyber Investigation happens in Private Forensics Labs
2	21st April 2023	Advocate Aditya Ghuge, Founder Aditya Knowledge Center, Practicing Lawyer Bombay High Court	Aditya Knowledge Center	Legal aspects of the Cyber Security as per IT Act.
3	21st April 2023	Ms. Sejal Shibe, Cyber Security Project Manager at CyberFrat Company.	CyberFrat Company	Certifications and the practical aspects of Cyber security.
4	21st April 2023	Mr. Soeb Hakim, Founder, CyberHak	CyberHak Company	Cyber Security and Hacks.
5	21st April 2023	Ms. Kshipra Tatkare, Senior Specialist, Mouri-Tech Pvt. Ltd.	Mouri-Tech Pvt. Ltd	Accessibility Regulatory compliances in Web site design.
6	17 April 2022	Mr. Prashant Pakhale, Lead Software Engineer	S&P Global Services	Recent advancements in Software Developments
7	17 April 2022	Mr. K Manoj Kumar Patra, Senior Business Analyst	Koch Industries	AI and Software requirement in Industry
8	17th February 2023	Mr. Kishor Kotule, Lead DevOps Engineer	Robert Bosch Germany	Life of DevOps Engineer
9	17th February 2023	Mr. Vishal Nagpal, Idea Forge Technologies Pvt. Ltd.	Associate Director, Enterprise Software,	IT Culture India and Abroad
A.Y. 2023-24				
1	20 October 2023	Mr. Pranay Nanda, Customer Engineer	Google	Google Cloud: What the future holds

2	22 November 2023	Mr. Drone Upadhya, Head Enterprise Business	Tech-Alpha Messaging LLC	Skills Required in professional life
3	8th December 2023	Mr. Anuj Jaiswal, Development Team Lead	Value Score Business Solutions Ltd.	Zoho Development
4	5 August 2023	Mr. Jeet Bhardiay, revenue developer	Globant company	Mentoring Session on Career Opportunities in Salesforce
5	13 December 2023	Mr. Manish Thakral, Senior Consultant.	Ernst & Young Global Limited.	What Does a Consultant Do in Big-4 Companies?
6	15 December 2023	Mr. Gautam Singh, Lead Software Engineer	Electronic Arts (EA)	Career in Gaming Industry
A.Y. 2024-25				
1	July 31, 2024	Mr. Rituraj Patil, Associate Director	MOURI Tech	AI and Agile Software Development
2	August 27, 2024	Mr. Raghvendra Singh (Senior Product Manager	IBM	Digital Product Engineering
3	22nd October 2024	Mr. Babaji Pokharkar, Technical Lead.	Synechron	Backend and Frontend Development Overview Presenter
4	21st October 2024	Mr. Mohit Kulkarni, Senior Product Software Engineer -	Wolters Kluwer	Full Stack Development: Skills for Modern Developers
5	22nd October 2024	Mr. Mayuresh Deolekar, Technical Product Manager.	Myregistery.com.	Bridging Technology and Innovation
6	23rd October 2024	Mr. Anuj Jaiswal, CRM Architect.	Adit.com	CRM Architecture
7	21st October 2024	Mr. Vishal Nagpal, Associate Director Enterprise Software	IdeaForge Technologies.	Empowering IT Grads with Drone Computer Vision & Secure Data Handling
8	23rd October 2024	Dr. Kshipra Tatkare, Associate Manager	MOURI Tech-Enterprise Architecture.	Crafting Inclusive Websites: Unlocking the Power of Accessibility for Broader Engagement
9	25 October 2024	Mr. Arun Wavge, Tech PM/Scrum Master	FIS Global	Scrum Advances and Agile methodologies
10	22nd October 2024	Mr. Ahemad Shaikh, Founder, Rigel Infotech	Rigel Infotech	Blynk IoT Platform and Mobile Application
11	24th October 2024	Mr. Kishor Kotule, DevOps Engineer.	Bosch Germany	Role and Responsibilities of DevOps Engineer
12	25 October 2024	Mrs. Rohini Deshmukh, Azure Architect	Cencora	Azure DevOps
13	4 April 2025	Mr. Asif C. Ahsaraf, Lead Product Designer	Factors.ai.Bangalore	Multimedia services and Window systems and Application of UI/UX

2.2.5 Initiatives Related to Industry Internship/ Training (15)

The MCA program places emphasis on industry-based summer internships as an integral component of

experiential learning. These internships are designed to bridge the gap between academic knowledge and real-world application, enabling students to gain practical exposure to current technologies, industry practices, and professional work environments. The students undergo for the summer internship after end semester examination of the second semester. The performance of the summer internship is evaluated in the third semester of the MCA Program. The support is provided to the students through the CRC cell to get the summer internship. The alternative to the summer internship is the implementation of the technical project.

During the summer internship period, MCA students are placed in reputed IT companies, startups, and corporate organizations where they work on live projects under the guidance of industry mentors. The internship domains typically include software development, web and mobile application development, data analytics, artificial intelligence, cybersecurity, cloud computing, and database management. This hands-on experience allows students to apply theoretical concepts learned in the classroom to solve real business problems.

Students actively participate in the complete software development lifecycle, including requirement analysis, design, coding, testing, and deployment. They also gain exposure to industry tools, frameworks, and methodologies such as Agile and DevOps practices. Regular interaction with industry professionals helps students understand organizational culture, teamwork, communication skills, and time management. The internship program also includes continuous monitoring and evaluation by faculty mentors, ensuring that students meet the learning objectives. At the end of the internship, students submit detailed reports and present their work, reflecting on their learning outcomes and experiences. Overall, the industry-based summer internship significantly enhances the employability of MCA students by equipping them with technical competencies, problem-solving abilities, and professional skills. It serves as a crucial step in preparing students for successful careers in the IT industry while fostering confidence and industry readiness.

Evaluation Rubrics

The evaluation of the MCA summer internship is carried out using well-defined rubrics to ensure a fair and comprehensive assessment of student performance. The following four key evaluation rubrics are used: Technical Skills and Knowledge Application which assesses the student's ability to apply theoretical concepts to practical tasks, use relevant tools and technologies, and demonstrate proficiency in coding, system design, or data handling as required by the project. Project Execution and Problem-Solving Ability, which evaluates how effectively the student understands project requirements, approaches problem-solving, meets deadlines, and contributes to the successful completion of assigned tasks or modules. Professionalism and Work Ethics measures punctuality, discipline, communication skills, teamwork, adaptability, and adherence to organizational norms and responsibilities during the internship period. Report Quality and Presentation which assesses the clarity, structure, and depth of the internship report, along with the student's ability to present their work, explain methodologies, and articulate learning outcomes during the final evaluation.

Table: 2.13 Course Outcome of the Summer Internship

CO	Summer Internship Course Outcome Statement
1	Gain practical learning experience through summer internship in an IT or related organization.

2	Perform assigned tasks under the guidance of industry supervisors.
3	Document organizational processes and tasks performed during the internship.
4	Demonstrate professional ethics, teamwork, and communication skills in the workplace.
5	Apply academic knowledge to solve real-world industry problems.
6	Analyse organizational workflows and contribute to development or improvement activities.

Table: 2.14 Summer Internship Evaluation Rubrics

Sr. No.	Summer Internship Evaluation Rubrics	Weightage (%)
1	Technical Knowledge & Skill Application	15
2	Problem Solving & Analytical Ability	15
3	Project Execution & Contribution	20
4	Use of Modern Tools & Technologies	20
5	Professionalism & Teamwork	20
6	Documentation, Presentation & Learning Outcome	10

Monitoring Reports for Summer Internship

The monitoring of the summer internship for MCA students is carried out through a structured reporting mechanism to ensure the quality and authenticity of the learning experience. The key components of the monitoring reports include the final internship report, internship completion certificate, and internship training certificate (issued by the organization). The final internship report provides a comprehensive overview of the work undertaken by the student during the internship period. It includes details such as project objectives, methodologies used, tools and technologies applied, outcomes achieved, and the overall learning experience. This report is evaluated by faculty mentors to assess the student's understanding and contribution. The internship completion certificate serves as official proof that the student has successfully completed the internship for the specified duration. It validates the student's participation and adherence to organizational requirements. The internship training certificate (or performance/recognition certificate, if awarded) highlights the student's performance, skills demonstrated, and any special achievements during the internship.

CRITERION 3	Course Outcomes (COs) and Program Outcomes (POs)	100

3. Course Outcomes (COs) and Program Outcomes (POs) (100)

3.1 Establish the Correlation between the Courses and the Program Outcomes (20) (NBA defined Program Outcomes as mentioned in Annexure I).

3.1.1 List the Course Outcomes (SAR Should include Course Outcomes of One Course from Each Semester or Two Courses per year of Study, however, it should be Prepared for all Courses) (5)

In the Outcome-based Education Framework followed at Amity Institute of Information Technology. Various outcomes were derived from the Vision and Mission of the University and the AIIT School.

The Program Outcomes (PO) which includes 8 Program Outcomes (POs) and 3 Program Specific Outcomes (PSOs). Each course has 6 specific Course Outcomes (COs) defined and those were aligned with and contributed to Program Outcomes (POs).

Since courses are building blocks of a program, teaching strategies, learning activities, assessments, and resources have been well-designed and organized to achieve the course outcome (CO). In the assessment tasks, students demonstrated their level of achievement of the course outcomes. For the effectiveness of the program, achievement of POs could be crucial and hence, attainment of COs and POs were assessed through accurate and reliable assessment components.

Program Outcomes included 8 POs. for MCA (Master of Computer Application) are as defined and prescribed by the National Board of Accreditation (NBA), New Delhi. Program Outcomes are statements that represent the knowledge, skills, and attitudes the students should have at the end of the Program as defined by NBA.

Table: 3.1 Program outcome statements MCA Program

Program outcome No.	Program Outcome Statement
PO1	**(Foundation Knowledge)**: Apply knowledge of mathematics, programming logic and coding fundamentals for solution architecture and problem solving.
PO2	**(Problem Analysis)**: Identify, review, formulate and analyse problems ~~for~~ primarily focussing on customer requirements using critical thinking frameworks.
PO3	**(Development of Solutions)**: Design, develop and investigate problems with ~~as~~ an innovative approach for solutions incorporating ESG/SDG goals.
PO4	**(Modern Tool Usage):** Select, adapt and apply modern computational tools such as development of algorithms with an understanding of the limitations including human biases.
PO5	**(Individual and Teamwork)**: Function and communicate effectively as an individual or a team leader in diverse and multidisciplinary groups. Use methodologies such as agile.
PO6	**(Project Management and Finance):** Use the principles of project management such as scheduling, work breakdown structure and be conversant with the principles of Finance for profitable project management.
PO7	**(Ethics):** Commit to professional ethics in managing software projects with financial aspects. Learn to use new technologies for cyber security and insulate customers from malware.
PO8	**(Life-long learning):** Change management skills and the ability to learn, keep up with contemporary technologies and ways of working.

Program Specific Outcomes (PSO):

The program specific outcomes are defined in addition to the eight POs defined by NBA for MCA program. The PSOs statements are defined as below.

Table: 3.2 Program Specific Outcomes.

PSO Nr.	Program Specific Outcome Statements.
PSO1	Apply principles of computer science and information technology to analyze related technologies and product development.
PSO2	Elicit requirements, analyze, design, code and test various software products.
PSO3	Characterize and evaluate tools and technologies for adoptability in software development projects.

Table: 3.3. List of Courses MCA Batch 2023-25

Semester	Course Number	Course Code	Course
Semester-I			
1	C101	IFT4101	Operating Systems
1	C102	IFT4102	Android Programming
1	C103	IFT4103	Advanced Web Technologies (React.js)
1	C104	IFT4104	Operating Systems Lab (Unix)
1	C105	IFT4105	DevOps Concepts Lab
1	C106	IFT4107	Python (Django & Kivy) Programming
1	C107	IFT4108	Java Lab
1	C108	IFT4109	Python Programming Lab
1	C109	IFT4110	Advanced Web Technologies (React.js) Lab
1	C110	IFT4111	Android Programming Lab
1	C111	IFT4112	Mathematical Aptitude
Semester-II			
2	C201	IFT4106	Business Intelligence Lab (SQL Server SSIS)
2	C202	IFT4201	Computer Networks
2	C203	IFT4203	Machine Learning
2	C204	IFT4204	Cloud Computing (Azure & AWS)
2	C205	IFT4205	Natural Language Processing
2	C206	IFT4206	Data Structures and Algorithms
2	C207	IFT4207	C & C++ Lab
2	C208	IFT4208	Computer Networks Lab
2	C209	IFT4210	Machine Learning Lab
2	C210	IFT4211	Cloud Computing (Azure & AWS) Lab
2	C211	IFT4212	Natural Language Processing Lab
2	C212	IFT4213	Data Structures and Algorithms Lab
2	C213	IFT4214	Optimization Techniques
Semester-III			
3	C301	IFT4301	Image Processing
3	C302	IFT4302	Cyber Security
3	C303	IFT4303	Bigdata Processing
3	C304	IFT4304	Blockchain Architecture
3	C305	IFT4306	Soft Computing
3	C306	IFT4307	UI/UX Design Lab

3	C307	IFT4308	Summer Internship Evaluation
3	C308	IFT4309	Image Processing Lab
3	C309	IFT4310	Cyber Security Lab
3	C310	IFT4311	Bigdata Processing Lab
3	C311	IFT4312	Blockchain Architecture Lab
3	C312	IFT4314	Soft Computing Lab
3	C313	IFT4315	DBMS Lab
Semester-IV			
4	C401	IFT4401	Advanced Java (Spring)
4	C402	IFT4402	Research Methodology
4	C403	IFT4403	Cyber Forensics
4	C404	IFT4404	Project / Dissertation
4	C405	IFT4405	Advanced Java (Spring) Lab
4	C406	IFT4406	Research Methodology Lab
4	C407	IFT4407	Cyber Forensics Lab
4	C408	IFT4411	ASP.NET & C# Programming
4	C409	IFT4412	ASP.NET & C# Programming Lab

The process of achieving Program Outcomes (PO) is clarified through the definition of Course Outcomes (CO), the correlation matrix between CO and Program Outcomes (PO), and the correlation matrix between CO and Program Specific Outcomes (PSO) for four subjects, selected as example from each semester of MCA Program. Presented below are the COs of selected courses from all semesters from the MCA Batch 2023-25.

The correlation between Course Outcomes (CO), Program Outcomes (PO), and Program Specific Outcomes (PSO) for the courses selected in section 3.1.2 is illustrated in Table 3.2. The correlation levels are categorized as follows: Level 1 indicates a low correlation, Level 2 signifies a medium correlation, and Level 3 represents a high correlation. This classification allows for a clear understanding of how each course outcome aligns with the overall program goals.

Table 3.4 : Course Outcome statements of Operating Systems (C103)

Course Name: Operating Systems (C103) **Semester: I | Year of Study: 2023–24**	
Course Outcome Nr.	**Outcome Statements**
C103.1	Provide the students with a new sight to envision every computerized Operating system especially general-purpose computer.
C103.2	Provide students with the capability to understand the various techniques used in operating systems to manage processes and resources such as devices and memory.
C103.3	Understanding memory management and process management in the Operating System.
C103.4	Understanding data-structures required for the Operating System.
C103.5	Analyze and evaluate different CPU scheduling algorithms, synchronization mechanisms, and deadlock handling strategies in modern operating systems.
C103.6	Apply and compare different file system structures, disk scheduling algorithms, and I/O management techniques to evaluate their impact on system performance and reliability in modern operating systems.

Note: CO103 represents the third course of the first semester per MCA syllabus. C103.1 represents the first course outcome of the course third course of the first semester.

Table 3.5 : Course Outcome statements of Natural Language Processing (C207)

Course Name: Natural Language Processing (C207) **Semester: II | Year of Study: 2023–24**	
Course Outcome Nr.	**Outcome Statements**
C207.1	Understanding the basic concepts of NLP like corpus, POS, NER.
C207.2	Use of Python based NLP libraries, dependency grammar, term frequency and deep learning methods.
C207.3	The course will give knowledge of NLP applications, components, and phases.
C207.4	Finding the new insights into the text data and predicting future trends.
C207.5	Apply ethical considerations and societal impact analysis while developing NLP models for real-world applications.
C207.6	Understand and implement Recurrent Neural Networks (RNNs), LSTMs, and GRUs for sequence-to-sequence tasks like machine translation.

*Note: CO207 represents the second-semester course code as per MCA syllabus.

Table 3.6 Course Outcome statements of Soft Computing Lab (C314)

Course Name: Soft Computing Lab (C314) **Semester: III | Year of Study: 2024–25**	
Course Outcome Nr.	**Outcome Statements**
C314.1	Students would be able to use Python based library for fuzzy and neural network applications.
C314.2	Solving the numerical based on Fuzzy, Neural and Evolutionary computing techniques.
C314.3	Performing the optimization using genetic algorithms.
C314.4	Using the advanced models of the neural networks, and programming for it.
C314.5	Evaluate and compare the performance of different soft computing techniques using standard benchmark datasets.
C314.6	Design and implement hybrid soft computing systems, such as Neuro-Fuzzy controllers, to solve complex real-world control and prediction problems.

Table No. 3.7 Course Outcome statements of Advanced Java (Spring) (C403)

Course Name: Advanced Java (Spring) (C403) **Semester: IV | Year of Study: 2024–25**	
Course Outcome Nr.	**Outcome Statements**
C403.1	Understand the fundamentals of Java Server Pages.
C403.2	Create dynamic web pages using JSP.
C403.3	Handle form submissions and user input.
C403.4	Implement session management and authentication.
C403.5	Using aspect-oriented programming and developing the applications using Spring Framework.
C403.6	Implement robust database-driven applications using Java Database Connectivity (JDBC).

3.1.2 CO-PO Matrices of Courses Selected in 3.1.1 (One course per Semester) (5)

Program outcomes were compared with the course outcomes (Cos) and the respective faculty mapped it since the following score. This was done across all core courses and for all electives.

Table 3.8 Correlation of Course Outcomes and Program outcomes
Operating Systems (C103) Year of Study: 2023 – 24.

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
C103.1	3	3	3	2	3	3	3	3	3	3	3
C103.2	3	2	2	3	2	1	3	2	3	3	3
C103.3	3	3	2	2	2	2	3	3	3	3	2
C103.4	3	2	3	3	2	2	2	3	3	3	2
C103.5	3	3	3	3	3	3	3	3	3	3	1
C103.6	3	3	3	3	2	2	2	3	3	3	3
Average	**3.00**	**2.67**	**2.67**	**2.67**	**2.33**	**2.17**	**2.67**	**2.83**	**3.00**	**3.00**	**2.33**

Table 3.9 Correlation of Course Outcomes and Program outcomes of
Natural Language Processing (C207) Year of Study: 2023 – 24

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
C207.1	3	3	3	3	2	2	2	1	2	3	3
C207.2	3	3	3	3	3	2	1	1	3	1	3
C207.3	2	2	2	3	2	2	2	1	2	3	2
C207.4	3	3	3	3	2	2	3	3	3	2	3
C207.5	3	3	3	2	2	2	1	2	3	3	3
C207.6	3	2	2	3	2	2	1	3	2	3	3
Average	**2.83**	**2.67**	**2.67**	**2.83**	**2.17**	**2.00**	**1.67**	**1.83**	**2.50**	**2.50**	**2.83**

Table 3.10 Correlation of Course Outcomes and Program outcomes of
Soft Computing Lab (C314) Year of Study: 2024 – 25

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
C314.1	2	3	2	3	3	3	2	1	3	3	3
C314.2	3	3	2	2	2	1	3	1	2	2	2
C314.3	2	1	3	3	3	1	1	1	3	2	3
C314.4	1	2	2	3	2	2	2	3	3	3	1
C314.5	2	3	2	3	3	3	1	2	2	3	3
C314.6	3	2	3	3	3	2	3	3	2	3	3
Average	**2.17**	**2.33**	**2.33**	**2.83**	**2.67**	**2.00**	**2.00**	**1.83**	**2.50**	**2.67**	**2.50**

Table 3.11 Correlation of Course Outcomes and Program outcomes of
Advanced Java (Spring) (C403) Semester: IV | Year of Study: 2024–25

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
C403.1	3	3	2	3	2	3	3	1	3	1	2
C403.2	3	3	2	3	3	2	2	3	3	3	2
C403.3	3	3	2	2	3	1	1	2	3	3	3
C403.4	2	2	2	3	3	1	1	1	3	3	3
C403.5	3	2	3	2	2	3	1	2	2	3	3
C403.6	3	3	3	3	3	2	3	3	3	3	2
Average	**2.83**	**2.67**	**2.33**	**2.67**	**2.67**	**2.00**	**1.83**	**2.00**	**2.83**	**2.67**	**2.50**

Table 3.12 CO-PO matrices for courses selected.

Correlation	Mapping Strength
1	Slight (Low)
2	Moderate (Medium)
3	Substantial (High)
No correlation	'-'

3.1.3 Course-PO -PSO Matrix of all Courses for all Years of Study (10)

Table No. 3.13 Course-PO and PSO Matrix of all courses of the program*

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
C101	3.00	2.67	2.67	2.67	2.33	2.17	2.67	2.83	3.00	3.00	2.33
C102	2.67	3.00	2.83	2.83	2.17	2.00	0.83	2.67	2.33	2.83	2.83
C103	2.83	2.83	2.83	2.83	2.00	2.00	2.00	2.67	2.00	2.83	2.83
C104	2.83	2.33	2.33	2.33	2.00	2.50	2.33	2.67	2.50	2.50	2.50
C105	2.67	2.50	2.67	2.33	2.17	2.17	2.50	2.67	2.50	2.67	2.50
C106	2.50	2.33	2.50	2.67	2.00	2.00	2.17	2.17	2.00	2.83	2.50
C107	2.33	2.17	2.67	2.50	2.67	2.17	1.67	1.50	2.50	2.67	2.33
C108	2.67	2.00	2.17	2.17	2.33	2.33	1.67	1.83	2.50	2.33	2.50
C109	2.67	2.33	2.50	2.33	2.50	2.00	1.83	1.67	2.17	2.17	2.33
C110	2.50	2.67	2.67	2.33	2.33	2.33	2.50	1.67	2.50	2.17	2.17
C111	3.00	2.50	2.50	2.33	2.50	2.50	2.33	2.50	2.67	2.67	2.50
C201	2.83	2.33	2.50	2.83	2.67	2.33	1.83	1.83	2.33	2.33	2.83
C202	2.67	2.67	2.67	2.67	2.33	2.33	2.67	2.00	2.50	1.83	2.17
C203	2.50	2.00	2.67	2.50	2.17	2.33	2.33	2.50	2.17	2.17	2.50
C204	2.67	2.50	2.83	2.17	2.50	2.17	1.67	2.00	2.50	2.67	2.67
C205	2.83	2.67	2.67	2.83	2.17	2.00	1.67	1.83	2.50	2.50	2.83
C206	2.67	2.50	2.67	2.83	2.67	2.17	1.33	1.33	2.50	2.17	2.33
C207	2.33	2.83	2.67	2.67	2.33	1.83	1.67	1.00	2.50	2.33	2.33
C208	2.50	2.67	2.67	2.83	2.67	1.83	2.00	1.67	2.33	2.83	2.67
C209	2.83	2.67	2.67	2.67	2.33	2.50	1.83	1.50	2.33	2.83	1.83
C210	2.67	2.67	2.83	2.50	2.17	1.83	1.50	1.83	2.50	2.33	2.67
C211	2.67	2.50	2.83	2.67	2.67	2.33	2.50	2.50	2.83	2.50	2.67
C212	2.83	2.67	2.67	2.17	2.50	2.50	1.67	1.83	2.50	2.50	2.67
C213	2.37	2.69	2.53	2.21	2.38	1.74	2.07	1.59	2.53	2.54	2.23
C301	2.67	2.50	2.33	2.50	3.00	2.33	1.67	1.17	2.50	2.83	2.67
C302	2.67	2.67	2.67	2.33	2.50	2.33	1.50	2.17	2.33	2.50	2.33
C303	2.33	2.33	2.67	1.83	2.67	1.67	2.17	2.17	2.67	1.67	2.50
C304	2.67	2.67	2.33	2.67	2.67	2.00	1.67	2.00	2.67	1.83	2.67

C305	2.67	2.83	2.67	2.83	2.67	2.67	2.67	2.50	2.50	2.83	2.83
C306	2.83	2.67	2.67	2.67	2.67	1.33	2.17	1.67	2.50	2.17	2.83
C307	2.67	2.50	2.00	2.67	2.67	1.67	1.67	2.33	2.67	2.00	1.83
C308	2.50	2.17	2.17	2.83	2.50	2.67	2.50	1.83	2.00	2.33	2.83
C309	2.33	2.67	2.67	2.83	2.67	2.67	2.00	1.83	2.67	2.83	2.67
C310	2.67	2.50	2.67	2.33	2.67	2.67	2.50	2.00	2.67	2.17	2.33
C311	2.50	2.50	2.67	2.00	2.67	2.67	2.33	2.17	2.67	2.50	2.17
C312	2.17	2.33	2.33	2.83	2.67	2.00	2.00	1.83	2.50	2.67	2.50
C313	2.83	2.33	2.67	2.83	2.00	1.83	2.00	2.17	2.17	2.50	2.50
C401	2.83	2.67	2.33	2.67	2.67	2.00	1.83	2.00	2.83	2.67	2.50
C402	2.67	2.83	2.67	2.33	2.67	2.33	2.17	1.67	2.33	2.50	2.00
C403	2.67	2.50	2.67	2.67	2.83	2.67	2.50	1.33	2.67	2.67	2.67
C404	2.33	2.50	2.50	2.67	2.67	2.17	2.00	2.83	2.50	2.67	2.17
C405	2.83	2.33	2.83	2.83	2.83	2.67	2.50	1.50	2.50	2.67	2.00
C406	1.83	2.83	2.33	2.50	2.67	2.67	2.83	1.67	2.83	2.50	2.67
C407	2.67	2.67	2.67	2.83	2.83	2.67	2.17	2.00	2.50	2.00	2.67
C408	2.83	2.50	2.67	2.83	2.67	2.00	2.33	1.83	2.67	2.83	2.67
C409	2.83	2.67	2.50	2.83	2.67	2.67	1.50	2.33	2.17	2.00	2.50

Note: *Correlation levels 1, 2 or 3, as defined below:1: Slight (Low); 2: Moderate (Medium); 3: Substantial (High), and no correlation, indicated by '-'.*

3.2 Attainment of Course Outcomes (40)

3.2.1 Describe the Assessment Processes Used to Gather the Data upon which the Evaluation of Course Outcome is Based on (10)

Internal Assessment Process and Components

The evaluation of Course Outcomes involves the following steps:

- Faculty develops the Course Outline for the designated courses, including Course Outcomes.
- Faculty selects different internal assessment components.
- COs attainment is calculated by utilizing results from both internal assessment components and end-term examination results.

The CO assessment for all courses is based on the student's performance in Continuous Assessment Examinations, Assignments, and End Semester Examination.

Table : 3.14 Internal Evaluation Questions

Internal Assessment **(Overall Weightage 30%)**	Mid-Semester Examination **(30 Marks)**	• Short concepts-based questions. • Numerical-based questions. • Program / Algorithm Based Questions.	Based on CO1 and CO2
	Assignments / Quiz **(10 Marks)**	• Apply, Evaluate, Analyze, Create type of questions.	Based on CO3, CO4, CO5, and CO6.

Table 3.15 End Semester Examination Assessment Process and Components

Assessment Component	Components of Evaluation	Marks	Type of Questions
End Semester Examination (70 Marks)	Section-A	20	Short Answer Question (4 x 5 = 20 Marks)
	Section-B	20	Long Answer Question (2 x 10 Marks)
	Section-C	30	Case Study/Logical / Programming /Numerical Analysis (2 x 15 Marks)

The Continuous assessment is conducted for each theory course in each semester. The time duration of the Mid-semester Examination is one hour, and the maximum marks are 30. At the end of the semester, a re-test is conducted for the absentee students (subject to the approval of authorities) for the betterment of the internal marks of that student. The assessment examinations are conducted as per the academic calendar.

Assessment Process to gather data.

Table: 3.16 Assessment Process to gather data.

Step	Process
1	**CO Definition**: 6 Course Outcomes are defined for each subject based on Bloom's Taxonomy.
2	**Target Setting**: The department sets an attainment target (e.g., Level 2.1 or 60% of students scoring above the threshold).
3	**Data Collection**: Marks from internal and external exams are mapped to specific COs. For example, The Questions in a Mid-term examination are maps to CO1 and CO2.
4	**Attainment Calculation**: Direct Attainment is calculated based on the number of students scoring above the target percentage in internal and external exams. Indirect Attainment is calculated by averaging the responses from the Course exit Survey.
5	**Overall Attainment**: The final CO attainment is calculated using the formula: Overall = (0.8 × Direct Attainment) + (0.2 × Indirect Attainment)

Table: 3.17 three-point scale for measuring attainment Levels.

Level	Percentage of Students Scoring Above Target	Interpretation
Level 1 (Low)	Less than 50%	Low Attainment
Level 2 (Medium)	50-69%	Medium Attainment
Level 3 (High)	70% and above	High Attainment

Assignments:
To develop in-depth subject knowledge and understanding of basic and core concepts, two assignments are given for each course. It helps in improving the problem-solving capacity. The course teacher provides the topic, and submission dates and communicates the same in the class or sometimes it is conveyed through

the Amity LMS (Learning Management System). These assignment topics are designed in such a manner as to promote self-learning from various sources. Feedback is given to the student based on assessment to improve their learning and appreciate their efforts. Sometimes a topic is assigned to group discussion. The students are asked to form groups so the knowledge may be deliberate among them through brainstorming and critical analysis. It encourages them to exchange their knowledge, information, and views and encourages them to form their opinion about the topics.

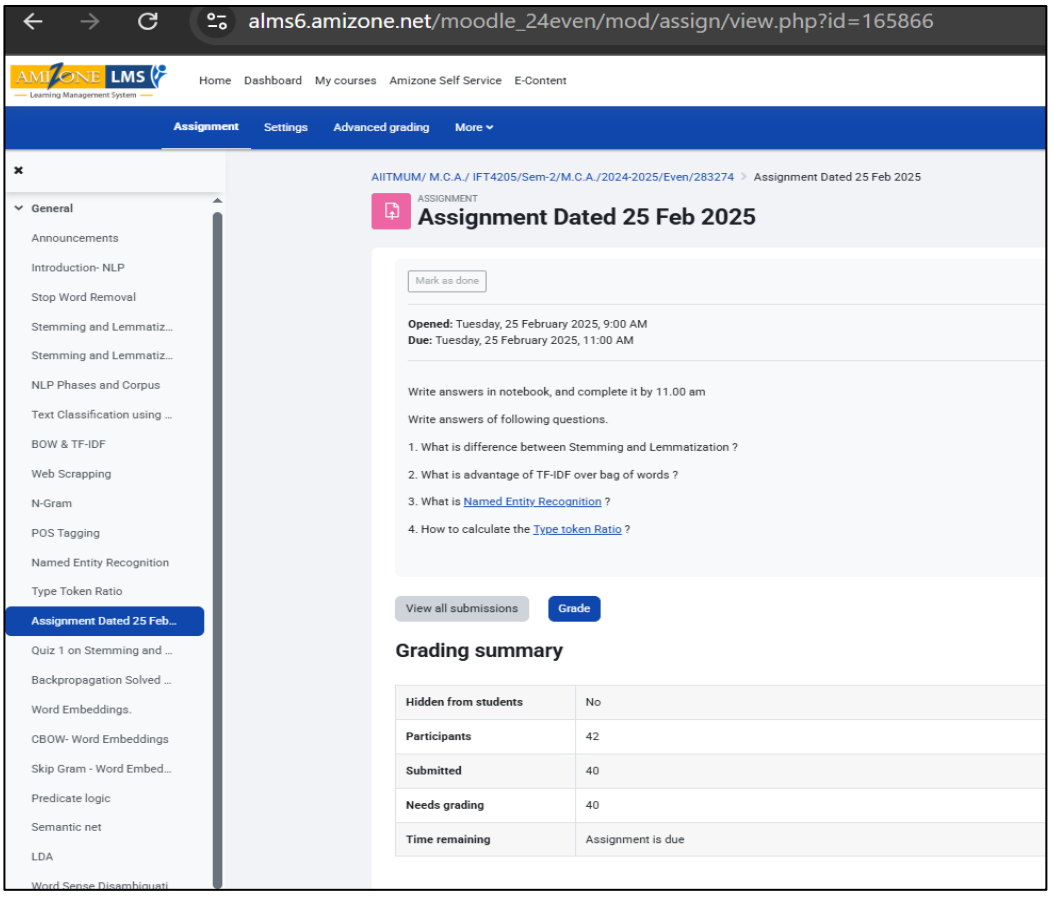


Fig. 3.1 Sample Assignment on LMS.

Quizzes:
To bring clarity about various concepts a quiz is conducted twice based on the syllabus covered. These are critically designed by the course teacher. And is assessed for 5 marks each.

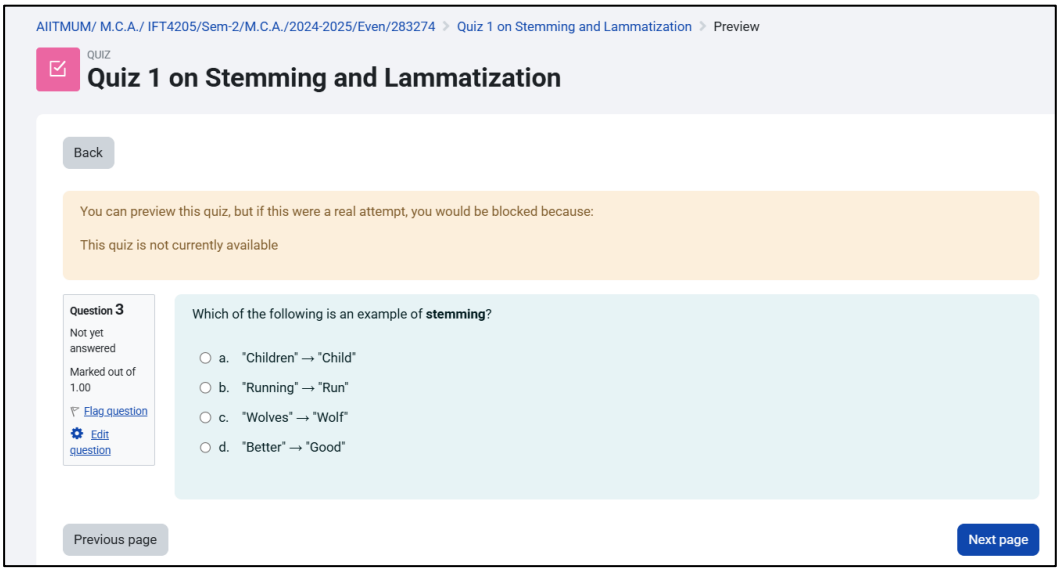
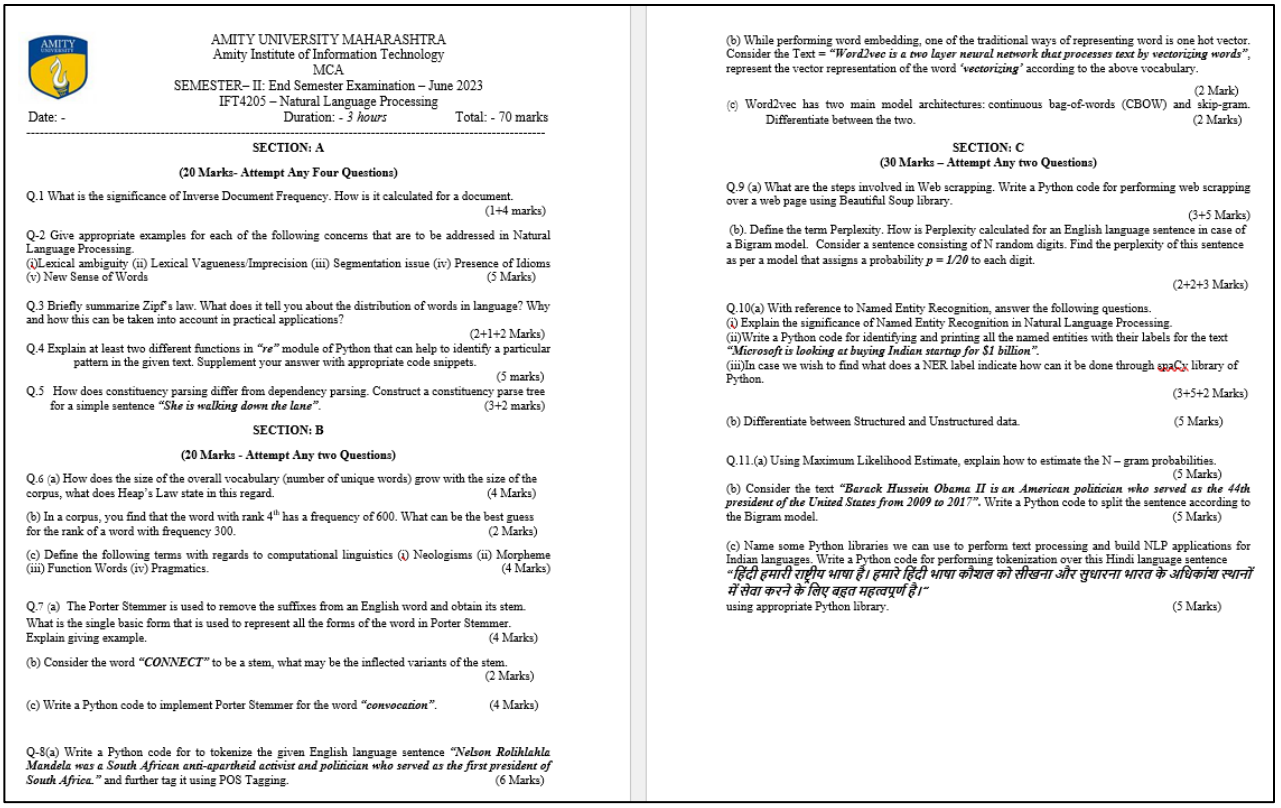


Fig. 3.2 : Sample Quiz conducted on LMS.

End Semester Examination:

The end semester Examination is the matric to assess all the Course outcomes of the courses. Examinations are normally conducted between May and June in the even semester and December and Jan for the Odd semesters. A grade out of 10 is obtained by the student based on the marks scored in the examination at the end of the semester. It is measured as SGPA (Semester Grade Point Average) and at the end of a year, a CGPA (Cumulative Grade Point Average) is calculated.



AMITY UNIVERSITY MAHARASHTRA
Amity Institute of Information Technology
MCA
SEMESTER– II: End Semester Examination – June 2023
IFT4205 – Natural Language Processing
Date: - Duration: - 3 hours Total: - 70 marks

SECTION: A

(20 Marks- Attempt Any Four Questions)

Q.1 What is the significance of Inverse Document Frequency. How is it calculated for a document. (1+4 marks)

Q-2 Give appropriate examples for each of the following concerns that are to be addressed in Natural Language Processing.
(i)Lexical ambiguity (ii) Lexical Vagueness/Imprecision (iii) Segmentation issue (iv) Presence of Idioms (v) New Sense of Words (5 Marks)

Q.3 Briefly summarize Zipf's law. What does it tell you about the distribution of words in language? Why and how this can be taken into account in practical applications? (2+1+2 Marks)

Q.4 Explain at least two different functions in *"re"* module of Python that can help to identify a particular pattern in the given text. Supplement your answer with appropriate code snippets. (5 marks)

Q.5 How does constituency parsing differ from dependency parsing. Construct a constituency parse tree for a simple sentence *"She is walking down the lane"*. (3+2 marks)

SECTION: B

(20 Marks - Attempt Any two Questions)

Q.6 (a) How does the size of the overall vocabulary (number of unique words) grow with the size of the corpus, what does Heap's Law state in this regard. (4 Marks)

(b) In a corpus, you find that the word with rank 4th has a frequency of 600. What can be the best guess for the rank of a word with frequency 300. (2 Marks)

(c) Define the following terms with regards to computational linguistics (i) Neologisms (ii) Morpheme (iii) Function Words (iv) Pragmatics. (4 Marks)

Q.7 (a) The Porter Stemmer is used to remove the suffixes from an English word and obtain its stem. What is the single basic form that is used to represent all the forms of the word in Porter Stemmer. Explain giving example. (4 Marks)

(b) Consider the word *"CONNECT"* to be a stem, what may be the inflected variants of the stem. (2 Marks)

(c) Write a Python code to implement Porter Stemmer for the word *"convocation"*. (4 Marks)

Q-8(a) Write a Python code for to tokenize the given English language sentence *"Nelson Rolihlahla Mandela was a South African anti-apartheid activist and politician who served as the first president of South Africa."* and further tag it using POS Tagging. (6 Marks)

(b) While performing word embedding, one of the traditional ways of representing word is one hot vector. Consider the Text = *"Word2vec is a two layer neural network that processes text by vectorizing words"*, represent the vector representation of the word *'vectorizing'* according to the above vocabulary. (2 Mark)

(c) Word2vec has two main model architectures: continuous bag-of-words (CBOW) and skip-gram. Differentiate between the two. (2 Marks)

SECTION: C

(30 Marks – Attempt Any two Questions)

Q.9 (a) What are the steps involved in Web scrapping. Write a Python code for performing web scrapping over a web page using Beautiful Soup library. (3+5 Marks)

(b). Define the term Perplexity. How is Perplexity calculated for an English language sentence in case of a Bigram model. Consider a sentence consisting of N random digits. Find the perplexity of this sentence as per a model that assigns a probability $p = 1/10$ to each digit. (2+2+3 Marks)

Q.10(a) With reference to Named Entity Recognition, answer the following questions.
(i) Explain the significance of Named Entity Recognition in Natural Language Processing.
(ii)Write a Python code for identifying and printing all the named entities with their labels for the text *"Microsoft is looking at buying Indian startup for $1 billion"*.
(iii)In case we wish to find what does a NER label indicate how can it be done through spaCy library of Python. (3+5+2 Marks)

(b) Differentiate between Structured and Unstructured data. (5 Marks)

Q.11.(a) Using Maximum Likelihood Estimate, explain how to estimate the N – gram probabilities. (5 Marks)

(b) Consider the text *"Barack Hussein Obama II is an American politician who served as the 44th president of the United States from 2009 to 2017"*. Write a Python code to split the sentence according to the Bigram model. (5 Marks)

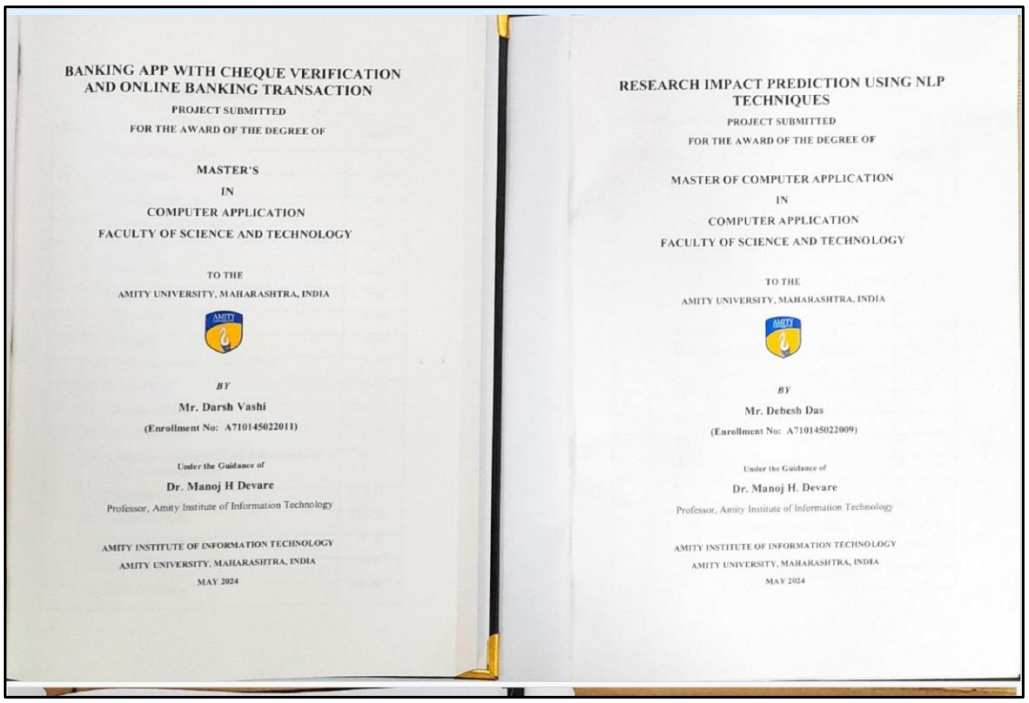
(c) Name some Python libraries we can use to perform text processing and build NLP applications for Indian languages. Write a Python code for performing tokenization over this Hindi language sentence *"हिंदी हमारी राष्ट्रीय भाषा है। हमारे हिंदी भाषा कौशल को सीखना और सुधारना भारत के अधिकांश स्थानों में सेवा करने के लिए बहुत महत्वपूर्ण है।"* using appropriate Python library. (5 Marks)

Fig. 2.25 Sample End Semester Question Paper

SIP and Dissertation:

Marks secured by the student in the project reviews and viva voce examination are considered for CO

attainment.


BANKING APP WITH CHEQUE VERIFICATION AND ONLINE BANKING TRANSACTION

PROJECT SUBMITTED

FOR THE AWARD OF THE DEGREE OF

MASTER'S

IN

COMPUTER APPLICATION

FACULTY OF SCIENCE AND TECHNOLOGY

TO THE

AMITY UNIVERSITY, MAHARASHTRA, INDIA

BY

Mr. Darsh Vashi

(Enrollment No: A710145022011)

Under the Guidance of

Dr. Manoj H Devare

Professor, Amity Institute of Information Technology

AMITY INSTITUTE OF INFORMATION TECHNOLOGY

AMITY UNIVERSITY, MAHARASHTRA, INDIA

MAY 2024

RESEARCH IMPACT PREDICTION USING NLP TECHNIQUES

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MASTER OF COMPUTER APPLICATION

IN

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TO THE

AMITY UNIVERSITY, MAHARASHTRA, INDIA

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AMITY INSTITUTE OF INFORMATION TECHNOLOGY

AMITY UNIVERSITY, MAHARASHTRA, INDIA

MAY 2024

Fig. 2.26: Sample Project Reports

Table: 3.18 Project Evaluation Milestone and Rubrics.

Stages	Milestone of Project Work Evaluation
1	Project Proposal Draft Discussion
2	Proposal Submission to Guide
3	First progress Review
4	Project Progress Review
5	Third Progress Review
6	Draft Project report soft copy checking
7	Final Soft copy submission of project report to Guide.
8	Black Rexin Bound Project Submission

Table: 3.19 Summer Internship Evaluation Rubrics

Sr. No.	Summer Internship Evaluation Rubrics
1	Technical Skills and Knowledge Application
2	Project Execution and Problem-Solving Ability
3	Professionalism and Work Ethics
4	Report Quality and Presentation

3.2.2 Record the Attainment of Course Outcomes of all Courses with Respect to Set Attainment Levels (30)

Table: **3.20** Threshold Value Setting for all Courses of MCA Batch 2023-25

Semester	Course Number	Course Code	Course	Threshold
1	C101	IFT4101	Operating Systems	50
1	C102	IFT4102	Android Programming	50
1	C103	IFT4103	Advanced Web Technologies (React.js)	50
1	C104	IFT4104	Operating Systems Lab (Unix)	50
1	C105	IFT4105	DevOps Concepts Lab	50
1	C106	IFT4107	Python (Django & Kivy) Programming	50
1	C107	IFT4108	Java Lab	50
1	C108	IFT4109	Python Programming Lab	50
1	C109	IFT4110	Advanced Web Technologies (React.js) Lab	50
1	C110	IFT4111	Android Programming Lab	50
1	C111	IFT4112	Mathematical Aptitude	50
2	C201	IFT4106	Business Intelligence Lab (SQL Server SSIS)	50
2	C202	IFT4201	Computer Networks	50
2	C203	IFT4203	Machine Learning	50
2	C204	IFT4204	Cloud Computing (Azure & AWS)	50
2	C205	IFT4205	Natural Language Processing	50
2	C206	IFT4206	Data Structures and Algorithms	50
2	C207	IFT4207	C & C++ Lab	50
2	C208	IFT4208	Computer Networks Lab	50
2	C209	IFT4210	Machine Learning Lab	50
2	C210	IFT4211	Cloud Computing (Azure & AWS) Lab	50
2	C211	IFT4212	Natural Language Processing Lab	50
2	C212	IFT4213	Data Structures and Algorithms Lab	50
2	C213	IFT4214	Optimization Techniques	50
3	C301	IFT4301	Image Processing	50
3	C302	IFT4302	Cyber Security	50
3	C303	IFT4303	Bigdata Processing	50
3	C304	IFT4304	Blockchain Architecture	50
3	C305	IFT4306	Soft Computing	50
3	C306	IFT4307	UI/UX Design Lab	50
3	C307	IFT4308	Summer Internship Evaluation	50
3	C308	IFT4309	Image Processing Lab	50
3	C309	IFT4310	Cyber Security Lab	50
3	C310	IFT4311	Bigdata Processing Lab	50
3	C311	IFT4312	Blockchain Architecture Lab	50
3	C312	IFT4314	Soft Computing Lab	50
3	C313	IFT4315	DBMS Lab	50
4	C401	IFT4401	Advanced Java (Spring)	50
4	C402	IFT4402	Research Methodology	50
4	C403	IFT4403	Cyber Forensics	50
4	C404	IFT4404	Project / Dissertation	50
4	C405	IFT4405	Advanced Java (Spring) Lab	50
4	C406	IFT4406	Research Methodology Lab	50
4	C407	IFT4407	Cyber Forensics Lab	50
4	C408	IFT4411	ASP.NET & C# Programming	50
4	C409	IFT4412	ASP.NET & C# Programming Lab	50

Table: 3.21 Threshold Value Setting for all Courses of MCA Batch 2022-24

Sem	Course Nr.	Course Code	Course Name	Threshold
1	C101	IFT4101	Operating Systems	50
1	C102	IFT4102	Android Programming	50
1	C103	IFT4104	Operating Systems Lab (Unix)	50
1	C104	IFT4106	DevOps Concepts Lab	50
1	C105	IFT4107	Business Intelligence Lab (SQL Server SSIS)	50
1	C106	IFT4108	Python (Django & Kivy) Programming	50
1	C107	IFT4109	Java Lab	50
1	C108	IFT4110	Python Programming Lab	50
1	C109	IFT4112	Android Programming Lab	50
2	C201	IFT4103	Advanced Web Technologies (Node.js)	50
2	C202	IFT4111	Advanced Web Technologies (Node.js) Lab	50
2	C203	IFT4201	Computer Networks	50
2	C204	IFT4203	Machine Learning	50
2	C205	IFT4204	Cloud Computing (Azure & AWS)	50
2	C206	IFT4205	Natural Language Processing	50
2	C207	IFT4206	Data Structures and Algorithms	50
2	C208	IFT4207	C & C++ Lab	50
2	C209	IFT4208	Computer Networks Lab	50
2	C210	IFT4210	Machine Learning Lab	50
2	C211	IFT4211	Cloud Computing (Azure & AWS) Lab	50
2	C212	IFT4212	Natural Language Processing Lab	50
2	C213	IFT4213	Data Structures and Algorithms Lab	50
2	C214	IFT4214	Optimization Techniques	50
3	C301	IFT4301	Image Processing	50
3	C302	IFT4302	Cyber Security	50
3	C303	IFT4303	Bigdata Processing	50
3	C304	IFT4306	Soft Computing	50
3	C305	IFT4307	UI/UX Design Lab	50
3	C306	IFT4308	Summer Internship Evaluation	50
3	C307	IFT4309	Image Processing Lab	50
3	C308	IFT4311	Bigdata Processing Lab	50
3	C309	IFT4314	Soft Computing Lab	50
4	C401	IFT4304	Blockchain Architecture	50
4	C402	IFT4310	Cyber Security Lab	50
4	C403	IFT4312	Blockchain Architecture Lab	50
4	C404	IFT4401	Advanced Java: Spring	50
4	C405	IFT4402	Research Methodology	50
4	C406	IFT4403	Cyber Forensics	50
4	C407	IFT4405	Advanced Java: Spring Lab	50
4	C408	IFT4406	Research Methodology Lab	50
4	C409	IFT4407	Cyber Forensics Lab	50
4	C410	IFT4411	Open-Source Technologies (PHP & MySQL)	50

4	C411	IFT4412	Open-Source Technologies (PHP & MySQL) Lab	50
4	C412	IFT4404	Project / Dissertation	50

Table: 3.22 Threshold Value Setting for all Courses of MCA Batch 2021-23

Sem	Course Nr.	Course Code	Course Name	Threshold
1	C101	IFT4101	Operating Systems	50
1	C102	IFT4102	Android Programming	50
1	C103	IFT4103	Advanced Web Technologies (Node.js)	50
1	C104	IFT4104	Operating Systems Lab (Unix)	50
1	C105	IFT4105	DevOps Concepts Lab	50
1	C106	IFT4106	Business Intelligence Lab (Sql Server SSIS)	50
1	C107	IFT4107	Python (Django & Kivy) Programming	50
1	C108	IFT4108	Java Lab	50
1	C109	IFT4109	Python Programming Lab	50
1	C110	IFT4110	Advanced Web Technologies (Node.js) Lab	50
1	C111	IFT4111	Android Programming Lab	50
2	C201	IFT4201	Computer Networks	50
2	C202	IFT4202	Internet of Things	50
2	C203	IFT4203	Machine Learning	50
2	C204	IFT4204	Cloud Computing (Azure & AWS)	50
2	C205	IFT4205	Optimization Techniques	50
2	C206	IFT4206	Data Structures and Algorithms	50
2	C207	IFT4207	C & C++ Lab	50
2	C208	IFT4208	Computer Networks Lab	50
2	C209	IFT4210	Machine Learning Lab	50
2	C210	IFT4211	Cloud Computing (Azure & AWS) Lab	50
2	C211	IFT4213	Data Structures and Algorithms Lab	50
3	C301	IFT4301	Image Processing	50
3	C302	IFT4302	Cyber Security	50
3	C303	IFT4303	Bigdata Processing	50
3	C304	IFT4304	Blockchain Architecture	50
3	C305	IFT4306	Soft Computing	50
3	C306	IFT4307	UI/UX Design Lab	50
3	C307	IFT4308	Summer Internship Evaluation	50
3	C308	IFT4309	Image Processing Lab	50
3	C309	IFT4310	Cyber Security Lab	50
3	C310	IFT4311	Bigdata Processing Lab	50
3	C311	IFT4312	Blockchain Architecture Lab	50
3	C312	IFT4314	Soft Computing Lab	50
4	C401	IFT2410	Cyber Forensics Lab	50
4	C402	IFT4401	Advanced Java: Spring	50
4	C403	IFT4402	Research Methodology	50
4	C404	IFT4403	Cyber Forensics	50
4	C405	IFT4405	Advanced Java: Spring Lab	50
4	C406	IFT4406	Research Methodology Lab	50

4	C407	IFT4411	Open-Source Technologies (PHP & MySQL)	50
4	C408	IFT4412	Open-Source Technologies (PHP & MySQL) Lab	50
4	C409	IFT4404	Project / Dissertation	50

Measuring Course Outcomes attained through End Semester Examinations

It is based on the student's performance in various components of Continuous Assessment, Such as the Mid-semester Examination, Assignments, Quizzes, etc. along with the performance in the End Semester Examination. The process of evaluation of individual Cos for every course is prescribed as follows:

CO attainment:

Each course is assessed with the use of both the Direct assessment tools and the Indirect assessment tools. Mid-term tests, Assignments, quizzes and End-term Examinations play an important role in defining the level of learning that a student is expected to achieve in the courses and hence, in the program. Since assessment drives learning, the design of assessments goes beyond mere tests of memory recall. They also test higher-order abilities and skills described in the Revised Bloom's Taxonomy. Conscious efforts are made to map the curriculum and assessment to a higher level of learning to support the program to aim for higher-level abilities that go beyond remembering or understanding, and require application, analysis, evaluation, or creation.

While developing assessment plans for each of the courses in the program, the following points are kept in mind:

1. Alignment of assessment with course outcome.
2. Level of learning (Cognitive- Knowledge, Understand, Apply, Analyze, Evaluate, and Create) the student is expected to achieve.
3. Assessment method to be adapted.

Identifying appropriate methods for course assessment plans to measure COs is done carefully. This is an essential step to ensure the success of the assessment process. Bloom's taxonomy framework helps the concerned course faculty to set well-balanced examination papers, testing different cognitive skills without a tilt towards a tough or easy paper perception. While using Bloom's taxonomy framework in planning and designing of assessment of student learning, the following points are considered.

- Normally, 'understanding' and 'applying' and to some extent 'analyzing' levels are assessed in the mid-semester examination.
- In the End Semester Examinations, learning levels namely, 'analysis', 'evaluation', 'application', and 'creation', are assessed in a variety of student works like course projects, and internship experience.

Process for Measuring Attainment of Course Outcomes

While planning the assessment for the achievement of course outcomes, the following points are checked in the course plan submitted by the faculty members:

- The course outcomes are aligned with the relevant Program Outcome.
- The alignment of assessment questions with course outcomes.
- Whether all the learning outcomes are tested.
- The overall weightage in the assessment, for each of Bloom's learning levels.
- Whether the assessment methods used adequately assess the desired learning outcomes.
- Rubrics are developed and used for assessment. Rubrics are driven by the goals/objectives of

assessments.

To measure the course outcomes, the scores of all the students in different assessments in a course are tabulated. Threshold limits for students' performance or score are set at the beginning of the course by the faculty and the Assurance of Learning committee based on past trends.

3.3 Attainment of Program Outcomes (40)

3.3.1 Describe Assessment Tools and Processes Used for Assessing the Attainment of Each PO (10)

Assessment Tools:

Direct Assessment Tools (80% weightage)

- **Internal Assessment (30%)**: Includes Continuous Internal Evaluation (CIE) through Mid-semester exams, Assignments, and Quizzes. These tools are used to track student progress during the semester.
- **End Semester Examination (70%)**: The End-Semester Examination (ESE) conducted by the University. This is the primary summative tool to measure the final mastery of the subject.
- **Laboratory Evaluation**: For practical courses, attainment is measured through continuous lab performance, record maintenance, and an end-semester practical exam.

Indirect Assessment Tools (20% weightage)

- **Course exit Survey**: Feedback is collected from students at the end of each course regarding their level of confidence in achieving each CO.
- **Program exit Survey**: A Holistic survey conducted with graduating students to collect feedback on overall program outcomes, career preparedness, and program satisfaction.

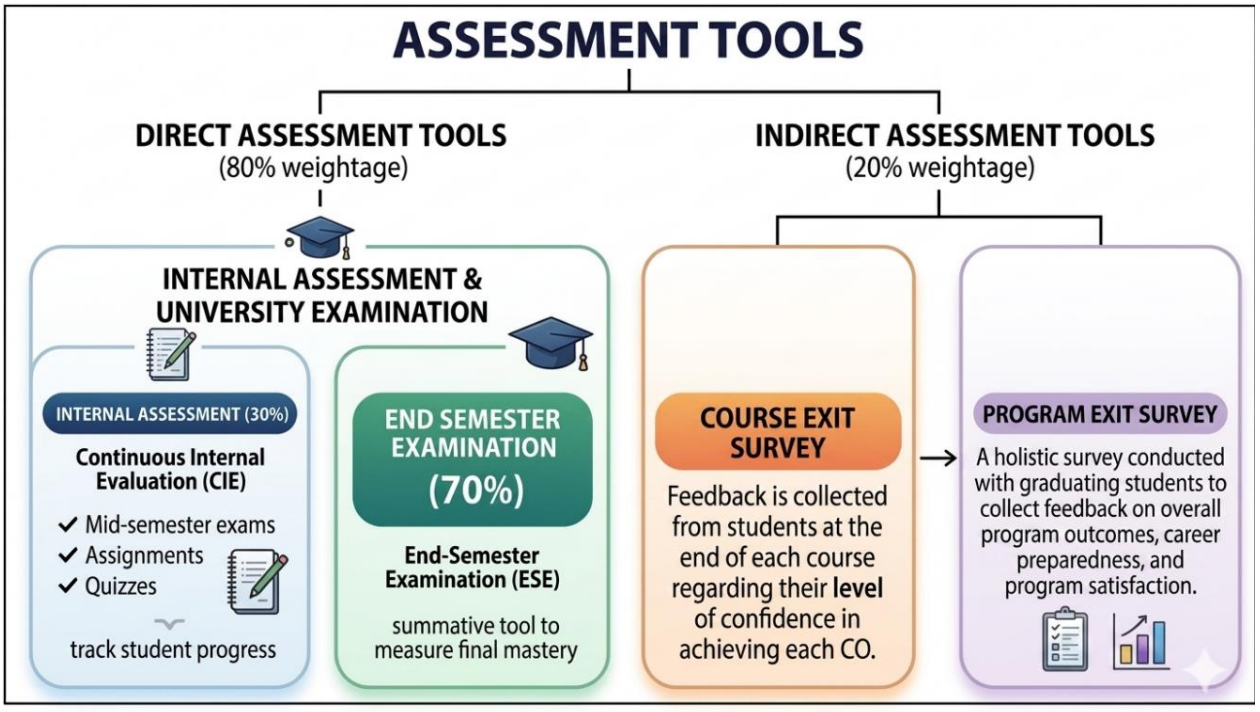

Fig. 3.1 Assessment tools used in Direct and Indirect Assessment

3.3.2 Provide Results of Evaluation of Each PO (30)

Table: 3.22 CO-PO Attainment MCA Batch 2021-23

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	Average PO Attainment	Target (PO)	Gap (PO)
C101	2.25	2.40	2.24	2.24	2.24	1.93	2.09	1.92	**2.16**	**2.50**	**-0.34**
C102	2.61	2.45	2.44	1.96	2.28	1.79	1.80	1.80	**2.14**	**2.20**	**-0.06**
C103	2.57	2.57	2.08	1.60	2.25	2.08	1.67	2.16	**2.12**	**2.03**	**0.09**
C104	2.61	2.61	2.61	2.61	2.94	1.79	1.95	1.80	**2.37**	**2.50**	**-0.13**
C105	2.22	2.38	2.86	2.22	2.22	2.22	1.59	1.72	**2.18**	**2.50**	**-0.32**
C106	2.58	2.58	2.74	2.42	2.42	2.10	2.10	1.29	**2.28**	**2.30**	**-0.02**
C107	2.63	2.47	2.63	2.96	2.13	1.97	1.97	2.13	**2.36**	**2.00**	**0.36**
C108	1.95	2.43	2.43	2.11	2.27	2.27	2.25	2.10	**2.23**	**2.40**	**-0.17**
C109	2.61	2.76	2.61	2.16	2.53	1.87	1.37	2.04	**2.25**	**3.00**	**-0.75**
C110	2.43	2.26	2.13	1.96	1.78	1.61	1.68	2.90	**2.09**	**2.20**	**-0.11**
C111	2.56	1.44	2.56	2.40	2.56	2.40	2.12	2.90	**2.37**	**2.60**	**-0.23**
C201	2.39	2.39	2.39	2.56	2.56	1.28	2.09	2.83	**2.31**	**3.00**	**-0.69**
C202	2.85	2.70	2.70	2.85	2.28	2.09	2.09	1.90	**2.43**	**2.30**	**0.13**
C203	2.34	2.34	2.21	2.21	1.95	1.95	1.95	1.69	**2.08**	**3.00**	**-0.92**
C204	2.38	2.54	2.54	2.38	2.54	1.90	2.09	2.22	**2.32**	**2.30**	**0.02**
C205	2.51	2.35	2.51	2.67	2.51	2.27	2.37	2.26	**2.43**	**2.21**	**0.22**
C206	2.48	2.17	2.48	2.48	2.79	2.79	2.63	2.32	**2.52**	**3.00**	**-0.48**
C207	2.54	2.54	2.54	2.54	2.38	2.38	1.90	2.67	**2.44**	**2.40**	**0.04**
C208	2.38	2.38	2.38	2.70	2.06	1.75	2.22	1.90	**2.22**	**2.48**	**-0.26**
C209	2.25	2.25	2.74	2.58	2.09	2.41	2.09	2.12	**2.32**	**2.40**	**-0.08**
C210	2.23	2.72	2.56	2.56	2.23	1.59	1.60	2.23	**2.22**	**2.00**	**0.22**
C211	2.28	1.97	2.28	1.99	2.00	1.21	2.27	1.68	**1.96**	**2.00**	**-0.04**
C301	2.31	2.47	2.62	1.85	2.62	1.86	1.54	1.70	**2.12**	**2.29**	**-0.17**
C302	2.17	2.17	2.17	2.17	1.91	1.91	2.29	1.91	**2.09**	**2.50**	**-0.41**
C303	2.69	2.53	2.69	2.84	2.37	2.47	1.59	2.37	**2.44**	**2.69**	**-0.25**
C304	2.45	2.30	2.45	2.45	1.85	2.12	2.14	1.99	**2.22**	**2.50**	**-0.28**
C305	2.21	2.52	2.52	2.37	2.51	2.36	1.19	1.18	**2.11**	**2.10**	**0.01**
C306	2.38	2.54	2.22	2.23	2.07	2.22	2.28	2.54	**2.31**	**2.40**	**-0.09**
C307	2.83	2.83	3.00	2.67	2.67	2.83	2.83	2.67	**2.79**	**2.60**	**0.19**
C308	2.71	2.71	2.39	2.23	2.07	2.21	2.29	2.08	**2.34**	**2.30**	**0.04**
C309	2.58	2.58	2.25	2.25	2.70	2.65	2.74	2.58	**2.54**	**2.50**	**0.04**
C310	2.41	2.41	2.41	2.09	2.25	2.90	1.77	2.25	**2.31**	**2.50**	**-0.19**
C311	2.83	2.68	2.22	2.53	2.37	2.04	1.57	1.88	**2.26**	**2.20**	**0.06**
C312	2.72	2.55	2.39	2.55	2.15	2.22	2.22	2.72	**2.44**	**2.21**	**0.23**

C401	2.58	2.74	2.58	2.71	2.58	2.74	2.74	2.74	**2.68**	**2.50**	**0.18**
C402	2.72	2.72	2.56	2.72	2.72	2.56	2.88	1.92	**2.60**	**2.30**	**0.30**
C403	1.77	2.01	2.01	2.26	2.14	2.14	2.26	2.26	**2.11**	**2.10**	**0.01**
C404	2.64	2.81	2.81	2.81	2.81	2.65	2.97	2.81	**2.79**	**2.50**	**0.29**
C405	2.81	2.81	2.64	2.81	2.81	2.81	2.65	1.82	**2.64**	**2.60**	**0.04**
C406	2.71	2.71	2.55	2.71	2.71	2.87	2.71	2.55	**2.69**	**2.30**	**0.39**
C407	2.05	1.93	2.17	2.05	2.05	2.04	2.05	2.17	**2.07**	**2.20**	**-0.13**
C408	1.86	1.75	1.97	1.86	1.86	1.85	1.86	1.97	**1.88**	**2.00**	**-0.12**
C409	2.83	2.83	2.83	2.80	3.00	2.67	2.50	2.83	**2.79**	**2.80**	**-0.01**
Direct Attainment	**2.46**	**2.45**	**2.47**	**2.40**	**2.35**	**2.18**	**2.12**	**2.17**	**2.33**	**2.40**	**-0.08**
Indirect Attainment	**2.38**	**2.43**	**2.43**	**2.43**	**2.38**	**2.57**	**2.44**	**2.57**	**2.45**	**2.40**	**0.05**
Final Attainment	**2.42**	**2.44**	**2.45**	**2.41**	**2.37**	**2.38**	**2.28**	**2.37**	**2.39**	**2.40**	

Table: 3.23 CO-PSO Attainment MCA Batch 2021-23.

Course	PSO1	PSO2	PSO3	AVG PSO Attainment	Target (PSO)	Gap (PSO)
C101	2.89	2.40	2.40	**2.56**	**2.18**	**0.38**
C102	2.61	2.29	2.12	**2.34**	**2.30**	**0.04**
C103	2.40	2.73	2.25	**2.46**	**2.29**	**0.17**
C104	2.12	2.94	2.28	**2.45**	**2.67**	**-0.22**
C105	2.38	2.70	2.22	**2.43**	**2.05**	**0.38**
C106	2.42	2.42	2.42	**2.42**	**2.74**	**-0.32**
C107	2.64	2.80	2.47	**2.64**	**2.39**	**0.25**
C108	2.11	2.60	2.27	**2.32**	**2.11**	**0.21**
C109	2.45	2.31	2.61	**2.46**	**2.30**	**0.16**
C110	1.95	2.44	2.60	**2.33**	**2.08**	**0.25**
C111	2.87	2.88	2.26	**2.67**	**2.91**	**-0.24**
C201	2.08	2.40	2.23	**2.24**	**2.36**	**-0.12**
C202	2.54	2.38	2.22	**2.38**	**2.30**	**0.08**
C203	2.34	2.09	2.21	**2.21**	**2.02**	**0.19**
C204	1.75	2.38	2.22	**2.12**	**3.00**	**-0.88**
C205	2.51	2.20	2.51	**2.41**	**2.68**	**-0.27**
C206	2.48	2.63	2.17	**2.43**	**2.21**	**0.22**
C207	2.54	2.86	2.06	**2.49**	**2.73**	**-0.24**
C208	2.22	2.38	2.38	**2.33**	**2.04**	**0.29**
C209	2.58	2.74	2.25	**2.52**	**2.78**	**-0.26**
C210	2.56	2.56	2.25	**2.45**	**2.31**	**0.14**
C211	2.59	2.28	2.44	**2.44**	**2.30**	**0.14**

C301	2.47	2.47	2.32	**2.42**	**2.27**	**0.15**
C302	2.29	2.17	1.91	**2.13**	**1.92**	**0.21**
C303	2.68	2.37	2.53	**2.53**	**2.81**	**-0.28**
C304	1.84	2.30	2.45	**2.19**	**2.03**	**0.16**
C305	2.66	2.37	2.22	**2.42**	**2.50**	**-0.08**
C306	1.91	2.23	2.38	**2.17**	**2.50**	**-0.33**
C307	2.50	2.67	2.67	**2.61**	**2.50**	**0.11**
C308	2.88	2.55	2.88	**2.77**	**2.53**	**0.24**
C309	2.58	2.09	2.74	**2.47**	**2.71**	**-0.24**
C310	2.41	2.57	2.41	**2.46**	**2.25**	**0.21**
C311	2.83	2.51	2.36	**2.57**	**2.50**	**0.07**
C312	2.88	2.55	2.72	**2.72**	**2.70**	**0.02**
C401	2.58	2.26	2.75	**2.53**	**2.20**	**0.33**
C402	2.40	2.56	2.72	**2.56**	**2.36**	**0.20**
C403	2.26	2.26	2.26	**2.26**	**3.00**	**-0.74**
C404	2.48	2.81	2.64	**2.64**	**2.50**	**0.14**
C405	2.64	2.98	2.14	**2.59**	**2.33**	**0.26**
C406	2.71	2.55	2.55	**2.60**	**2.40**	**0.20**
C407	1.93	2.05	1.81	**1.93**	**1.46**	**0.47**
C408	2.08	2.08	2.08	**2.08**	**2.29**	**-0.21**
C409	2.50	2.83	2.50	**2.61**	**2.50**	**0.11**
Direct Attainment	**2.43**	**2.48**	**2.37**	**2.43**	**2.40**	**0.03**
Indirect Attainment	**2.43**	**2.62**	**2.62**	**2.56**	**2.40**	
Final Attainment	**2.43**	**2.55**	**2.49**	**2.49**	**2.40**	

Table: 3.24 CO-PO Attainment MCA Batch 2022-24

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	Avg PO Attainment	Target (PO)	GAP (PO)
C101	2.34	2.34	2.34	2.34	2.34	2.34	2.34	2.34	**2.34**	**2.50**	**-0.16**
C102	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	**2.25**	**2.48**	**-0.23**
C103	1.92	1.53	2.30	2.30	1.92	1.92	2.30	1.40	**1.95**	**2.50**	**-0.55**
C104	2.95	2.95	2.95	2.95	2.95	1.81	2.30	1.64	**2.56**	**2.83**	**-0.27**
C105	2.86	2.39	2.39	2.39	2.86	2.08	1.74	1.75	**2.31**	**2.09**	**0.22**
C106	2.82	2.36	1.89	2.67	2.82	2.36	2.20	2.03	**2.39**	**2.67**	**-0.28**
C107	2.36	2.36	1.58	1.97	2.36	2.22	1.32	1.45	**1.95**	**3.00**	**-1.05**
C108	2.71	2.71	2.55	2.55	1.92	2.23	2.87	2.39	**2.49**	**2.71**	**-0.22**
C109	2.90	2.90	2.26	2.26	2.42	2.58	2.10	1.61	**2.38**	**2.19**	**0.19**
C201	2.74	2.58	2.58	2.26	2.90	2.42	2.09	2.25	**2.48**	**2.70**	**-0.22**
C202	2.76	2.60	2.27	2.11	2.92	2.44	2.92	1.95	**2.50**	**2.13**	**0.37**

C203	2.76	2.60	2.60	2.93	2.93	2.44	2.93	2.60	**2.72**	**2.96**	**-0.24**
C204	2.81	2.64	2.64	2.97	2.97	2.48	2.31	1.65	**2.56**	**2.22**	**0.34**
C205	2.71	1.92	2.55	2.39	2.39	2.39	1.90	2.39	**2.33**	**3.00**	**-0.67**
C206	2.53	2.22	2.06	2.21	2.38	2.22	1.74	1.58	**2.12**	**3.00**	**-0.88**
C207	2.44	2.61	2.61	2.93	2.44	2.44	1.79	2.44	**2.46**	**3.00**	**-0.54**
C208	2.67	2.51	2.51	2.82	2.51	2.36	1.73	1.88	**2.37**	**2.05**	**0.32**
C209	2.67	2.51	2.52	2.22	2.52	2.35	1.88	2.02	**2.34**	**2.69**	**-0.35**
C210	2.70	2.54	2.55	2.86	2.86	2.38	2.86	2.55	**2.66**	**2.44**	**0.22**
C211	2.67	2.50	2.51	2.82	2.82	2.35	2.82	2.51	**2.62**	**3.00**	**-0.38**
C212	2.41	2.09	2.57	2.09	2.41	2.41	2.09	1.28	**2.17**	**2.03**	**0.14**
C213	2.78	2.62	2.62	2.12	2.62	2.46	2.12	2.29	**2.45**	**3.00**	**-0.55**
C214	2.52	2.36	2.37	2.23	2.66	2.22	1.94	1.77	**2.26**	**2.11**	**0.15**
C301	2.60	2.11	1.94	1.79	2.76	2.13	1.94	2.11	**2.17**	**2.00**	**0.17**
C302	2.47	2.63	2.30	2.63	2.96	2.96	1.48	1.15	**2.32**	**2.40**	**-0.08**
C303	2.46	2.46	2.14	2.79	2.46	2.29	2.29	2.62	**2.44**	**2.60**	**-0.16**
C304	2.63	2.63	2.14	2.79	2.96	2.17	2.47	1.31	**2.39**	**2.63**	**-0.24**
C305	2.08	2.25	2.08	2.40	2.08	1.91	1.76	2.08	**2.08**	**2.00**	**0.08**
C306	2.80	2.00	2.67	2.33	2.00	2.67	3.00	1.33	**2.35**	**2.30**	**0.05**
C307	2.61	2.28	2.27	1.95	2.76	2.28	2.28	2.11	**2.32**	**2.30**	**0.02**
C308	2.75	2.26	2.26	1.78	2.10	2.42	2.10	2.75	**2.30**	**2.30**	**0.00**
C309	2.56	2.56	1.97	2.56	2.22	2.17	2.37	1.97	**2.30**	**3.00**	**-0.70**
C401	2.78	2.62	2.61	2.96	2.94	2.46	2.94	2.61	**2.74**	**2.70**	**0.04**
C402	2.81	2.65	2.64	2.19	2.98	1.82	1.98	2.31	**2.42**	**2.27**	**0.15**
C403	2.80	2.64	2.64	2.97	2.97	2.47	1.65	1.82	**2.50**	**2.50**	**0.00**
C404	2.14	2.64	2.64	2.97	2.15	2.47	1.81	1.81	**2.33**	**2.40**	**-0.07**
C405	2.80	2.63	2.63	1.81	2.14	2.47	1.64	2.63	**2.34**	**2.51**	**-0.17**
C406	2.78	2.62	2.62	2.95	2.13	2.46	1.80	1.80	**2.40**	**2.60**	**-0.20**
C407	2.79	2.13	2.29	1.64	2.95	2.46	1.79	1.98	**2.25**	**2.80**	**-0.55**
C408	2.28	2.28	2.42	2.42	2.42	2.42	2.42	2.15	**2.35**	**2.02**	**0.33**
C409	2.80	2.64	2.97	2.97	2.97	2.47	1.32	1.98	**2.51**	**2.50**	**0.01**
C410	2.93	2.93	2.44	1.62	2.93	1.62	1.63	1.96	**2.26**	**2.08**	**0.18**
C411	2.45	2.62	2.61	2.94	2.45	2.45	1.80	2.61	**2.49**	**2.50**	**-0.01**
C412	2.33	2.67	2.67	2.40	3.00	2.50	2.33	2.67	**2.57**	**2.41**	**0.16**
Direct Attainment	**2.61**	**2.46**	**2.42**	**2.44**	**2.58**	**2.32**	**2.12**	**2.04**	**2.38**	**2.50**	**-0.13**
Indirect Attainment	**2.54**	**2.60**	**2.62**	**2.50**	**2.49**	**2.60**	**2.57**	**2.66**	**2.57**	**2.50**	
Final Attainment	**2.58**	**2.53**	**2.52**	**2.47**	**2.53**	**2.46**	**2.35**	**2.35**	**2.47**	**2.50**	

Table: 3.25 CO-PSO Attainment MCA Batch 2022-24.

Course	PSO1	PSO2	PSO3	AVG PSO Attainment	Target (PSO)	Gap PSO
C101	2.07	2.21	2.34	**2.21**	1.89	0.32
C102	2.25	2.25	2.00	**2.16**	3.00	-0.84
C103	2.30	1.80	2.04	**2.05**	1.78	0.27
C104	2.95	2.46	2.95	**2.79**	3.00	-0.21
C105	2.86	2.54	2.38	**2.60**	2.21	0.39
C106	2.20	2.35	2.82	**2.46**	3.00	-0.54
C107	2.36	2.36	2.36	**2.36**	2.08	0.28
C108	2.71	2.39	2.55	**2.55**	3.00	-0.45
C109	2.90	2.42	2.58	**2.63**	2.47	0.16
C201	2.25	2.42	2.41	**2.36**	2.05	0.31
C202	2.60	2.76	1.63	**2.33**	3.00	-0.67
C203	2.60	2.76	2.44	**2.60**	2.18	0.42
C204	2.64	1.98	2.48	**2.37**	3.00	-0.63
C205	2.39	2.71	2.38	**2.49**	2.12	0.37
C206	2.53	2.37	2.54	**2.48**	3.00	-0.52
C207	2.12	2.77	2.12	**2.34**	2.01	0.33
C208	2.51	2.67	2.35	**2.51**	3.00	-0.49
C209	2.03	2.67	2.03	**2.25**	2.03	0.22
C210	2.55	2.70	2.37	**2.54**	3.00	-0.46
C211	2.51	2.67	2.34	**2.51**	2.19	0.32
C212	2.57	2.73	2.40	**2.57**	2.92	-0.35
C213	2.62	2.78	2.13	**2.51**	2.07	0.44
C214	2.37	2.52	2.21	**2.37**	3.00	-0.63
C301	2.60	1.95	2.92	**2.49**	2.14	0.35
C302	2.96	2.63	2.30	**2.63**	2.60	0.03
C303	2.95	2.79	2.31	**2.68**	2.36	0.32
C304	2.96	2.63	2.30	**2.63**	2.91	-0.28
C305	2.40	2.88	2.40	**2.56**	2.18	0.38
C306	2.00	2.67	2.67	**2.44**	2.40	0.04
C307	2.61	2.28	2.11	**2.33**	2.02	0.31
C308	2.10	2.75	2.67	**2.50**	3.00	-0.50
C309	2.56	2.37	2.37	**2.43**	2.11	0.32
C401	2.61	2.78	2.46	**2.62**	2.6	0.02
C402	2.31	2.15	2.49	**2.31**	2.07	0.24
C403	2.31	2.48	1.81	**2.20**	2.40	-0.20
C404	2.64	2.80	2.47	**2.64**	2.41	0.23
C405	2.63	2.80	2.47	**2.63**	3.00	-0.37
C406	2.62	2.78	1.97	**2.46**	2.18	0.28
C407	2.45	2.79	2.47	**2.57**	2.60	-0.03
C408	2.28	2.42	2.28	**2.33**	2.05	0.28
C409	2.64	2.80	1.48	**2.31**	2.56	-0.25

C410	2.93	2.28	2.93	**2.72**	3.00	-0.28
C411	2.61	1.79	2.29	**2.23**	2.50	-0.27
C412	2.33	2.83	2.00	**2.39**	3.00	-0.61
Direct Attainment	**2.51**	**2.52**	**2.34**	**2.46**	**2.50**	**-0.04**
Indirect Attainment	**2.49**	**2.55**	**2.61**	**2.55**	**2.50**	
Final Attainment	**2.50**	**2.54**	**2.47**	**2.50**	**2.50**	

Table: 3.26 CO-PO Attainment MCA Batch 2023-25

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	Average (PO) Attainment	Target PO	Gap PO
C101	2.92	2.54	2.54	2.70	2.16	1.98	2.54	2.73	**2.51**	**2.18**	**0.33**
C102	2.53	2.86	2.70	2.70	2.07	2.27	2.44	2.53	**2.51**	**2.79**	**-0.28**
C103	2.74	2.58	2.58	2.58	1.94	1.94	1.94	2.41	**2.34**	**2.09**	**0.25**
C104	2.75	2.26	2.26	2.26	1.94	2.43	2.27	2.59	**2.34**	**2.63**	**-0.29**
C105	2.54	2.39	2.53	2.22	2.06	2.06	2.38	2.54	**2.34**	**2.01**	**0.33**
C106	2.46	2.30	2.47	2.62	1.97	1.97	2.14	2.14	**2.26**	**2.44**	**-0.18**
C107	2.27	2.12	2.60	2.44	2.60	2.12	1.62	1.47	**2.15**	**1.83**	**0.32**
C108	2.61	1.96	2.12	2.12	2.28	2.28	1.63	1.79	**2.10**	**2.28**	**-0.18**
C109	2.78	2.43	2.26	2.12	2.28	2.12	1.95	1.81	**2.22**	**2.06**	**0.16**
C110	2.37	2.53	2.36	2.21	2.38	2.05	2.37	1.59	**2.23**	**2.47**	**-0.24**
C111	2.85	2.39	2.38	2.21	2.38	2.39	2.21	2.38	**2.40**	**2.13**	**0.27**
C201	2.72	2.25	2.40	2.72	2.56	2.24	1.77	1.75	**2.30**	**2.56**	**-0.26**
C202	2.59	2.59	2.59	2.59	2.27	2.27	2.59	1.94	**2.43**	**2.21**	**0.22**
C203	2.48	1.98	2.65	2.48	2.15	2.31	2.32	2.48	**2.36**	**3.00**	**-0.64**
C204	2.48	1.98	2.65	2.48	2.15	2.31	2.32	2.48	**2.36**	**2.05**	**0.31**
C205	2.62	2.46	2.79	2.13	2.46	2.13	1.64	1.97	**2.28**	**2.63**	**-0.35**
C206	2.55	2.40	2.56	2.71	2.56	2.08	1.27	1.28	**2.18**	**1.89**	**0.29**
C207	2.27	2.77	2.60	2.60	2.28	1.78	1.62	0.97	**2.11**	**2.70**	**-0.59**
C208	2.41	2.57	2.57	2.73	2.57	1.77	1.93	1.61	**2.27**	**2.08**	**0.19**
C209	2.76	2.60	2.60	2.60	2.28	2.44	1.79	1.46	**2.32**	**2.80**	**-0.48**

C210	2.57	2.57	2.73	2.41	2.09	1.77	1.45	1.78	**2.17**	**3.00**	**-0.83**
C211	2.59	2.43	2.75	2.60	2.59	2.27	2.43	2.43	**2.51**	**2.84**	**-0.33**
C212	2.77	2.61	2.61	2.12	2.45	2.45	1.63	1.79	**2.30**	**3.00**	**-0.70**
C213	2.37	2.69	2.53	2.21	2.38	1.74	2.07	1.59	**2.20**	**3.00**	**-0.80**
C301	2.61	2.45	2.29	2.45	2.94	2.29	1.63	1.14	**2.23**	**3.00**	**-0.77**
C302	2.57	2.58	2.58	2.26	2.41	2.25	1.46	2.09	**2.28**	**3.00**	**-0.72**
C303	2.25	2.24	2.57	1.76	2.57	1.61	2.10	2.10	**2.15**	**3.00**	**-0.85**
C304	2.58	2.59	2.26	2.58	2.59	1.94	1.61	1.94	**2.26**	**3.00**	**-0.74**
C305	2.59	2.74	2.58	2.74	2.58	2.58	2.58	2.42	**2.60**	**2.92**	**-0.32**
C306	2.74	2.59	2.58	2.58	2.59	1.29	2.10	1.62	**2.26**	**2.07**	**0.19**
C307	2.67	2.50	2.00	2.67	2.67	1.67	1.67	2.33	**2.27**	**3.00**	**-0.73**
C308	2.45	2.12	2.12	2.78	2.45	2.62	2.45	1.80	**2.35**	**2.16**	**0.19**
C309	2.27	2.59	2.59	2.76	2.60	2.59	1.94	1.78	**2.39**	**2.80**	**-0.41**
C310	2.60	2.44	2.60	2.28	2.60	2.60	2.44	1.95	**2.44**	**2.29**	**0.15**
C311	2.43	2.43	2.59	1.95	2.59	2.59	2.27	2.11	**2.37**	**3.00**	**-0.63**
C312	2.16	2.19	2.35	2.76	2.57	1.80	2.13	1.77	**2.21**	**2.08**	**0.13**
C313	2.77	2.28	2.61	2.77	1.96	1.79	1.96	2.12	**2.28**	**3.00**	**-0.72**
C401	2.70	2.51	2.14	2.51	2.52	1.91	1.56	1.77	**2.20**	**3.00**	**-0.80**
C402	2.61	2.77	2.61	2.28	2.61	2.28	2.12	1.63	**2.37**	**3.00**	**-0.63**
C403	2.58	2.41	2.57	2.58	2.74	2.57	2.41	1.29	**2.39**	**3.00**	**-0.61**
C404	2.32	2.49	2.49	2.59	2.66	2.16	1.99	2.82	**2.44**	**3.00**	**-0.56**
C405	2.75	2.28	2.75	2.75	2.75	2.59	2.43	1.46	**2.47**	**2.28**	**0.19**
C406	1.80	2.78	2.29	2.45	2.62	2.62	2.78	1.64	**2.37**	**3.00**	**-0.63**
C407	2.52	2.52	2.53	2.69	2.68	2.52	2.07	1.89	**2.43**	**3.00**	**-0.57**
C408	2.76	2.43	2.59	2.76	2.60	1.95	2.27	1.79	**2.39**	**3.00**	**-0.61**
C409	2.79	2.63	2.46	2.79	2.62	2.62	1.48	2.30	**2.46**	**2.33**	**0.13**
Direct Attainment	**2.56**	**2.45**	**2.50**	**2.48**	**2.43**	**2.18**	**2.04**	**1.94**	**2.32**	**2.60**	**-0.28**
Indirect Attainment	**2.72**	**2.72**	**2.67**	**2.67**	**2.62**	**2.62**	**2.60**	**2.80**	**2.68**	**2.60**	
Final Attainment	**2.64**	**2.58**	**2.58**	**2.58**	**2.52**	**2.40**	**2.32**	**2.37**	**2.50**	**2.60**	

Table: 3.27 CO-PSO Attainment MCA Batch 2023-25.

Course	PSO1	PSO2	PSO3	Average PSO Attainment	Target (PSO)	Gap PSO
C101	2.92	2.92	2.10	**2.64**	3.00	-0.36
C102	2.21	2.70	2.70	**2.53**	2.79	-0.26
C103	1.94	2.58	2.74	**2.42**	2.18	0.24
C104	2.43	2.42	2.42	**2.43**	2.67	-0.24
C105	2.38	2.54	2.38	**2.43**	2.04	0.39
C106	1.97	2.79	2.46	**2.41**	2.68	-0.27
C107	2.44	2.60	2.28	**2.44**	3.00	-0.56
C108	2.45	2.28	2.44	**2.39**	2.73	-0.34
C109	2.28	1.93	2.28	**2.17**	1.89	0.28
C110	2.53	1.72	2.22	**2.15**	3.00	-0.85
C111	2.54	2.52	2.38	**2.48**	2.16	0.32
C201	2.25	2.25	2.72	**2.41**	2.74	-0.33
C202	2.43	1.78	2.11	**2.11**	3.00	-0.89
C203	2.15	2.15	2.48	**2.26**	2.48	-0.22
C204	2.15	2.15	2.48	**2.26**	2.03	0.23
C205	2.46	2.62	2.62	**2.57**	3.00	-0.43
C206	2.39	2.08	2.24	**2.24**	3.00	-0.76
C207	2.44	2.28	2.28	**2.33**	2.66	-0.33
C208	2.25	2.73	2.56	**2.52**	2.21	0.31
C209	2.28	2.77	1.79	**2.28**	3.00	-0.72
C210	2.42	2.25	2.57	**2.41**	2.12	0.29
C211	2.76	2.43	2.60	**2.60**	2.88	-0.28
C212	2.45	2.45	2.61	**2.50**	2.19	0.31
C213	2.53	2.54	2.23	**2.43**	3.00	-0.57
C301	2.45	2.78	2.62	**2.62**	2.35	0.27
C302	2.25	2.41	2.26	**2.31**	3.00	-0.69

C303	2.57	1.61	2.41	**2.20**	2.04	0.16
C304	2.58	1.77	2.59	**2.31**	3.00	-0.69
C305	2.42	2.74	2.74	**2.63**	2.87	-0.24
C306	2.42	2.09	2.74	**2.42**	2.16	0.26
C307	2.67	2.00	1.83	**2.17**	2.39	-0.22
C308	1.97	2.29	2.78	**2.34**	3.00	-0.66
C309	2.59	2.76	2.60	**2.65**	2.94	-0.29
C310	2.60	2.11	2.28	**2.33**	3.00	-0.67
C311	2.59	2.43	2.11	**2.38**	2.69	-0.31
C312	2.54	2.57	2.38	**2.49**	2.21	0.28
C313	2.12	2.44	2.45	**2.34**	2.57	-0.23
C401	2.70	2.53	2.49	**2.57**	2.13	0.44
C402	2.28	2.45	1.96	**2.23**	2.71	-0.48
C403	2.57	2.58	2.57	**2.58**	3.00	-0.42
C404	2.49	2.66	2.16	**2.43**	2.62	-0.19
C405	2.43	2.61	1.94	**2.32**	2.03	0.29
C406	2.78	2.45	2.61	**2.61**	2.92	-0.31
C407	2.36	1.89	2.53	**2.26**	2.08	0.18
C408	2.60	2.76	2.59	**2.65**	2.60	0.05
C409	2.13	1.96	2.46	**2.18**	3.00	-0.82
Direct Attainment	**2.42**	**2.38**	**2.41**	**2.40**	**2.60**	**-0.20**
Indirect Attainment	**2.75**	**2.43**	**2.78**	**2.65**	**2.60**	
Final Attainment	**2.58**	**2.41**	**2.59**	**2.53**	**2.60**	

Table: 3.28 Indirect Attainment – Course exit Survey (C101)

Batch & Semester	**2023-25 (Sem-I)**					
Course	**C101 - Operating Systems (IFT4101)**					
Indirect Course Outcomes	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**C06**
Number of Students Answered - 1 (Low)	6	5	8	7	4	4
Number of Students Answered - 2 (Medium)	25	24	26	23	22	22
Number of Students Answered - 3 (High)	24	26	21	25	29	29
Total Number of Students Participated	**55**	**55**	**55**	**55**	**55**	**55**

Sum of 2 & 3 (Medium + High)	49	50	47	48	51	51
Indirect CO Attainment Percentage	**89%**	**91%**	**85%**	**87%**	**93%**	**93%**
Attainment Level	3	3	3	3	3	3

Table: 3.29 Indirect Attainment – Course exit Survey (C205)

Batch & Semester	**2023-25 (Sem-II)**					
Course	**C205 - Natural Language Processing (IFT4205)**					
Indirect Course Outcomes	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Number of Students Answered-1(low)	5	8	7	6	4	8
Number of Students Answered-2(Medium)	25	22	24	25	26	22
Number of Students Answered-3(High)	25	25	24	24	25	25
Total Number of Student's participated	55	55	55	55	55	55
Sum of 2&3	50	47	48	49	51	47
Indirect CO attainment Percentage	**91%**	**85%**	**87%**	**89%**	**93%**	**85%**
Attainment Level	3	3	3	3	3	3

Table: 3.30 Indirect Attainment – Course exit Survey (C312)

Batch & Semester	**2023-25 (Sem-III)**					
Course	**C312- Soft Computing Lab (IFT4314)**					
Indirect Course Outcomes	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Number of Students Answered-1(low)	10	9	8	6	7	5
Number of Students Answered-2(Medium)	21	23	23	25	24	20
Number of Students Answered-3(High)	24	23	24	24	24	30
Total Number of Student's participated	55	55	55	55	55	55
Sum of 2&3	45	46	47	49	48	50
Indirect CO attainment Percentage	**82%**	**84%**	**85%**	**89%**	**87%**	**91%**
Attainment Level	3	3	3	3	3	3

Table: 3.31 Indirect Attainment – Course exit Survey (C401)

Batch & Semester	**2023-25 (Sem-IV)**					
Course	**C401 - Advanced Java :Spring (IFT4401)**					
Indirect Course Outcomes	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Number of Students Answered-1(low)	8	6	10	9	5	5
Number of Students Answered-2(Medium)	22	23	18	20	23	24
Number of Students Answered-3(High)	25	26	27	26	27	26
Total Number of Student's participated	55	55	55	55	55	55
Sum of 2&3	47	49	45	46	50	50
Indirect CO attainment Percentage	**85%**	**89%**	**82%**	**84%**	**91%**	**91%**
Attainment Level	3	3	3	3	3	3

Table: 3.32 Program End Survey POs (Batch 2023-25)

Sl. No.	Enrolment No.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	Average POs
1	A710145023003	3.00	2.00	2.00	2.00	3.00	3.00	2.00	3.00	**2.50**
2	A710145023004	3.00	2.00	2.00	3.00	2.00	3.00	3.00	3.00	**2.63**
3	A710145023005	3.00	3.00	3.00	2.00	2.00	2.00	3.00	3.00	**2.63**
4	A710145023006	2.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00	**2.63**
5	A710145023007	3.00	3.00	3.00	2.80	3.00	2.00	2.00	3.00	**2.73**
6	A710145023008	3.00	2.00	3.00	3.00	3.00	3.00	2.00	3.00	**2.75**
7	A710145023010	2.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00	**2.75**
8	A710145023011	3.00	3.00	2.00	2.00	3.00	3.00	3.00	3.00	**2.75**
9	A710145023012	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	**3.00**
10	A710145023013	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	**2.88**
11	A710145023015	3.00	3.00	2.30	3.00	3.00	3.00	3.00	3.00	**2.91**
12	A710145023016	3.00	2.00	3.00	2.00	2.00	3.00	3.00	3.00	**2.63**
13	A710145023018	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	**2.88**
14	A710145023019	3.00	3.00	2.00	3.00	2.00	3.00	3.00	3.00	**2.75**
15	A710145023020	3.00	3.00	3.00	2.00	3.00	2.00	3.00	3.00	**2.75**
16	A710145023022	3.00	3.00	3.00	2.00	3.00	3.00	2.00	3.00	**2.75**
17	A710145023023	3.00	2.00	3.00	3.00	3.00	2.00	2.00	3.00	**2.63**
18	A710145023025	2.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00	**2.75**
19	A710145023026	3.00	3.00	3.00	3.00	2.00	3.00	3.00	2.00	**2.75**
20	A710145023028	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	**2.88**
21	A710145023029	3.00	2.00	3.00	3.00	2.00	3.00	2.00	3.00	**2.63**
22	A710145023030	3.00	3.00	2.00	3.00	3.00	2.00	2.00	3.00	**2.63**
23	A710145023032	2.00	3.00	2.00	3.00	3.00	2.00	3.00	3.00	**2.63**
24	A710145023033	3.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00	**2.63**
25	A710145023034	3.00	3.00	2.83	3.00	3.00	3.00	3.00	3.00	**2.98**
26	A710145023035	3.00	2.67	3.00	3.00	2.00	3.00	2.00	2.00	**2.58**
27	A710145023036	3.00	2.00	3.00	3.00	2.00	2.00	3.00	3.00	**2.63**
28	A710145023037	2.78	3.00	3.00	3.00	2.00	3.00	3.00	2.00	**2.72**
29	A710145023038	3.00	3.00	2.00	2.00	3.00	2.00	3.00	3.00	**2.63**
30	A710145023039	3.00	2.00	3.00	2.00	2.00	3.00	2.00	3.00	**2.50**
31	A710145023040	2.00	3.00	3.00	3.00	2.00	2.00	3.00	3.00	**2.63**
32	A710145023041	3.00	3.00	2.82	3.00	3.00	3.00	3.00	2.00	**2.85**
33	A710145023042	2.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	**2.63**
34	A710145023043	3.00	3.00	3.00	2.00	2.00	2.00	3.00	2.00	**2.50**
35	A710145023044	2.00	3.00	2.00	3.00	3.00	2.00	3.00	3.00	**2.63**
36	A710145023045	3.00	2.00	2.00	2.00	2.00	3.00	3.00	3.00	**2.50**
37	A710145023046	3.00	3.00	2.00	3.00	2.00	2.00	2.00	3.00	**2.50**
38	A710145023047	3.00	2.68	3.00	3.00	3.00	3.00	3.00	3.00	**2.96**
39	A710145023048	2.00	3.00	3.00	2.00	3.00	2.00	3.00	2.00	**2.50**
40	A710145023049	3.00	3.00	2.00	2.00	3.00	3.00	2.00	3.00	**2.63**
41	A710145023051	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	**2.75**
42	A710145023054	2.00	2.00	3.00	3.00	3.00	3.00	3.00	2.00	**2.63**
43	A710145023055	2.00	3.00	2.00	3.00	3.00	2.00	2.00	2.00	**2.38**
44	A710145023056	3.00	3.00	2.00	2.00	3.00	3.00	2.00	3.00	**2.63**

45	A710145023057	3.00	2.00	3.00	3.00	3.00	2.00	3.00	3.00	**2.75**
46	A710145023058	3.00	3.00	2.00	2.00	3.00	3.00	3.00	3.00	**2.75**
47	A710145023059	2.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	**2.50**
48	A710145023060	2.00	3.00	2.00	3.00	2.00	3.00	3.00	2.00	**2.50**
49	A710145023061	2.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00	**2.63**
50	A710145023062	2.00	2.00	3.00	3.00	2.00	3.00	2.00	3.00	**2.50**
51	A710145023063	3.00	3.00	3.00	2.00	3.00	2.00	2.00	3.00	**2.63**
52	A710145023064	2.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00	**2.50**
53	A710145023066	3.00	2.00	2.90	2.00	3.00	3.00	3.00	2.00	**2.61**
54	A710145023067	3.00	3.00	2.00	3.00	3.00	2.00	3.00	3.00	**2.75**
55	A710145023068	2.59	3.00	3.00	3.00	3.00	3.00	3.00	2.85	**2.93**
	Average	**2.72**	**2.72**	**2.67**	**2.67**	**2.62**	**2.62**	**2.60**	**2.80**	**2.68**

Table: 3.33 Program End Survey PSOs (Batch 2023-25)

Sl. No.	enrolment No.	PSO1	PSO2	PSO3	Average PSO
1	A710145023003	2.00	3.00	3.00	2.67
2	A710145023004	3.00	2.00	3.00	2.67
3	A710145023005	3.00	2.00	2.88	2.63
4	A710145023006	3.00	2.00	3.00	2.67
5	A710145023007	3.00	2.00	3.00	2.67
6	A710145023008	3.00	3.00	2.00	2.67
7	A710145023010	3.00	2.00	3.00	2.67
8	A710145023011	3.00	2.00	3.00	2.67
9	A710145023012	3.00	2.00	3.00	2.67
10	A710145023013	3.00	2.00	3.00	2.67
11	A710145023015	3.00	2.00	3.00	2.67
12	A710145023016	2.00	3.00	3.00	2.67
13	A710145023018	3.00	3.00	2.00	2.67
14	A710145023019	3.00	3.00	2.00	2.67
15	A710145023020	3.00	3.00	3.00	3.00
16	A710145023022	2.00	3.00	3.00	2.67
17	A710145023023	3.00	2.00	3.00	2.67
18	A710145023025	3.00	3.00	3.00	3.00
19	A710145023026	3.00	2.00	3.00	2.67
20	A710145023028	2.00	3.00	3.00	2.67
21	A710145023029	3.00	2.90	2.00	2.63
22	A710145023030	2.00	3.00	3.00	2.67
23	A710145023032	2.05	2.00	3.00	2.35
24	A710145023033	2.00	3.00	3.00	2.67
25	A710145023034	3.00	3.00	2.00	2.67
26	A710145023035	3.00	2.00	3.00	2.67
27	A710145023036	2.00	2.00	3.00	2.33
28	A710145023037	3.00	3.00	3.00	3.00
29	A710145023038	3.00	2.00	3.00	2.67
30	A710145023039	3.00	2.00	3.00	2.67

31	A710145023040	3.00	3.00	2.90	2.97
32	A710145023041	3.00	2.00	3.00	2.67
33	A710145023042	3.00	2.00	3.00	2.67
34	A710145023043	2.70	3.00	3.00	2.90
35	A710145023044	3.00	3.00	2.00	2.67
36	A710145023045	3.00	2.00	3.00	2.67
37	A710145023046	3.00	2.00	2.00	2.33
38	A710145023047	2.00	3.00	3.00	2.67
39	A710145023048	3.00	2.00	2.00	2.33
40	A710145023049	3.00	2.00	3.00	2.67
41	A710145023051	3.00	2.00	3.00	2.67
42	A710145023054	3.00	2.00	3.00	2.67
43	A710145023055	3.00	3.00	2.00	2.67
44	A710145023056	2.00	3.00	3.00	2.67
45	A710145023057	3.00	2.00	3.00	2.67
46	A710145023058	2.00	2.00	3.00	2.33
47	A710145023059	3.00	3.00	2.00	2.67
48	A710145023060	3.00	2.00	2.00	2.33
49	A710145023061	3.00	2.00	3.00	2.67
50	A710145023062	3.00	2.00	3.00	2.67
51	A710145023063	2.00	3.00	3.00	2.67
52	A710145023064	2.00	3.00	3.00	2.67
53	A710145023066	3.00	2.00	2.00	2.33
54	A710145023067	3.00	2.00	3.00	2.67
55	A710145023068	2.50	3.00	3.00	2.83
	Average	**2.75**	**2.43**	**2.78**	**2.65**

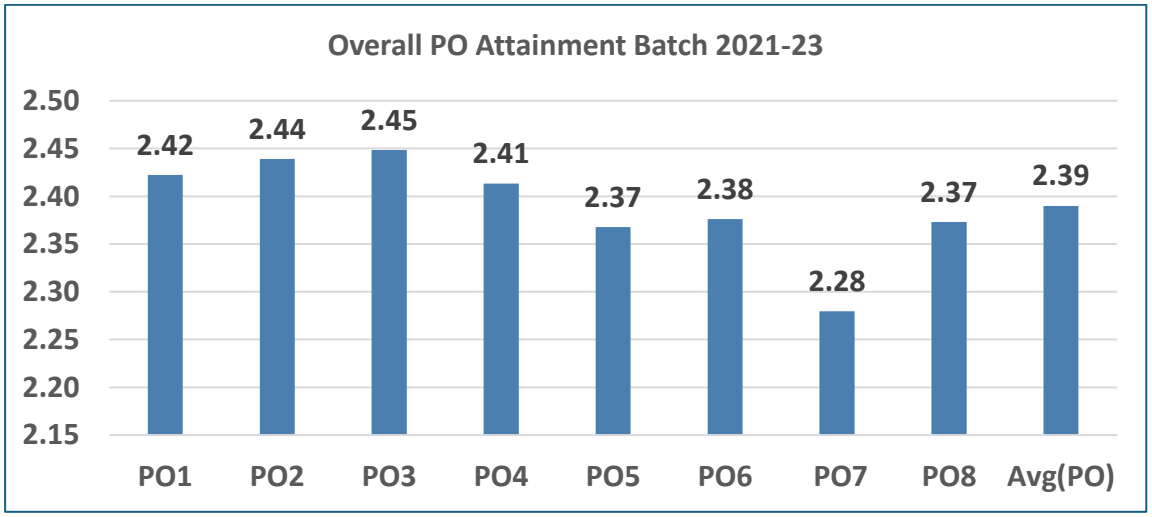

Fig. 3.2 Overall PO Attainment 2021-23 Batch

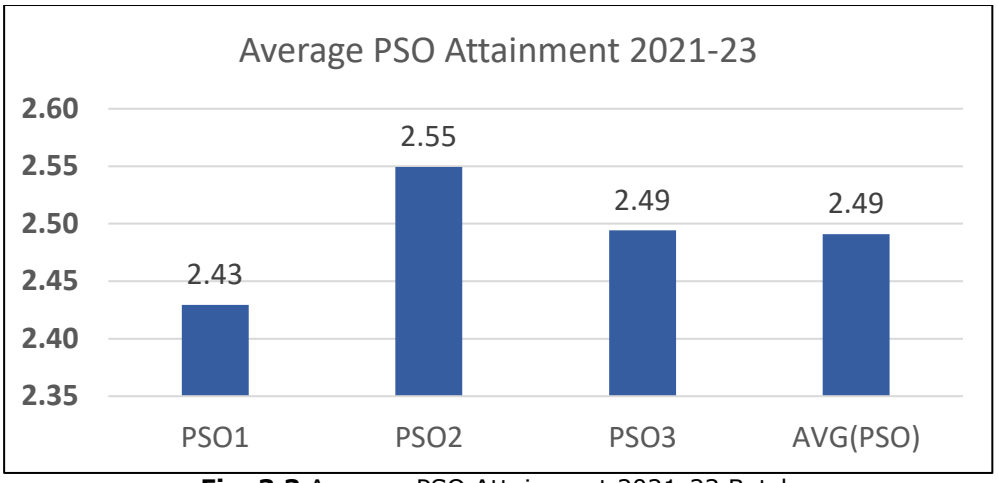

Fig. 3.3 Average PSO Attainment 2021-23 Batch

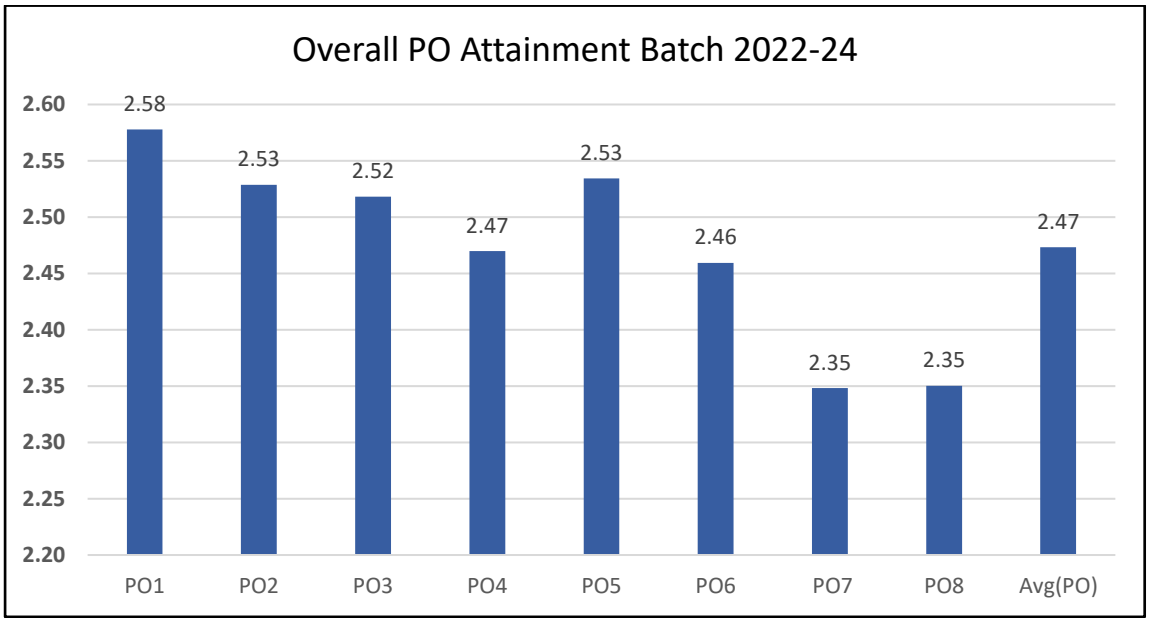

Fig. 3.4 Overall PO Attainment Batch 2022-24

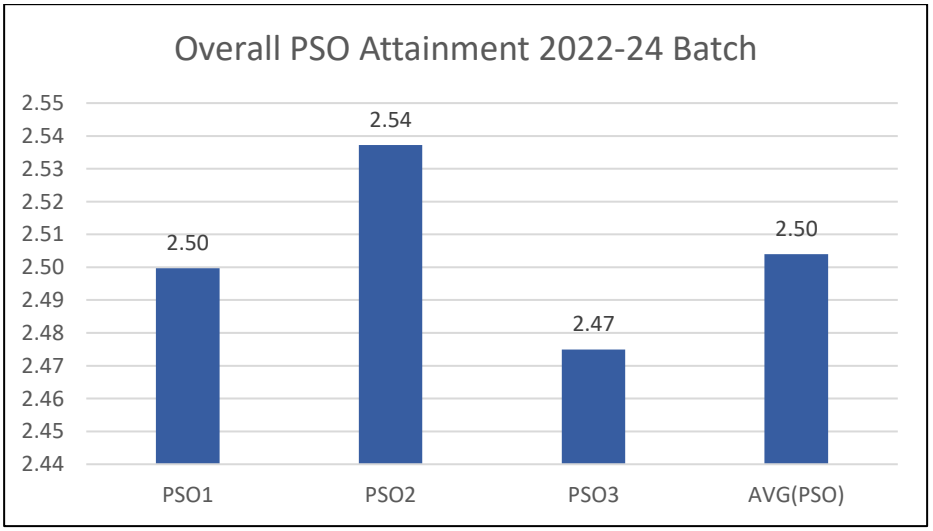

Fig. 3.5 Overall PSO Attainment 2022-24 Batch

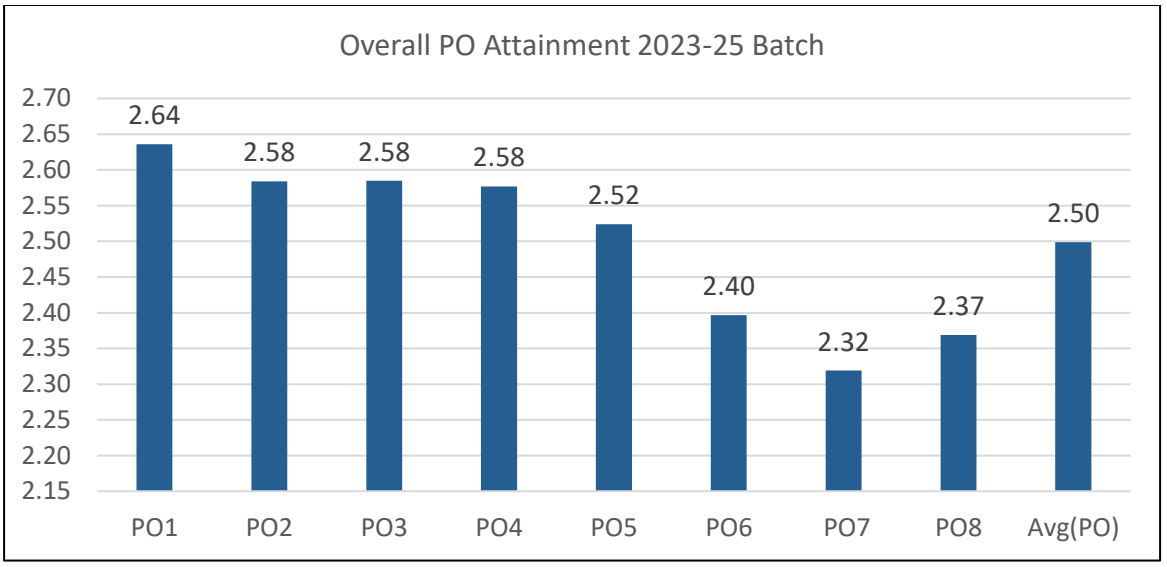

Fig. 3.6 Overall PO Attainment 2023-25 Batch

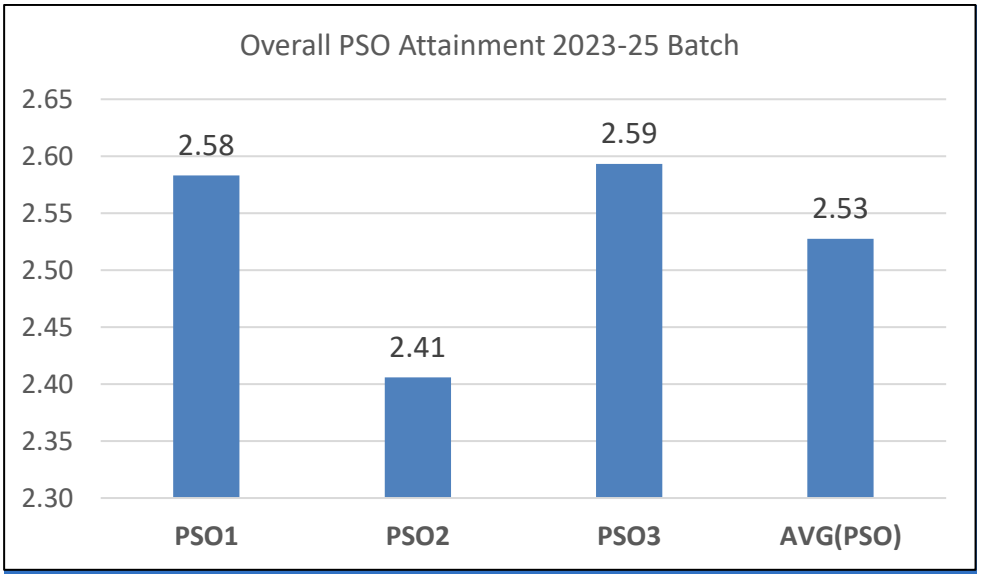

Fig. 3.7 Overall PSO Attainment 2023-25 Batch

CRITERION 4	Students' Performance	180

4. Students' Performance (180)

Table 4A Admission details of a program

Item	CAY	CAY*m*1	CAY*m*2 (LYG)	CAYm3 (LYGm1)#	CAYm4* (LYGm1)#	CAYm5* (LYGm2)
	2025-26	2024-25	2023-24	2022-23	2021-22	2020-21
Sanctioned intake of the program (N)	60	60	60	60	60	60
Total no. of students admitted in 1st year(N1)	53	42	55	47	21	17
No. of students admitted in 2nd year in the same batch via lateral entry (N2) if any	00	00	00	00	00	00
Total no. of students admitted in the program (N1+N2)	53	42	55	47	21	17

Table 4B No. of students graduated without backlogs

Year of entry	No. of students admitted in 1st year + admitted via lateral entry in 2nd year (N1 + N2), if any	No. of students, who have successfully graduated without backlogs in any year of study **(Without backlogs means no compartment/failure in any semester/year of study)**		
		I Year	II Year	III Year (In case of 3-year program)
CAY **2025-26**	53			N/A
CAY*m*1 **2024-25**	42	33		N/A
CAY*m*2 (LYG) **2023-24**	55	54	49	N/A
CAY*m*3 (LYG*m*1)# **2022-23**	47	47	47	N/A
CAY*m*4 (LYG*m*1)# **2021-22**	21	N/A	N/A	N/A
CAY*m*5 (LYG*m*2)# **2021-20**	17	N/A	N/A	N/A

Table 4C No. of students graduated in stipulated period (with backlogs and without backlogs).

Year of entry	No. of students admitted in 1st year+ admitted via lateral entry in 2nd year (N1 + N2), if any	No. of students, who have successfully graduated in stipulated period of study **[Total of with backlogs + without backlogs]**		
		I Year	II Year	III Year (In case of 3-year program)
CAY **2025-26**	53			N/A
CAY*m*1 **2024-25**	42	42		N/A
CAY*m*2 (LYG) **2023-24**	55	55	53	N/A
CAY*m*3 (LYG*m*1)# **2022-23**	47	47	47	N/A
CAY*m*4 (LYG*m*1)# **2021-22**	21	N/A	N/A	N/A
CAY*m*5 (LYG*m*2)# **2021-20**	17	N/A	N/A	N/A

4.1 Enrolment Ratio (20)

Table 4.1. Average enrolment ratio for past 3 years including CAY

Item (Students enrolled at the 1st Year Level on average basis during the last three years starting from current academic years)	**CAY**	**CAYm1**	**CAYm2**
Sanctioned intake of the program (N)	60	60	60
Total no. of students admitted in first year (N1)	53	42	55
Enrolment Ratio	88.33	70	91.66
Average Enrolment Ratio	83.33		

4.2 Success Rate in the Stipulated Period of the Program (50)

4.2.1 Success Rate in Stipulated Period of Study Without Backlogs (30)

Table No. 4.2.1 Success rate without backlogs for 3 batches.

Item	**Latest Year of Graduation (LYG)**	**Latest Year of Graduation Minus 1 (LYG*m*1)** *	**Latest Year of Graduation Minus 2 (LYG*m*2)** *
	2025	2024	2023
No. of students admitted in the corresponding 1st year+ admitted in 2nd year via lateral entry, *if any*	55 (Admitted in 2023)	47 (Admitted in 2022)	21 (Admitted in 2021)
No. of students, who have graduated without backlogs in the stipulated period	49	47	21
Success index (SI)	0.89	1	1
Average SI	$0.9633 \text{ X } 30 = 28.89$		

4.2.2 Success Rate in Stipulated Period of Study (Actual Duration of the Program) [Total of with Backlogs + without Backlogs] (20)

Table No. 4.2.2 Success rate in stipulated period of study [Total of with backlogs + without backlogs] for 3 batches.

Item	Latest Year of Graduation (LYG)	Latest Year of Graduation Minus 1 (LYG*m*1) *	Latest Year of Graduation Minus 2 (LYG*m*2) *
	2025	2024	2023
No. of students admitted in the corresponding 1st year+ admitted in 2nd year via lateral entry, *if any*	55	47	21
No. of students, who graduated from the program in the stipulated period of course duration	53	47	21
Success index (SI)	0.9636	1.00	1.00
Average SI	0.9875 Success Rate= 20 * 0.9875 =19.75		

3-year program*

4.3 Academic Performance in Second Year (20)

Successful students are those who passed in all the 2nd year courses

Table 4.3. Academic Performance of 2nd Year students for past 3 years

Academic Performance	CAYm1 2025	CAY*m2* 2024	CAY*m3* 2023
(Mean of 2nd Year Grade Point Average of all successful Students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2nd Year/10) (X)	7.6	7.55	8.22
Total no. of successful students (Y)	53	47	21
Total no. of students appeared in the examination (Z)	55	47	21
API = X* (Y/Z)	= 7.6 * (53/55) AP1 = 7.32	=7.55 * (47/47) AP2= 7.55	= 8.22*(21/21) AP3= 8.22
Academic Performance=Average API = (AP1+AP2+AP3)/3	= (7.32 + 7.55 + 8,22) / 3 = 7.69		
Academic Performance=2.0 * Average API	= 2.0 * 7.69 = 15.39		

4.4 Academic Performance in First Year (20)

Successful students are those who passed in all the 1st year courses

Table No. 4.4. Academic Performance of 1st year students for past 3 years

Academic Performance	CAYm1 2025	CAY*m2* 2024	CAY*m3* 2023
(Mean of 1st Year Grade Point Average of all successful Students on a 10-point scale) or (Mean of the percentage of marks of all successful students in first Year/ 10) (X)	7.53	7.40	8.15
Total no. of successful students (Y)	49	47	21
Total no. of students appeared in the examination (Z)	55	47	21
API = X* (Y/Z)	6.70 AP1	7.40 AP2	8.15 AP3
Average API = (AP1+AP2+AP3)/3	= (6.70 +7.40 + 8.15) /2 = 7.41		
Academic Performance=2.0 * Average API	= 2.0 * 7.41 = 14.83		

4.5 **Placement and Higher Studies (40)**

Assessment Points

=40*(X+Y+Z)/N

Table No. 4.5 Placement, Higher studies and Entrepreneurship details for past 3 years.

Item	LYG	LYGm1	LYGm2
	2025	2024	2023
Total No. of Final Year Students (N)	55	47	21
No. of students placed in Industries/ Government sector through on/off campus recruitment (X)	53	45	21
No. of students admitted to higher studies with valid scores in various competitive qualifying exams and admissions in premier institutions (Y)	00	00	00
No. of entrepreneurs (Z)	00	00	00
X+Y+Z	53	45	21
Placement Index: (X+Y+Z)/N	0.9636	0.9574	1
T = Average of Placement Index (X+Y+Z)/N)	= (0.9636 + 0.9574 + 1) / 3 =0.9736		
Assessment points = 40 * T	= 40 * 0.9736 = 38.94		

Table No.4.5.1 Placement data for MCA 2025 Batch.

Programs Name : MCA **Assessment Year: 2024-25**			
SN	**Name of the student placed**	**Enrollment no.**	**Name of the Employer**
1.	Ms Tanya Sibi	A710145023003	Capgemini Technology Services India Limited
2.	Mr Vishwesh Neelesh	A710145023004	Dixit Infotech Services PVT, LTD
3.	Mr Rajdeep Deb	A710145023005	Jio
4.	Ms Swaleha Afrin	A710145023006	Dixit Infotech Services PVT, LTD

5.	Mr Lande Alpesh Vitthal	A710145023007	Capgemini Technology Services India Limited
6.	Ms Sakshi Shahaji Pawar	A710145023008	Movidu Technologies
7.	Mr Chavare Shreyas Sanjay	A710145023010	Glow Logic Solutions
8.	Mr Choudhary Nitesh Dungaram	A710145023011	Movidu Technologies
9.	Ms Shivtarkar Vaibhavi Shashi	A710145023012	Glow Logic Solutions
10.	Mr Suraj Ashok Tiwari	A710145023013	Flydocs
11.	Ms Chavare Shravani Vijay	A710145023015	Tech Mahindra Ltd.
12.	Ms Yogeshwar Ashwini Ganeshan	A710145023016	Warvi Ceraics
13.	Mr Sandeep Sharma	A710145023018	MesklinTech Ltd
14.	Ms Bushra Khatoon Mohd Ahmad	A710145023019	Capgemini Technology Services India Limited
15.	Mr Dhruv Umeshnath Sharma	A710145023020	Tech Mahindra Ltd.
16.	Mr Rahul Thakur	A710145023022	Axis Bank
17.	Mr Jidnesh Santosh Pawar	A710145023023	Resonacle
18.	Ms Jadhav Pranjal Praveen	A710145023025	Movidu Technologies
19.	Mr Paul Vivek Sukanta	A710145023026	Tripack
20.	Mr Kushal Shailesh Jaiswal	A710145023028	Velinto Technologies PVT. LTD.
21.	Mr Mayuresh Girish Dhavalikar	A710145023029	Tripack
22.	Mr Narkhede Gunvant Bhushan	A710145023030	Labsity
23.	Mr Surywanshi Rushikesh Ravindra	A710145023032	Movidu Technologies
24.	Mr Shriyan Saroj	A710145023033	Capgemini Technology Services India Limited
25.	Mr Deversh Bele	A710145023034	Dixit Infotech Services PVT, LTD
26.	Ms Eladi Shweta Shrikant	A710145023035	Labsity
27.	Mr Sonawane Vedant Jitendra	A710145023036	Capgemini Technology Services India Limited
28.	Mr Godse Omkar Sadashiv	A710145023037	Labsity
29.	Ms Samant Prapti Sandeep	A710145023038	Spotly India
30.	Mr Yash B Salve	A710145023039	Tripack
31.	Mr Rakshan	A710145023040	Glow Logic Solutions
32.	Mr Yash Sharma	A710145023041	Glow Logic Solutions
33.	Mr Kandpal Sumit Lalit	A710145023042	LaunchED Global

34.	Mr Dhirandra Pandey	A710145023043	Resonacle
35.	Mr Mohammed Mohsin Memon	A710145023044	Not Placed
36.	Mr Bhujbal Omkar Sanjay	A710145023045	LaunchED Global
37.	Mr Bhavsar Sumit Ravindra	A710145023046	Resonacle
38.	Mr Abhimanyu Jithesh	A710145023047	LaunchED Global
39.	Mr Saiyad Mofassil Husen	A710145023048	Glow Logic Solutions
40.	Mr Naveen Singh	A710145023049	Task expert Virtual Employee Services Private Limited
41.	Ms Nair Apurva Pramod	A710145023051	Capgimini Technology Services India Limited
42.	Mr Nikhil Manoj Prasad	A710145023054	Not placed.
43.	Mr Karthik	A710145023055	Value Score Business Solution LLP
44.	Ms Simran Pal	A710145023056	Task expert Virtual Employee Services Private Limited
45.	Mr Rohit Ovalekar	A710145023057	LearnFlu Edutech
46.	Ms Jadhav Mrunmayi Shrikant	A710145023058	Task expert Virtual Employee Services Private Limited
47.	Mr Thombare Raj Vasant	A710145023059	Resonacle
48.	Mr Patil Chinmay Sudhir	A710145023060	Movidu Technologies
49.	Mr Vishwakarma Nitesh Rajkumar	A710145023061	LaunchED Global
50.	Mr Vikrant Kathait	A710145023062	LearnFlu Edutech
51.	Mr Patel Jainexkumar Pravinbhai	A710145023063	LearnFlu Edutech
52.	Mr Shukla Chirag Deepak	A710145023064	Oxygen Consulting Services Pvt. Ltd.
53.	Mr Muhammed Hasin P	A710145023066	Quess IT Staffing(A Division of Quess Corp LTD
54.	Mr Harpude Adarsh Arun	A710145023067	Capgemini Technology Services India Limited
55.	Mr. Prabhav Mishra	A710145023068	LaunchED Global

Table No.4.5.1. Placement data for 2024 Batch.

Programs Name : MCA **Assessment Year: 2023-24 (2024 Pass out batch)**			
SN	**Name of the Student Placed**	**Enrollment no.**	**Name of the Employer**
1.	Mr Kothari Navjeevan Jeevan	A710145022001	Not placed.
2.	Mr Karade Ashish Suresh	A710145022002	Jyesta Corporate
3.	Mr Sannakki Akshay Sahadeo	A710145022003	LearnFlu Edutech
4.	Ms Muskan Verma	A710145022005	Gray Orange India
5.	Mr Malekar Omkar Mahesh	A710145022006	LearnFlu Edutech
6.	Mr Kashyap Ashish Surendra	A710145022007	Gothic Toons

7.	Ms Bhosale Anjali Abhinandan	A710145022008	Amazon
8.	Mr Debesh Das	A710145022009	LearnFlu Edutech
9.	Ms Krithika Manikantan	A710145022010	Papercraft Entertainment and Media Group
10.	Mr Darsh Vashi	A710145022011	Auckland University of Technology (New Zealand)
11.	Mr Pancholi Nimit Bharatbhai	A710145022012	Calidad Infotech LLP
12.	Mr Prashant Pandey	A710145022013	BLKBOX.ai(Gloabal)
13.	Mr Talekar Sahil Nilesh	A710145022014	BNP Paribas India Solution PVT. LTM
14.	Ms Chavi Jain	A710145022017	Jyesta Corporate
15.	Ms Samruddhi Pabale	A710145022018	Spacepe India Services LLP
16.	Ms Thakur Janhavi Devendra	A710145022019	Apport Software Solutions Private Limited.
17.	Mr Khan Abdul Kalam Mohammad Aslam	A710145022020	Value Score Business Solution LLP
18.	Mr Shinde Prasad Vijay	A710145022021	LearnFlu Edutech
19.	Mr Manna Nilesh Chittaranjan	A710145022022	Innover PVT. LTD.
20.	Ms Thoppil Athira Sudhakaran	A710145022023	Blackcoffer(OPC) PVT. LTd.
21.	Mr Gupta Ritik Nanhelal	A710145022024	Regencesys Instituite of Management PVT. LTD.
22.	Mr Mhatre Pranit Jaywant	A710145022025	LaunchED Global
23.	Mr Patel Usaid Ilyas	A710145022026	LearnFlu Edutech
24.	Mr S.U. Veerabahu Bangaj Jahatheesh	A710145022027	Spacepe India Services LLP
25.	Mr Khan Zakariyya Fareed	A710145022029	Value Score Business Solution LLP
26.	Mr Karvekar Danish Abdul Kadir	A710145022030	NiNetTech India Tranning and Placement Company
27.	Mr Makshel Rai	A710145022031	Value Score Business Solution LLP
28.	Mr Siddhesh Rajaram Sagale	A710145022032	Plannet Technest India Private Limited
29.	Mr Avinash Tushar Mehta	A710145022033	Automationedge Technologies Private Limited
30.	Ms Jeel Samani	A710145022034	Imperical Design
31.	Mr Patel Saad Bashir	A710145022035	Glow Logic Solutions
32.	Mr Chawariya Jayesh Ganesh	A710145022036	LaunchED Global
33.	Mr Kathale Pratik Subhash	A710145022037	Not placed.
34.	Mr Divyansh Sinha	A710145022038	Test Yantra Software Solutions (India) Pvt.Ltd.
35.	Mr Shinde Hrishikesh Dilip	A710145022039	Glow Logic Solutions
36.	Ms Nair Aishwarya Sudhakaran	A710145022040	Calidad Infotech LLP
37.	Mr Dhiraj Pawar	A710145022041	Acmegrade
38.	Mr Baghel Adarsh Singh	A710145022042	LearnFlu Edutech
39.	Ms Sutanni Paul	A710145022043	Spacepe India Services LLP

40.	Mr Abhishek Singh	A710145022044	LaunchED Global
41.	Mr Patel Ghanshyam Haribhai	A710145022045	Jyesta Corporate
42.	Mr Dubey Utkarsh Subhash	A710145022046	eClerx
43.	Mr Shaikh Mohd Raihan Mohd Aslam	A710145022047	Acmegrade
44.	Mr Yash Singh	A710145022048	Glow Logic Solutions
45.	Mr Sanju Sharma	A710145022049	Acmegrade
46.	Ms Patil Roshani Dhanaji	A710145022050	Glow Logic Solutions
47.	Mr Khan Mohd Bilal Mohd Juned	A710145022051	Glow Logic Solutions

Table No.4.5.1 Placement data for MCA 2023 Batch.

Programs Name : MCA **Assessment Year: 2022-23 (2023 Pass out Batch)**			
SN	**Name of the student placed**	**Enrollment no.**	**Name of the Employer**
1.	Mr Adivarekar Saurabh Tanaji	A710145021020	LaunchED Global
2.	Mr Atherv Patil	A710145021005	Coditas Solutions LLP.
3.	Mr Bhandari Anish Anil	A710145021007	Kayanak Technologies LLP
4.	Mr Chauhan Raj Kamlesh	A710145021021	TEACHNOOK
5.	Mr Dhapola Bhupesh Chandan	A710145021012	LaunchED Global
6.	Mr Himanshu Kumar	A710145021022	Capgimini Technology Services India Limited
7.	Mr Kadu Kaustubh Bhupesh	A710145021011	Value Score Business Solution LLP
8.	Mr Manan Raj	A710145021018	Glow Logic Solutions
9.	Mr Parkar Gufran Abdul Gaffar	A710145021010	TEACHNOOK
10.	Mr Sachin Kumawat	A710145021009	TEACHNOOK
11.	Mr Sayyed Kasif Khwaja	A710145021015	Jyesta Corporate Entity Pvt. Ltd.
12.	Mr Shrish Ram Bale	A710145021017	Glow Logic Solutions
13.	Mr Uddhesh Singh	A710145021013	TEACHNOOK
14.	Mr Varpe Ajit Arjun	A710145021008	Acmegrade
15.	Mr Yadav Deepakkumar Mahendra	A710145021019	TEACHNOOK
16.	Ms Arthi Pirash Kudal	A710145021016	Wayspire
17.	Ms Gauri Manoj Gajendragadkar	A710145021014	Resonacle
18.	Ms Khushi Paliwal	A710145021023	TEACHNOOK
19.	Ms Kirti Pandey	A710145021004	Jyesta Corporate Entity Pvt. Ltd.

20.	Ms Marilyn Mathai	A710145021002	Coditas Solutions LLP.
21.	Ms Nishad Aparna Sushil	A710145021001	Jyesta Corporate Entity Pvt. Ltd.

4.6 Professional Activities (30)

4.6.1 Professional Societies /Chapters/Clubs and Number of Events Organized through Professional Societies /Chapters (10)

Amity University Mumbai offers a vibrant ecosystem of student clubs. These clubs provide MCA students with diverse opportunities to engage beyond academics and contribute to their overall personality development. Participation in these clubs enables MCA students to enhance their creativity, communication, and leadership skills. Clubs like Ami Digital Media Club, Snap Squad, and Google Developer Student Clubs help students strengthen their technical expertise in areas such as content creation, coding, app development, and emerging technologies. Similarly, Ami Astro and Ami Sustain encourage analytical thinking and awareness of scientific and environmental issues, aligning well with problem-solving skills required in computing fields.

Cultural and literary clubs such as Ami Cult, Ami Litzz, Ami Trendz, and Ami Uncut foster creativity, confidence, and expression through events, performances, and writing activities. These experiences help students improve their interpersonal and presentation skills, which are essential in professional environments. Ami-Psyche contributes to mental well-being and emotional intelligence, helping students manage stress and maintain a balanced academic life.

Amity Film Club and Snap Squad provide exposure to visual storytelling and media production, while Ami Sports promotes physical fitness, teamwork, and discipline. Overall, these clubs create a dynamic learning environment where MCA students can explore their interests, develop soft skills, build networks, and become well-rounded professionals ready to excel in the industry.

Table: 4.13 List of Clubs for Student Participation

Sr. No	Club Name
1	Ami Sustain
2	Ami Cult
3	Ami-Psyche
4	Ami-Astro
5	Ami Digital Media Club
6	Ami Litzz
7	Ami Trendz
8	Amity Flim Club
9	Snap Squad
10	Ami Uncut
11	Ami Sports
12	Google Developer Student Clubs

4.6.2 Publications in Institute Journal/Technical Magazines/ Newsletters, etc. (10)

"Algorithm" – MCA Department Newsletter:

Amity Institute of Information Technology publish a newsletter "Algorithm". Every new edition is

based on the special theme. The themes are based on sustainable development goals (SDG). The latest advancements in the field of Information Technology are considered for showcasing the student articles and the student achievements.

"Algorithm" is the official newsletter of the MCA Department, serving as a vibrant platform that showcases the intellectual and creative accomplishments of students and faculty. It is a thoughtfully curated compilation that highlights student achievements, including academic excellence, project innovations, research contributions, certifications, and participation in technical competitions and hackathons. The newsletter also provides a space for students to express their ideas through insightful articles on emerging technologies, industry trends, and real-world problem-solving approaches.

In addition to student contributions, "Algorithm" reflects the department's progress and milestones. It captures key achievements such as successful workshops, seminars, guest lectures, industry collaborations, placement records, and faculty accomplishments in research and publications. This collective representation not only documents the department's journey but also inspires current and prospective students to strive for excellence.

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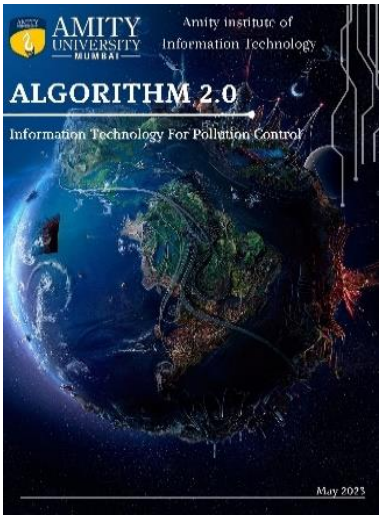
<td> 
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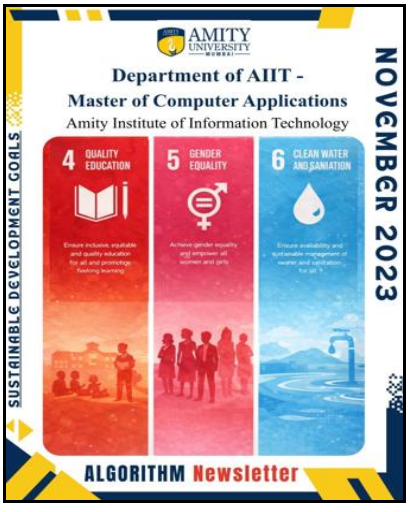
<td> 
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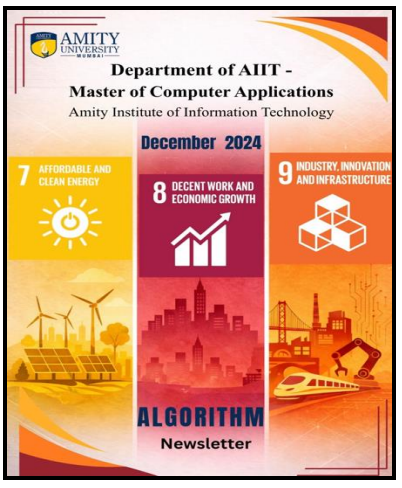
<td> 
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Newsletter -October 2022</td>
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Newsletter -November 2023</td>
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Special Focus on SDG-7, 8 and 9
Newsletter -December 2024</td>
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Fig. 4.1 Algorithm Newsletter of MCA Department at AIIT.

The newsletter encourages a culture of knowledge sharing, creativity, and continuous learning. By providing a voice to students and recognizing their efforts, "Algorithm" strengthens the academic community and fosters a sense of belonging. It stands as a testament to the dynamic and progressive environment of the MCA Department, celebrating innovation, dedication, and success in every edition.

Editing Team of the Algorithm Newsletter

The Algorithm newsletter of the MCA Department is led by the Chief Editor, the Head of Institution (HOI), who provides strategic direction and ensures alignment with academic standards and institutional vision. The editorial team comprises one MCA faculty member and 2–3 MCA students, creating a balanced blend of academic guidance and student perspective. The faculty editor supervises content quality, accuracy, and relevance, while mentoring students in writing and editorial practices. Student editors actively contribute to content collection, drafting, proofreading, and design, ensuring creativity and engagement. Together, the team maintains high standards of quality, originality, and consistency in every edition of the newsletter.

4.6.3 Participation in Inter-Institute Events by Students of the Program of Study(10)

(Provide a table indicating those events, which received awards in the events/conferences organized by other institutes)

Students of the MCA program actively participate in a wide range of inter-institute events, reflecting their holistic development beyond academics. They enthusiastically engage in sports competitions organized by various institutions as well as events conducted within Amity University Mumbai and its constituent institutes. Participation in inter-college sports events such as Kho -Kho, Kabaddi, badminton, and volleyball, tug of wars, and shot put not only promotes physical fitness but also instils teamwork, leadership, and sportsmanship among students.

Academically, MCA students have demonstrated commendable involvement in knowledge-driven platforms. They have actively participated in conferences such as those focused on Generative AI in case study presentations, where they explore real-world applications of emerging technologies. Students have also presented research papers at international conferences, gaining exposure to global academic standards and enhancing their research and communication skills.

In addition, students regularly attend workshops, seminars, and technical sessions conducted by reputed institutions. These engagements help them stay updated with the latest industry trends, tools, and technologies, bridging the gap between theoretical knowledge and practical application. Workshops on areas such as artificial intelligence, data science, cybersecurity, and software development have significantly contributed to their skill enhancement.

Such inter-institute participation provides students with valuable opportunities to interact with peers from diverse academic backgrounds, exchange ideas, and build professional networks. It also boosts their confidence and prepares them for competitive environments. Overall, the active involvement of MCA students in inter-institute events reflects the department's commitment to fostering well-rounded individuals equipped with technical expertise, research orientation, and interpersonal skills.

Table 4.14: Student participation and Achievements year-wise.

SN	Name of the Student	Name of the Event	Within State / Outside State	Date of Event	Prize / Awards (if any)
CAYm1					
1	Mr. Rathod Bhawani Singh Narpat Singh	Kabaddi	Within State	2025	3rd Prize
2	Ms. Khushi Amule	Pick and pitch	Within State	2025	2nd Prize
3	Ms. Prachiti Mangesh Dhupkar	Kabaddi	Within State	2025	2nd Prize
4	Ms. Prachiti Mangesh Dhupkar	Kho -Kho	Within State	2025	3rd Prize
5	Ms. Bhagya P Bijay Kumar	Inter National Conference	International Conference	2 to 6 September 2025	_Attended
6	Ms. Ansari Maqsood	Kho -Kho	Within State	2025	2nd Prize
7	Ms. Mohit Arora	Badminton Single	Within State	2025	3rd Prize Bronze
CAYm2					
8	Ms. Isha Vade	Generative AI in Case Study Conference	International Conference	15-Feb-25	2nd Prize
9	Ms. Isha Vade	Management and Technology for Sustainable Future “at international Conference (ICGIM 2025)	International Conference	30-Mar-25	—
10	Ms. Isha Vade	Volleyball	Within State	2025	Man of the Match i
11	Ms. Isha Vade	Inter College Ranbhoomi - Volleyball 2025	Within State	2025	2nd in the Inter College
12	Ms. Isha Vade	Webinar on “The Power of Leadership”	Within State	09-Mar-25	—
13	Ms. Isha Vade	Webinar on “Cultivating Mental Well Being”	Within State	16 February 2025	—
14	Ms. Amisha Singh	Presented Paper in 1 st International Conference on sustainable Smart Computing and Communications (ICSSCC-2025)	International Conference	21 – 22 March 2025	—
15	Ms. Amisha Singh	Generative AI in Case study conference	International Conference	15-Feb-25	2nd Prize
16	Ms. Divakarla Surya Lalitha	Presented Paper in 1 st International Conference on sustainable Smart Computing and Communications (ICSSCC-2025)	International Conference	21 – 22 March 2025	—

17	Mr. Akash Yadav	Presented Paper in 1 st International Conference on sustainable Smart Computing and Communications (ICSSCC-2025)	International Conference	22 – 22 March 2025	—
18	Ms. Isha Vade	Workshop in National Intellectual Property Awareness Mission	Within State	14-Feb-25	—
19	Ms. Amisha Singh	Workshop in National Intellectual Property Awareness Mission	Within State	15-Feb-25	—
CAYm3					
20	Mr. Rakshan Shetty	Shotput	Within State	2024	3rd Prize
21	Mr. Rakshan Shetty	Volleyball	Within State	2024	2nd Prize
22	Ms. Isha Vade	Volleyball	Within State	2024	2nd Prize
23	Mr. Chirag Shukla	Kabaddi	Within State	2024	3rd Prize
24	Mr. Chirag Shukla	Tug of War	Within State	2024	3rd Prize

CRITERION 5	**Faculty Information and Contributions**	**200**

NBA – Self Assessment Report (SAR)

5. Faculty Information and Contributions (200)

SN	Name of the Faculty Member	Qualification			Date of Joining the Institution	Total No. of years of association with the Institution	Current Designation	Date on which Designated as Professor/ Associate Professor	Specialization, if any	Academic Research			Currently Associated (Y/N) Date of Leaving (In case Currently Associated is (" No")	Nature of Appointment (Regular/ Contract on full time basis)
		Highest degree	University	Month and Year of attaining higher qualification						Research Paper Publications	Ph.D. Guidance	Faculty Receiving Ph.D. during the Assessment Years		
1.	Dr. Narayan Nagorao Kulkarni	Ph.D.	Swami Ramanand Teerth Marathwada University, Nanded	13-04-2022	01-03-2023	3	Assistant Professor		Image Processing	10	Yes	No	Yes	Regular
2.	Dr. C Kalpana	Ph.D.	VELS University, Chennai	17-04-2024	01-08-2024	1.8	Associate Professor	01-08-2024	Machine Learning	26	Yes	Yes	Yes	Regular
3.	Dr. Manoj Himmatrao Devare	Ph.D.	Bharati Vidyapeeth University, Pune	27-07-2009	22-08-2016	9.7	Professor	01-01-2021	Machine Learning	60	Yes	No	Yes	Regular
4.	Dr. Ashwin Dhanraj Bhagat	Ph.D.	Shri Jagdishprasad Jhabarmal Tibrewala University	24-01-2022	12-03-2024	2	Assistant Professor		Fuzzy Logic	08	Yes	No	Yes	Regular
5.	Dr. Karuna Sitaram Kirwale	Ph.D.	Dr. Babasaheb Ambedkar Marathwada University	27-04-2023	15-01-2024	2.2	Assistant Professor		Image Processing	16	No	Yes	Yes	Regular
6.	Ms. Siddhi Sudhir Mukadam	M.E.	Mumbai University	11-03-2024	15-03-2024	2	Assistant Professor		Deep Learning	02	No	No	Yes	Contractual Fulltime

NBA – Self Assessment Report (SAR)

7.	Dr. Uttam Anantrao Deshmukh	Ph.D.	Yashwantrao Chavan Maharashtra Open University - Nashik	26-03-2022	01-07-2025	0.9	Associate Professor	01-07-2025	Fuzzy Logic	10	No	No	Yes	Regular
8.	Ms. Nirali Verma	MCA	Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal	28-07-2008	03-07-2023	2.8	Assistant Professor		Design and Analysis of Algorithms	01	No	No	Yes	Contractual Fulltime
9.	Dr. Pradeep Saxena	Ph.D.	Carnegie Mellon University Pittsburgh USA	31-12-2010	30-06-2025	10 Months	Associate Professor	30-06-2025	Software Engineering	02	No	No	No	Regular
10.	Dr. Gauri Chetan Deshpande	Ph.D.	Shri Jagdishprasad Jhabarmal Tibrewala University	03-02-2023	03-07-2023	10 Months	Assistant Professor		Expert Systems	11	No	Yes	No	Regular
11.	Dr. Vivek Hilal Mahale	Ph.D.	Dr. Babasaheb Ambedkar Marathwada University	02-03-2019	03-07-2023	10 Months	Associate Professor	03-07-2023	Image Processing	32	No	No	No	Regular
12.	Ms. Swapnagandha Jaymin Shah	MCA	Savitribai Phule Pune University	22-06-2017	02-08-2021	4.7	Assistant Professor		Software Engineering	04	No	No	Yes	Contractual Fulltime
13.	Mr. Debesh Das	MCA	Amity University Maharashtra	27-06-2024	01-07-2024	11 Months	Assistant Professor		Natural Language Processing	00	No	No	No	Contractual Fulltime
14.	Dr. Shalini Sharma	Ph.D.	Maharshi Dayanand Saraswati University, Ajmer (Rajasthan)	31-05-2005	22-08-2023	2.7	Assistant Professor		English	20	No	No	Yes	Regular

NBA – Self Assessment Report (SAR)

15.	Dr. Pameli Saha	Ph.D.	Indian Institute of Science Engineering and Technology	27-06-2018	12-08-2024	1.7	Assistant Professor		Mathematics	21	No	No	Yes	Regular

Table No. B.5. List of faculty details in the past 3 years including CAY

Note: *Please provide details for the faculty of the department, cumulative information for all 3 academic years starting from current academic year in above format in Annexure - II.*

5.1 Student-Faculty Ratio (SFR) (20)

Table No. 5.1. Student-Faculty Ratio for past 3 years including CAY

Year	CAY	CAYm1	CAYm2
mc1	60	60	60
mc2	60	60	60
mc3*	N/A	N/A	N/A
MCA	**120 mc1+mc2+mc3**	**120 mc1+mc2+mc3**	**120 mc1+mc2+mc3**
u1.1	0	0	0
u1.2	0	0	0
u1.3	0	0	0
UG1	**00 u1.1+u1.2+u1.3**	**00 u1.1+u1.2+u1.3**	**00 u1.1+u1.2+u1.3**
…	0	0	0
u_n.1	0	0	0
u_n.2	0	0	0
u_n.3	0	0	0
UGn	**u_n.1+u_n.2+u_n.3**	**u_n.1+u_n.2+u_n.3**	**u_n.1+u_n.2+u_n.3**
p1.1	0	0	0
p1.2	0	0	0
PG1	**p1.1+p1.2**	**p1.1+p1.2**	**p1.1+p1.2**
…..	0	0	0
pm.1	0	0	0
pm.2	0	0	0
PGm	**0 pm.1+pm.2**	**0 pm.1+pm.2**	**0 pm.1+pm.2**
Total No. of Students in the Department **(S)**	**120 mc1+ mc2+ mc3+ UG1+UG2 +.. +UGn+PG1 + …PGm=S1**	**120 mc1+ mc2+ mc3+ UG1+UG2+..+UGn + PG1+… + PGm=S2**	**120 mc1+ mc2+ mc3+UG1 + UG2 + ..+UGn + PG1+… + PGm=S3**
No. of Faculty in the Department (F)	**11 F1+**	**9 F2+**	**7 F3+**
Student Faculty Ration (SFR)	**=120/11 = 10.91 SFR1=S1/F1**	**= 120/9 =13.33 SFR2= S2/F2**	**=120/7 = 17.14 SFR3= S3/F3**
Average SFR for 3 years	**=(10.91 + 13.33 + 17.14) = 13.79 SFR=(SFR1+SFR2+SFR3)/3**		

5.2 Faculty Cadre Ratio (25)

The reference Faculty cadre ratio is 1(F1):2(F2):6(F3)

F1: No. of Professors required =1/9*No. of faculty members required to comply with 20:1 Student- Faculty ratio.

F2: No. of Associate Professors required=2/9*No. of faculty members required to comply with

20:1 Student-Faculty ratio.

F3: No. of Assistant Professors required=6/9*No. of faculty members required to comply with 20:1 Student-Faculty ratio

Table 5.2. Faculty cadre ratio for past 3 years including CAY

Year	No. of Professors		No. of Associate Professors		No. of Assistant Professors	
	Required F1	Available F1	Required F2	Available F2	Required F3	Available F3
CAY	01	01	01	03	04	08
CAY*m*1	01	01	01	01	04	09
CAY*m*2	01	01	01	01	04	05
Average Numbers	RF1= 01	AF1= 01	RF2= 01	AF2= 1.66	RF3= 04	AF3= 7.33

$$\text{Faculty Cadre Ratio marks} = \left[\left[\frac{AF1}{RF1}\right] + \left[\frac{AF2}{RF2}\right] * 0.6 + \left[\frac{AF3}{RF3}\right] * 0.4\right] * 12.5$$

- If AF1 = AF2= 0, then zero mark
- Maximum marks to be limited if it exceeds the allocated marks
  - Case 1: AF1/RF1=1; AF2/RF2=1; AF3/RF3=1 & Cadre ratio marks=(1+0.6+0.4)x12.5=25
  - Case 2:AF1/RF1=1; AF2/RF2=4/2; AF3/RF3=8/9 & Cadre ratio marks=(1+1.2+0.36)x12.5=32(limited to 25)

Faculty Cadre Ratio Marks = ((1/1) + ((1.66 / 1) * 0.6) + ((7.33/4)*0.4)) *12.5
= (1 + 0.996 + 0.733) * 12.5
= 2.729 * 12.5
= 34.1125

5.3. Faculty Qualification (25)

FQ=2.5*(10X +4Y)/F, where X is no. of faculty with Ph.D. degree, Y is no. of faculty with MCA/M.Tech/ME as per AICTE, F is no. of faculty required to comply 1:20 Faculty Student ratio (no. of faculty and no. of students required to be calculated as per 5.1).

Table 5.3. Faculty qualification for past 3 years including CAY

Year	X	Y	F	FQ=2.5*[(10X+ 4Y)/F]
CAY	9	11	9	= 2.5 * [(10 * 9) +(4*11)] / 9 = 37.23
CAY*m*1	7	09	9	= 2.5 * [(10 * 7) +(4*9)] / 9 = 29.45
CAY*m*2	5	07	9	= 2.5 * [(10 * 5) +(4*7)] / 9 = 21.67
Average Assessment=				= (37.23 + 29.45 + 21.67) / 3 = 28.45

5.4. Faculty Retention (15)

Table 5.4. Faculty Retention

Item	CAY	CAYm1
No. of Faculty Retained	**5**	**5**
Total No. of Required Faculty in CAYm2	**6**	

% of Faculty Retained	**83.33**	**83.33**
Average % of Faculty Retained for past 2 years	**83.33%= (83.33 + 83.33)/2**	

5.5. FDP/STTP Organized by the Faculty Members in the Department (10)

(No. of faculty Development Programs/Short Term Training Programs organized by Department for past 3 years)

SN	Name of the program	Date of the program	Duration of the program	Name of the speaker & designation and organization	No. of people attended
CAYm1 (2024-25)					
1	Faculty Development program on Industry Best Practices in Information Technology	21st to 25th October 2024	5 Days	1) Mr. Babaji Pokharkar, Technical Lead – Synechron. 2)Mr. Mohit Kulkarni, Senior Product Software Engineer - Wolters Kluwer. 3) Mr. Mayuresh Deolekar, Technical Product Manager - Myregistry.com. 4) Mr. Anuj Jaiswal, CRM Architect - Adit.com 5) Mr. Vishal Nagpal, Associate Director Enterprise Software - IdeaForge Technologies	60
2	Short term training program (STTP) on Design Thinking and Prototype Development	21st – 23rd February 2024	3 Days	1) Prof. Dr. Jayasankar Variyar. 2) Mr. Amey More, Innovation Ambassador, IIC. 3) Dr. Abhshek Guldhe, Associate Professor	75
CAYm2 (2023-24)					
1	Short Term Training Program (STTP) on Cyber Forensics and Digital Investigation	21& 22nd April 2023	2 Days	1) Ms. Sejal Shibe,Cyber Security Project Manager, CyberFrat. 2) Mr. Soeb Hakim Founder, CyberHak, 3) Ms. Kshipra Tatkare Senior Specialist, Mouri-Tech Pvt. Ltd .	40
2	Short Term Training Program (STTP) DevOps Concepts	17 and 18 February 2023	2 Day	Mr. Kishor Kotule Lead DevOps Engineer Robert Bosch, Germany.	40
CAYm3 (2022-23)					
1	Short Term Training Program (STTP) on Azure and AWS Cloud	18 & 19 February 2022	2 Day	Mr. Raghavendra Singh, Sr Project Manager, IBM	32
2	Short Term Training Program (STTP) on Database Administration	23 and 24th September 2022	2 Day	Mr. Raghavendra Singh, Sr Project Manager, IBM	33

Table No. 5.5.1. List of FDP/STP Organized by the Faculty Members in the Department

Fig. 5.1 Glimpse of One Week FDP on "Industry Best Practices in Information Technology"

Fig. 5.2 Glimpse of Student Active Participation in
One Week FDP on "Industry Best Practices in Information Technology"

5.6. Innovations by the Faculty in Teaching and Learning (20)

LMS Driven Teaching and Learning Activities

The MCA program at Amity University Mumbai demonstrates a strong commitment to innovative teaching and learning practices that significantly enhance student engagement and academic outcomes. Faculty members actively adopt a learner-centric approach by integrating modern pedagogical strategies such as flipped classrooms, collaborative learning, and case-based instruction. In flipped classroom sessions, students are provided with pre-recorded lectures, reading materials, and digital resources through the Learning Management System (LMS) prior to class. This allows classroom time to be utilized more effectively for problem-solving, discussions, and application-based learning. Such an approach not only promotes active participation but also enables students to develop

critical thinking and analytical skills, thereby improving the overall learning experience.

Collaborative and cooperative learning

Collaborative and cooperative learning methodologies are widely implemented to encourage peer interaction and teamwork among MCA students. Faculty members design group activities, mini-projects, and coding assignments that require students to work collectively, share knowledge, and learn from each other. This approach fosters communication skills, leadership qualities, and a sense of responsibility among students. Additionally, real-world case studies are incorporated into the curriculum to bridge the gap between theoretical concepts and practical applications. Through the analysis of industry-relevant scenarios, students gain insights into problem-solving techniques, decision-making processes, and emerging trends in the field of computer applications, making them industry-ready professionals.

Effective utilization of LMS for Innovative Teaching and Learning

The effective utilization of the LMS plays a crucial role in ensuring seamless delivery of instructional content and continuous student assessment. Faculty members regularly upload lecture notes, video tutorials, assignments, quizzes, and discussion forums on the LMS platform, making learning resources easily accessible to students anytime and anywhere. The LMS also supports continuous evaluation through online quizzes, assignments enabling timely feedback and performance tracking. Furthermore, the integration of ICT tools such as virtual labs, simulation software, and online coding platforms enhances experiential learning and ensures that students gain hands-on exposure to contemporary technologies.

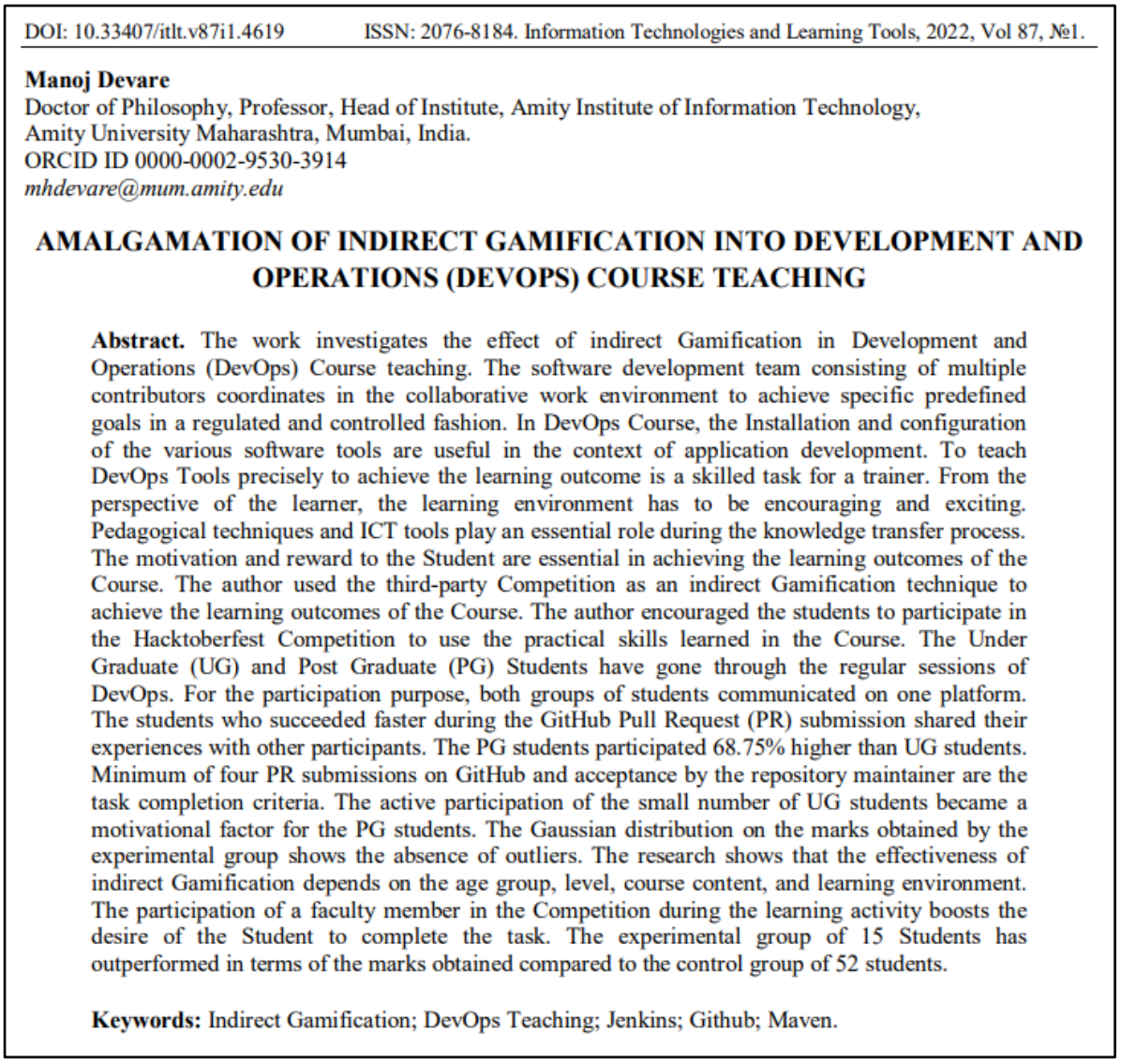
Documentation of the Innovative Pedagogies

All innovative teaching practices and learning resources developed by faculty members are systematically documented and made available on the institute's official website and LMS platforms, ensuring transparency and accessibility. These contributions are open for peer review and constructive critique, promoting a culture of continuous improvement and academic excellence. Faculty members also engage in reflective practices by analysing student feedback and learning outcomes to refine their teaching methodologies. The reproducibility of these innovations allows other educators and institutions to adopt and build upon these practices, thereby contributing to the broader academic community. Overall, these initiatives reflect the institution's dedication to creating an effective, inclusive, and forward-thinking learning environment for MCA students.

Indirect Gamification

The concept of indirect gamification developed by one of the faculty members in his research paper "Amalgamation of Indirect Gamification into DevOps Course Teaching" can be summarized. Indirect gamification refers to the integration of game-like motivation without explicitly embedding game elements (points, badges, leaderboards) inside the classroom. Instead, real-world platforms and competitive environments are used to naturally stimulate student engagement. Implemented this approach by encouraging students to participate in external coding events such as Hacktoberfest, where they applied DevOps skills like GitHub pull requests, collaboration, and version control in a practical setting. The approach emphasizes learning through authentic experiences rather than artificial rewards. Students worked collaboratively on open-source platforms, shared knowledge, and learned from peers who progressed faster. This created a self-driven and competitive learning ecosystem, where motivation emerged organically from participation, recognition, and real contributions rather than imposed classroom gamification structures. A key contribution of this model is that it bridges classroom learning with industry practices, especially in DevOps

environments involving tools like GitHub and Jenkins. The study observed that students participating in indirect gamification activities performed better academically, with the experimental group showing improved outcomes and engagement compared to the control group.



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AMALGAMATION OF INDIRECT GAMIFICATION INTO DEVELOPMENT AND OPERATIONS (DEVOPS) COURSE TEACHING

Abstract. The work investigates the effect of indirect Gamification in Development and Operations (DevOps) Course teaching. The software development team consisting of multiple contributors coordinates in the collaborative work environment to achieve specific predefined goals in a regulated and controlled fashion. In DevOps Course, the Installation and configuration of the various software tools are useful in the context of application development. To teach DevOps Tools precisely to achieve the learning outcome is a skilled task for a trainer. From the perspective of the learner, the learning environment has to be encouraging and exciting. Pedagogical techniques and ICT tools play an essential role during the knowledge transfer process. The motivation and reward to the Student are essential in achieving the learning outcomes of the Course. The author used the third-party Competition as an indirect Gamification technique to achieve the learning outcomes of the Course. The author encouraged the students to participate in the Hacktoberfest Competition to use the practical skills learned in the Course. The Under Graduate (UG) and Post Graduate (PG) Students have gone through the regular sessions of DevOps. For the participation purpose, both groups of students communicated on one platform. The students who succeeded faster during the GitHub Pull Request (PR) submission shared their experiences with other participants. The PG students participated 68.75% higher than UG students. Minimum of four PR submissions on GitHub and acceptance by the repository maintainer are the task completion criteria. The active participation of the small number of UG students became a motivational factor for the PG students. The Gaussian distribution on the marks obtained by the experimental group shows the absence of outliers. The research shows that the effectiveness of indirect Gamification depends on the age group, level, course content, and learning environment. The participation of a faculty member in the Competition during the learning activity boosts the desire of the Student to complete the task. The experimental group of 15 Students has outperformed in terms of the marks obtained compared to the control group of 52 students.

Keywords: Indirect Gamification; DevOps Teaching; Jenkins; Github; Maven.

Fig. 5.3: Publication of the Paper on Innovative Pedagogy in WOS Indexed Journal.
https://journal.iitta.gov.ua/index.php/itlt/article/view/4619

Outcome of the Inclusive, Effective, Efficient, and Engaging Instruction

The implementation of innovative pedagogy in the classroom has significantly strengthened the concept of inclusive learning, ensuring that students with diverse learning abilities, backgrounds, and preferences are actively engaged in the teaching-learning process. By incorporating methods such as collaborative learning, flipped classrooms, case-based discussions, and the use of ICT tools, the classroom environment has become more interactive, student-centric, and accessible to all learners.

These inclusive practices have led to notable improvements in student performance and overall skill enhancement. Students have demonstrated increased participation, confidence, and willingness to express their ideas during discussions and presentations. The use of varied instructional strategies has helped in catering to different learning styles, resulting in better conceptual understanding and

retention of subject matter.

Furthermore, there has been a visible improvement in critical thinking, problem-solving abilities, and teamwork skills among students. The integration of real-world scenarios and practical applications has enhanced their analytical capabilities and industry readiness. Students who initially faced challenges in understanding complex concepts have shown significant progress due to personalized attention and supportive learning environments.

The inclusive approach has also contributed to the development of communication skills, adaptability, and self-directed learning habits. Overall, the adoption of innovative pedagogy has created a positive and motivating classroom atmosphere, leading to effective, efficient, and engaging instruction while fostering holistic development and improved academic outcomes for all students.

5.7. Faculty as participants in Faculty Development/Training Activities (15)

Table 5.7. Faculty participants in development/training activities for past 3 years

Sr No	Name	CAY (2024–25)	CAY (2023–24)	CAYm1 (2022–23)
1	Dr. Manoj Devare	18	4	0
2	Dr. Narayan Kulkarni	4	25	0
3	Dr. Ashwin Bhagat	39	2	1
4	Dr. C. Kalpana	2	1	3
5	Dr. Karuna Kirwale	3	2	0
6	Dr. Uttam Deshmukh	1	3	1
7	Dr. Gauri Deshpande	1	2	1
8	Dr. Vivek Mahale	0	0	0
9	Dr. Pradip Saxena	0	0	0
10	Ms. Nirali Verma	0	0	0
11	Ms. Siddhi Mukadam	0	0	0
12	Ms. Swapnagandha Shah	1	1	1
13	Mr. Debesh Das	0	0	0
14	Dr. Shalini Sharma	3	2	0
15	Dr. Pameli Saha	1	1	1
Sum		73	43	8
RF =No. of Faculty required to comply with 20:1 Student-Faculty ratio as per 5.1		6	6	6
Assessment = 3*Sum/(0.5 * RF) (Marks limited to 15)		=3*73/(0.5 *6) = 73	= 3*43/(0.5*6) = 43	= 3*8/(0.5 *6) = 8
Average assessment over three years (Marks limited to 15) =		= (73+ 43 + 8) / 3 = 41.33		

5.8. Faculty Contributions in Educational Policy Implementation (5)

Faculty members of the MCA department at Amity Institute of Information Technology (AIIT) play a vital role in the effective implementation of educational policies by aligning institutional objectives with national frameworks such as NEP 2020 and UGC guidelines. Faculty actively participate in curriculum design and revision through Board of Studies (BoS) meetings, ensuring outcome-based education (OBE), industry relevance, and integration of emerging technologies like AI, Cloud Computing, and Cyber-Security and Blockchain.

Faculty members contribute to policy execution by adopting innovative teaching-learning practices, including ICT-enabled pedagogy, blended learning, and project-based instruction, which supports experiential and multidisciplinary education. Faculty also ensure implementation of academic policies such as continuous internal evaluation, choice-based credit system (CBCS), and mentoring frameworks for holistic student development.

In addition, faculty members engage in Faculty Development Programs (FDPs), research, and industry collaborations to stay aligned with evolving educational policies and technological trends. They support inclusive education policies by identifying diverse learner needs and conducting remedial classes, language support sessions, and personalized mentoring.

Faculty also contributes to quality assurance processes by participating in IQAC activities, academic audits, and accreditation documentation, thereby ensuring compliance with NAAC/NBA standards. Their involvement in research, publications, and conferences further strengthens the institution's policy of promoting innovation and knowledge creation. Overall, the faculty act as key implementers and enablers of educational policies, ensuring continuous improvement in teaching, learning, and institutional quality.

Indian Language Support in Teaching and Learning

Faculty can effectively support Indian languages in teaching and learning by forming language-based clusters of students and faculty who share a common regional language (apart from English). This approach promotes inclusivity, better comprehension, and aligns well with the vision of multilingual education under NEP 2020.

Faculty members can promote Indian languages in teaching-learning by organizing students into language clusters, where each cluster consists of students and mentors who share a common Indian language such as Hindi, Marathi, Tamil, or Gujarati. These clusters act as peer-support and mentoring groups to bridge language barriers faced by students from diverse linguistic backgrounds. Within each cluster, faculty can conduct supplementary mentoring sessions, explain complex technical concepts in the regional language, and encourage bilingual discussions to improve understanding. Learning materials such as notes, glossaries, and recorded explanations can also be provided in both English and the respective Indian language to support comprehension.

Faculty mentors play a crucial role in facilitating interactive learning, encouraging students to ask questions freely in their preferred language, thereby improving confidence and classroom participation. These clusters can also be used for collaborative learning, doubt-solving sessions, and project discussions. Additionally, this initiative supports inclusive education, reduces learning anxiety, and enhances academic performance. It also promotes cultural diversity and aligns with national educational policies that emphasize the importance of mother tongue-based learning.

5.9. Research and Development (45)

5.9.1. Academic Research (10)

Research Publications and Scholarly Output

Faculty members of the MCA department at Amity Institute of Information Technology (AIIT) have made contributions to academic research through consistent publication in reputed journals indexed in web of science, Scopus, and other recognized databases. The department emphasizes quality over

quantity, encouraging publications with DOI indexing, high impact factors, and strong citation metrics. Faculty actively publish research papers in emerging domains such as Artificial Intelligence, Data Science, Cyber Security, and Cloud Computing.

In addition to journal publications, faculty members contribute to book authorship and book chapters with reputed publishers, thereby enriching academic resources. The department also tracks Scopus H-index, citation count, and journal rankings as indicators of research quality and impact. Collaborative research with industry and academia further enhances interdisciplinary output and innovation.

Table 5.9.1.1 Faculty publications details for the past 3 years.

Item	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
No. of quality journal papers published	17	13	12
No. of quality conference papers published	05	02	02
No. of books/book's chapters published	06	02	05
No. of citations	137	138	66
No. of awards (best paper, best researcher, young scientist, etc (related to academic research))	03	00	01
Any others (IPRs)	01	09	02

Ph.D. Guidance and Faculty Qualification Enhancement:

Faculty actively contribute to research development by guiding Ph.D. scholars, fostering a strong research culture within the department. Several students have successfully been awarded Ph.D. degrees under the supervision of experienced faculty members during the assessment period.

Additionally, the institution encourages continuous academic growth, resulting in a notable number of faculty members completing their Ph.D. degrees while in service. This reflects the department's commitment to higher education, research excellence, and capacity building.

Overall, faculty contributions in research publications, doctoral guidance, and academic advancement significantly strengthen the research ecosystem and academic credibility of the department.

Table No.5.9.1.2 Ph.D. details during the assessment period.

Item	CAYm1 2024-25	CAYm2 2023-24	CAYm3 2022-23
No. of Ph.D guides/supervisors in the Department	02	02	01
No. of Ph.D students produced by Department faculty members	02	00	00
No. of Ph.D students perusing in the Department	11	09	04
No. of faculty members received Ph.D degree	00	01	02
No. of faculty members perusing Ph.D degree in the Department	01	00	00

5.9.2. Sponsored Research Projects (10)

Table 5.9.2.1 List of sponsored research projects for past 3 years.

SN	PI name	Co-PI names if any	Project title	Name of the Dept where project is sanctioned	Funding agency name	Duration of the project	Amount (Lacs)
CAYm1 (2024-25)							
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CAYm2 (2023-24)							
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CAYm3 (2022-23)							
1	Dr. Manoj Devare	NA	Digital Forensics Practices and Reforms in IT Legal Regime	Amity Institute of Information Technology (MCA)	The West Bengal National University of Juridical Sciences, Kolkatta.	1 Year	800000
Total amount (Lacs) received for past 3 years							800000

5.9.3. Consultancy Work (from Industry/ Government) (10)

Table 5.11 List of consultancy work for past 3 years.

SN	PI name	Co-PI names if any	Project title	Name of the Dept where project is sanctioned	Funding agency name	Duration of the project	Amount (Lacs)
CAYm1							
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CAYm2							
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CAYm3							
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total amount (Lacs) received for past 3 years							00

5.9.4. Development activities (15)

A. Product Development

Faculty members encourage students to undertake in-house projects that contribute to product development. The details of the products developed by the students are provided in the table.

Table 5.9.4 Product Development Details

S. No.	Academic Year	Product Title	Description
1	2024-25	An Intelligent Safety Helmet Integrated with ESP32 and IoT for Accident Detection and Alerting.	The Smart Helmet with ESP32 and IoT Integration is an innovative application developed to improve motorcycle rider safety using embedded systems and IoT technology. The system uses a reed sensor to ensure helmet usage and a 3-axis accelerometer to detect accidents in real time. An ESP32 microcontroller processes sensor data and connects to a mobile application via Bluetooth. In case of an accident, the system sends the rider's GPS location to emergency contacts through WhatsApp and initiates an emergency call if no response is received within a set time. The application also provides a user-friendly interface for monitoring and control. The project

			demonstrates high accuracy in helmet detection and accident alerts, making it a reliable and cost-effective solution.
2	2024-25	SENSEI: AI Powered Career Assistant	SENSAI is a full-stack AI-powered web application developed to support career development by providing personalized guidance, industry insights, and interview preparation tools. Built using modern technologies such as React.js, Tailwind CSS, and shadcn UI for the frontend, the platform ensures a responsive and user-friendly interface. Secure authentication is implemented using Clerk, while user data is managed through Neon PostgreSQL. The system also integrates Inngest for real-time workflows and Google Gemini API to enable advanced generative AI features. The platform offers key functionalities including an AI-based resume builder, personalized career recommendations, real-time industry insights, and structured interview preparation modules. These features help users align their academic knowledge with current industry requirements and improve employability skills.
3	2023-2024	VR Flight Engine	The Flight Engine and Cockpit VR Experience is a virtual reality application developed to provide an immersive and educational understanding of aviation concepts. The system allows users to explore a turboprop engine and experience an airplane cockpit in a simulated VR environment using the Google Cardboard XR plugin. The application uses gaze-based interaction through a Raycast pointer, enabling users to navigate between scenes such as the start room, engine view, and cockpit view. It incorporates animated transitions, gyroscope-based head tracking, and audio narration to enhance user engagement and learning. This project demonstrates the effective integration of VR technology with educational content, offering an interactive learning platform. This Project highlights practical skills in Unity development, C# scripting, and immersive design.
4	2023-2024	SelHo-LLaMa	SelHo-LLaMa (Self-Hosted LLaMa) is a privacy-focused AI application designed to enable users to run and access large language models locally without relying on cloud-based services. The system integrates a Next.js frontend, Express.js backend, SQLite database, and Firebase authentication, along with NGROK for secure remote access. The platform allows users to interact with locally hosted models such as LLaMa and Mistral through a user-friendly interface, ensuring full data privacy and ownership. It supports multi-device access, chat history management, and efficient model performance on CPU and GPU systems.
5	2022-23	E-voting System	The E-Voting System is a web-based application developed to provide a secure, efficient, and transparent platform for conducting elections digitally. The system allows registered users to cast their votes online while ensuring authentication, data integrity, and confidentiality. The application includes features such as user registration and login, candidate listing, secure vote casting, and real-time result generation. Advanced security measures like encryption and role-based access control are implemented to prevent unauthorized access and ensure fair voting. The system eliminates the need for manual voting processes, reducing time, cost, and human errors. It enhances transparency and accessibility, making it suitable for academic institutions and organizational elections.

Fig. 5.9.4: Glimpse Product Prototype Exhibition by Students.

b. Research / Virtual Laboratory

The objective of this laboratory is to motivate and encourage students to undertake their mini and major projects. It provides a dedicated space where students can work both individually and in groups to develop their projects. The lab is well-equipped with all necessary facilities, including advanced software and high-performance i7 computers. All systems are connected to the internet, and Wi-Fi access is also available.

The project laboratory offers students valuable hands-on experience, helping them develop technical skills, mathematical ability, problem-solving, and decision-making skills essential in the field of Computer Engineering. It plays an important role in promoting practical learning, enabling students to design innovative ideas and successfully execute their final projects. Additionally, students are given access to the lab beyond regular hours in a safe and secure environment, enhancing its overall utilization.

C. Multi-Disciplinary and Interdisciplinary Projects Executed

The department encourages students to undertake projects that integrate knowledge from multiple disciplines, promoting a broader understanding of real-world problems. These projects combine concepts from areas such as Machine Learning, NLP, Block Chain , Data Science, and other related fields to develop innovative and practical solutions.

Students work in teams to design and implement projects that address complex challenges, enhancing their technical, analytical, and collaborative skills. Faculty members from different domains guide these projects, ensuring proper integration of interdisciplinary knowledge. Such initiatives help students gain exposure to diverse technologies and prepare them for industry-oriented problem solving.

Fig 5.5 : Glimpse of 49 Hours Hackathon organized by AIIT.

D. Instructional Materials:

Faculty can significantly support MCA students by creating high-quality instructional materials that enhance understanding, engagement, and practical learning. These materials act as an extension of classroom teaching and help students learn at their own pace.

Faculty can prepare well-organized notes aligned with the syllabus, including key concepts, summaries, and examples. This helps students revise effectively and understand complex topics in a simplified manner. Developed lectures, tutorials, and demonstrations, faculty enable students to revisit difficult topics anytime. This is especially useful for programming subjects and technical concepts.

Uploading materials such as PPTs, PDFs, quizzes, and assignments on platforms like Amizone or other Learning Management Systems ensures easy and continuous access to study resources. Faculty can design detailed lab manuals with step-by-step instructions, sample codes, and real-world problem statements, which help students build hands-on skills.

Question Banks and Model Answers

Providing previous year questions, sample papers, and model answers helps students prepare effectively for examinations and understand the expected answer patterns.

E. Books / MOOCs:

Faculty members make use of the Amizone LMS platform to share a variety of learning resources, including reference books, e-books, and links to MOOCs and other online courses. These resources are organized topic-wise to support self-paced learning and deeper understanding of concepts. Students can access these materials anytime, which helps them enhance their knowledge beyond classroom teaching.

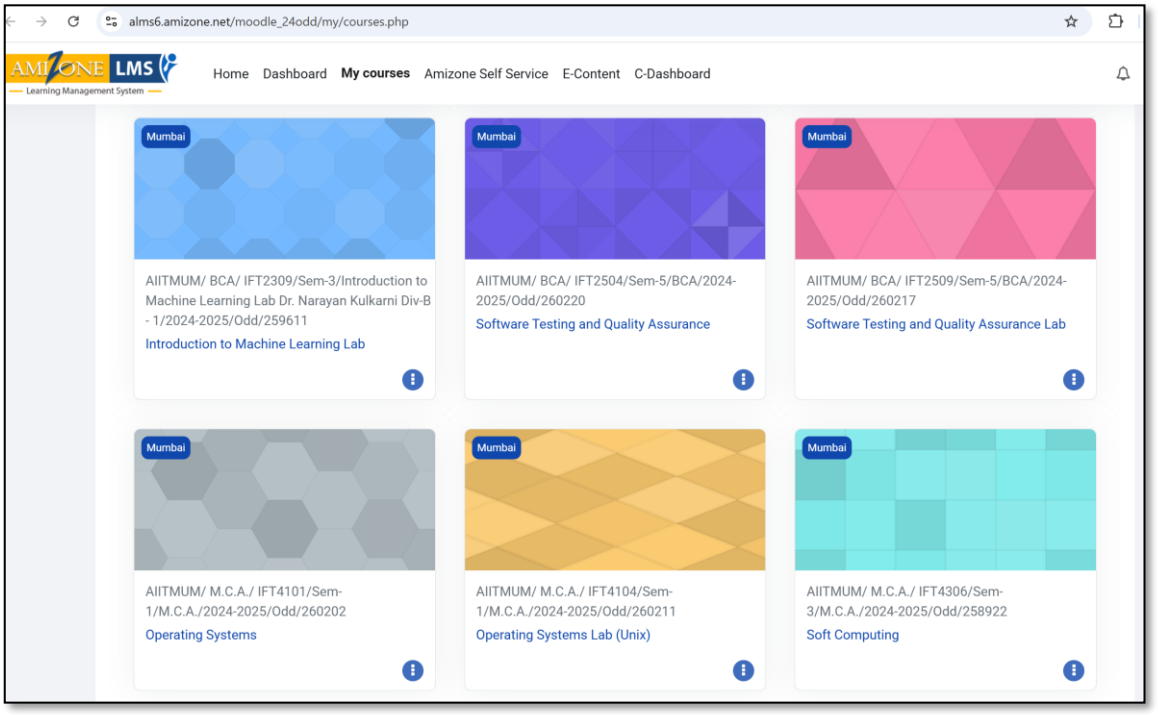


Fig. 5.6 The study material provided by faculty to the students through LMS.

E. Books Publications /MOOCs Development

Table 5.12 Publications by Faculty members

Sr.no	Name of Author/Faculty	Book Title	Publisher Name	ISSN/ISBN Number
1	Dr. C. Kalpana	Analysing Evolutionary Algorithm	REST Publisher	978-81-995867-0-3
2	Dr. C. Kalpana	Machine Learning	REST Publisher	978-81-972811-1-2
3	Dr. C. Kalpana	Concepts of Big Data Analytics	SK Research Group Companies	978-93-95341-10-3
4	Dr. C. Kalpana	Algorithm of Optimization	REST Publisher	978-81-960524-1-6
5	Dr. Uttam Deshmukh	Simplified DSA: Unlock the Power of Data Structures and Algorithms	Amazon KDP	979-8268942231
6	Dr. Uttam Deshmukh	Mastering DSA Interviews 200+ Java Problems, Patterns with Leet Code Examples	Amazon KDP	979-8279272129
7	Dr. Gauri Deshpande	Information Retrieval	Tech Knowledge Publications	978-93-5563-625-6
8	Dr. Manoj Devare	Book on Mobile Operating Systems	Babasaheb Ambedkar Open University	978-81-940577-0-3

MOOC Development

Table 5.13: MOOC Content Developed by Faculty Members of MCA

Sr. No.	Faculty Name	MOOC Developed	Type	Course
1	Dr. Manoj Devare	https://e-content.netlify.app/subject1	Study Material / Course Material	Introduction to DevOps
2	Dr. Manoj Devare	https://e-content.netlify.app/subject2	Study Material / Course Material	Natural Language Processing
3	Dr. Manoj Devare	https://e-content.netlify.app/subject3	Study Material / Course Material	Blockchain Architecture
4	Dr. Manoj Devare	https://e-content.netlify.app/subject7	Study Material / Course Material	Introduction to Internet of Things
5	Dr. Manoj Devare	https://e-content.netlify.app/subject8	Study Material / Course Material	Machine Learning

F. Application Development:

Under the guidance of the faculty member Students are actively encouraged to develop software applications as part of their academic and project work. These applications are designed to address real-world problems and enhance practical learning. The development activities include web applications, mobile applications, and system-based solutions using modern technologies.

Students have developed various innovative applications such as AI-based systems, virtual reality environments, IoT-based solutions, and automation tools. These projects help students apply theoretical knowledge in practical scenarios and improve their programming, design, and problem-solving skills.

Faculty members guide students throughout the development process, from idea conceptualization to implementation and testing. The application development activities also promote creativity, teamwork, and industry-oriented learning, preparing students for professional careers in software development and related fields.

Table: 5.14 Application Development

Sr. No.	Student Name	Project Title	Multidisciplinary
1	Yash B Salve	Driver Drowsiness Detection System	Interdisciplinary
2	Rakshan	Tour Management System	Disciplinary
3	Yash Sharma	AI-Driven Multi-Environment Orchestration Platform with Autonomous Governance	Interdisciplinary
4	Kandpal Sumit Lalit	Calendly Full Stack Scheduling Application	Disciplinary

5	Dhirandra Pandey	Video Calling Realtime Chat App	Disciplinary
6	Abhimanyu Jithesh	Phishing Website detection using AI	Interdisciplinary
7	Saiyad Mofassil Husen	Sensai AI Powered Career Coach	Interdisciplinary

G. Software for in-house use

The Certificate Generator System

The Certificate Generator System is an in-house software application developed by students under the guidance of faculty member to automate the process of creating certificates for various academic and co-curricular activities. It is designed to reduce the time, effort, and errors involved in manual certificate preparation. The system allows users to input participant details such as name, event title, date, and organization. Based on predefined templates, the system automatically generates well-formatted certificates in bulk. It can also support features like unique certificate IDs, digital signatures, and QR codes for verification.

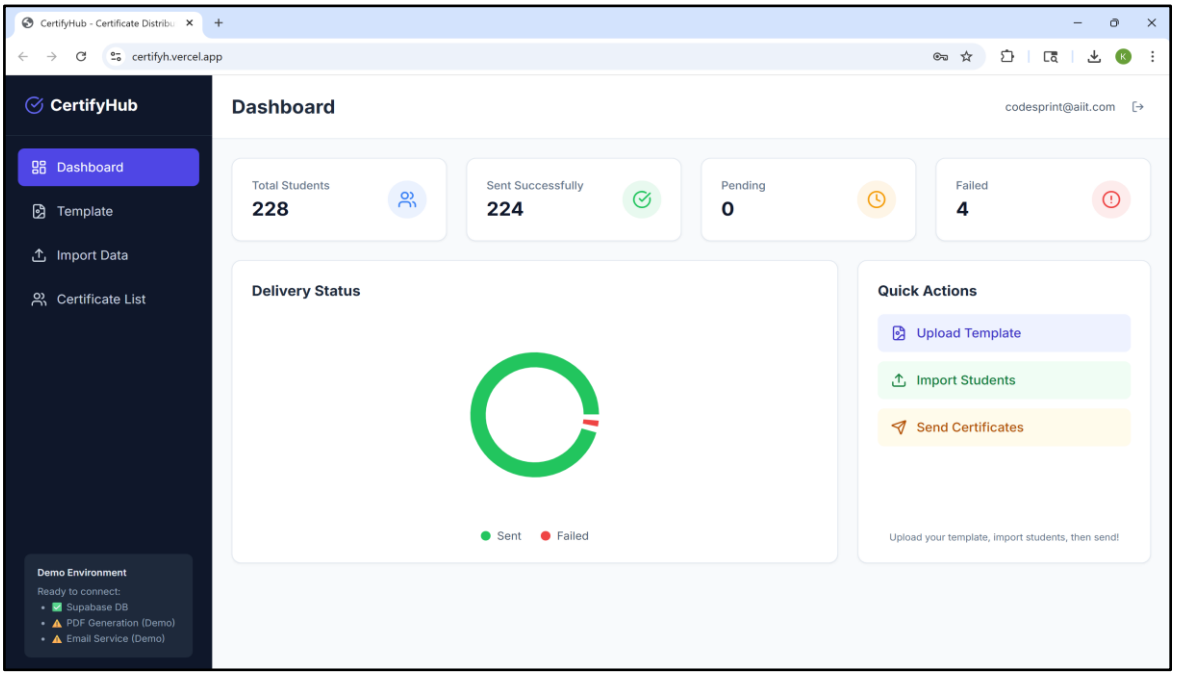


Fig. 5.8 Screenshot of in-house Developed Certify software.

This application is especially useful during workshops, seminars, competitions, and training programs, where a large number of certificates need to be issued efficiently. By using this system, the institution ensures consistency, accuracy, and quick delivery of certificates. Development of this system provides students with hands-on experience in areas such as database management, user interface design, and automation, while also offering a practical solution that improves the institution's internal processes.

Ami-Scheduler:

Ami-Scheduler is a centralized intranet-based software solution developed for Amity University Mumbai to efficiently manage and streamline the booking of institutional facilities such as seminar halls, conference rooms, VIP lounges, auditoriums, and multipurpose halls. The system enables faculty and administrative staff to check real-time availability, submit booking requests, and receive approvals through a structured workflow, thereby minimizing scheduling conflicts and ensuring optimal utilization of resources. By digitizing the reservation process, Ami-Scheduler enhances transparency, reduces

manual coordination efforts, and supports better planning and organization of academic, co-curricular, and administrative events within the campus intranet environment.

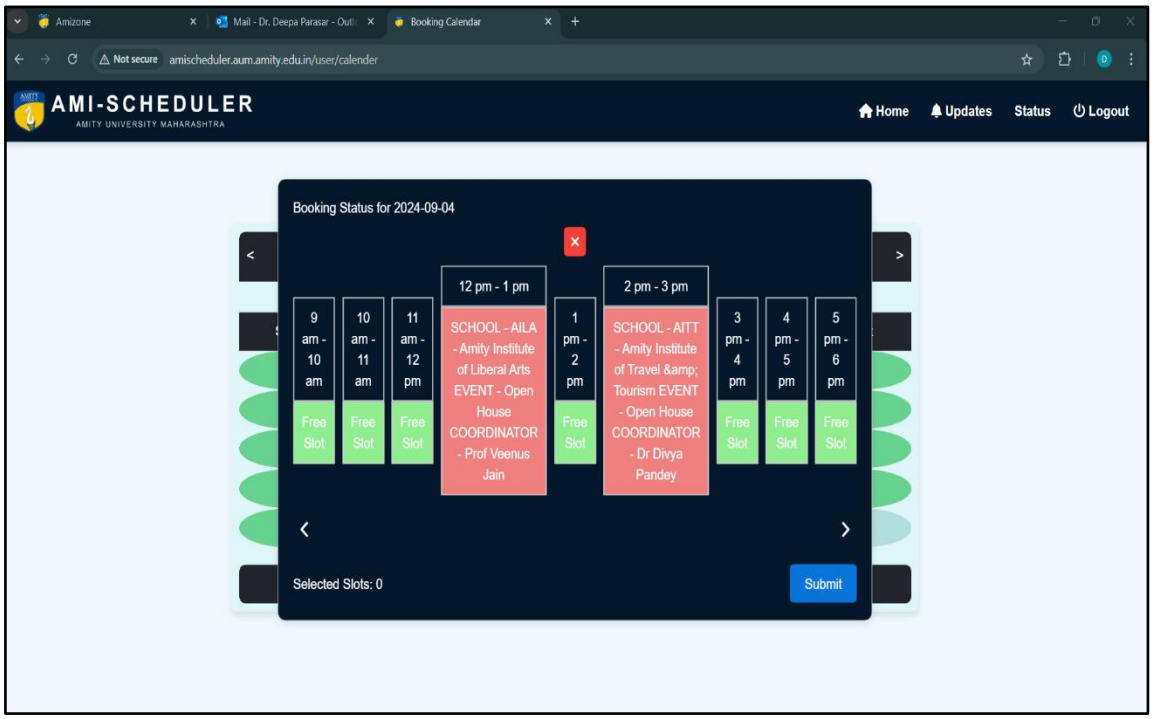


Fig 5.9 : Screenshot of the Ami-scheduler a Venue Booking System used at Intranet of AUM.

5.10. Faculty Performance Appraisal and Development System (FPADS) (10)

A. A well-defined system instituted for all the assessment years (3)

The appraisal form is circulated twice in an academic year, i.e. June and December month. As per the joining date of the faculty members, the appraisal forms are submitted by the faculty members to HOI. HOI Further submits forms to the HR team. The scrutiny committee formed by Honourable Vice Chancellor, evaluates the approval form for the grading. The grading recommendation is further submitted for the final evaluation by the Honourable Vice Chancellor.

Appendix I

AMITY UNIVERSITY MUMBAI

Performance Based Appraisal System (PBAS+) for Academic Year 2024-2025

ASSESSTEMNT PERIOD To

GENERAL INFORMATION

1.	Name (in Block Letters)	
2.	Institute & Department	
3.	Date of Joining	
4.	Current Designation & Academic Grade Pay	
5.	Any Degree or fresh qualifications acquired during the year	
6.	Highest Professional Qualifications	
7.	Fields of Specialization in Subject/Discipline	

8. Academic Staff College Orientation/ Refresher Course attended during the year

Nature of the Course/ Summer School	Place	Duration	Sponsoring Agency

9. **FUTURE PLANS (in Brief)**

(i) **Teaching**:

(ii) **Research**:

SUMMARY OF API+ SCORES

Academic Year 2025-2026

Category	Criteria	API SCORE
I	Teaching, Learning & Evaluation related activities	
II	Co-curricular, Extension, Professional Development, etc.	
	Total (Categories I + II)	
III	Research & Academic Contribution	
IV	Behavioral Skills and Values *(out of 50)*	
V	Student Feedback on Quality of Teaching	
	TOTAL (I+II+III+IV+V)	

Signature of Faculty Member Signature of HOD *(if applicable)* Signature of HOI

fig. 5.10 Faculty Appraisal Form.

Amity University has established a comprehensive and well-structured performance appraisal system that effectively captures the diverse roles and responsibilities of faculty members in higher education. The system is designed to ensure holistic evaluation and continuous professional development, aligning individual performance with institutional goals. The appraisal framework systematically evaluates teaching and instructional effectiveness, where faculty members are assessed based on their pedagogical practices, use of innovative teaching methodologies, integration of ICT tools, and student feedback. Emphasis is placed on outcome-based education and the ability to create engaging and inclusive learning environments.

In addition to teaching, the system gives significant importance to research and innovation. Faculty members are encouraged to publish research papers in reputed journals, undertake funded projects, file patents, and participate in conferences, seminars, and workshops. This promotes continuous self-renewal and keeps them updated with the latest advancements in technology and their respective

domains. The appraisal process also recognizes industry interaction and community engagement. Faculty contributions in consultancy projects, collaborations with industry, and participation in outreach activities are duly considered. This ensures that academic knowledge is effectively translated into real-world applications and societal benefits.

Further, the system evaluates curriculum development and academic contributions, where faculty members actively participate in designing, updating, and implementing curricula in line with industry requirements and emerging trends. Administrative responsibilities such as coordination roles, committee memberships, and support in institutional activities are also an integral part of the appraisal. Faculty members are assessed on their ability to collaborate with peers, contribute to departmental growth, and support institutional governance. The appraisal system at Amity University is transparent, multi-dimensional, and performance driven. It not only ensures accountability but also fosters a culture of excellence, motivation, and continuous improvement among faculty members, thereby enhancing the overall quality of education and institutional effectiveness.

B. Its implementation and effectiveness (7)

The appraisal form consists of five categories. In first category, Teaching, learning and Evaluation related activities undertaken by the faculty are noted. The second category consists of Co-curricular, extension, and professional development by the faculty members are noted. The category III, consists of Research and Academic contribution. The appraisal consists of the observations and points by the reporting authority. The fifth category in the appraisal form consists of student feedback on Quality of teaching. The faculty performance grade is calculated as A is Category I & II. B is score in Category III, and C is score in category IV & V. For assistant professor there is high weight to the activities undertaken under Category I & II. There is high weightage to the activities undertaken under category III for Associate Professor and Professor. Whereas there is similar weightage for all faculty members for feedback by students and faculty members.

Table 5.15. Evaluation metrics as per the cadre of the faculty.

Faculty Performance Grade (FPG)	
AP-I	**1.0A+0.5B+0.5C=FPG**
AP-II	**1.0A+0.5B+0.5C=FPG**
AP-III	**0.8A+0.7B+0.5C=FPG**
Associate Prof.	**0.7A+0.8B+0.5C=FPG**
Professor	**0.6A+0.9B+0.5C=FPG**

5.11. Visiting/Adjunct Faculty/Professor of Practice, etc. (10)

The contribution of visiting faculty appointed has significantly enriched the academic experience of MCA students during the assessment years. As an experienced academician, she delivered expert sessions on key industry-relevant domains such as Business Intelligence using SQL Server tools including SSIS and SSAS, Java Programming Lab, and Advanced Web Technologies like Node.js. The session provided students with practical exposure to real-world tools and technologies widely used in the IT industry. Through hands-on demonstrations and case-based learning, students developed a deeper understanding of data integration, data warehousing, and analytical processing. The coverage of Java programming strengthened students' core programming skills, while the Node.js sessions enabled them to explore modern web development practices and build scalable applications.

The visiting faculty's teaching approach emphasized application-oriented learning, encouraging students to work on mini-projects and problem-solving tasks. This enhanced their analytical thinking, coding proficiency, and confidence in handling industry-level challenges. Her interaction also helped bridge the gap between theoretical knowledge and practical implementation.

Table 5.16: Summary of classes conducted by Visiting faculty

Sr. No.	Visiting Faculty Name	Course Taught	Number of Hours. taught	MCA Batch / Semester
A.Y. 2022-23				
1	Ms. Roshani Mali	Java Lab [IFT4109]	30	2022-24 (Sem-1)
2	Ms. Roshani Mali	Business Intelligence Lab (Sql Server SSIS) [IFT4107]	30	2022-24 (Sem-1)
		Number of hours taught	**60**	
A.Y. 2023-24				
1	Ms. Roshani Mali	Advanced Web Technologies (Node.js) Lab [IFT4111]	30	2023-25 (Sem-1)
2	Ms. Roshani Mali	Advanced Web Technologies (Node.js)	30	2023-25 (Sem-1)
		Number of hours taught	**60**	
A.Y. 2024-25				
1	Ms. Roshani Mali	Advanced Web Technologies (Node.js) Lab [IFT4111]	30	2024-26 (Sem-1)
2	Ms. Roshani Mali	Advanced Web Technologies (Node.js)	30	2024-26 (Sem-1)
		Number of hours taught	**60**	

CRITERION 6	Facilities and Technical Support	80

6. Facilities and Technical Support (80)

6.1 Availability of Adequate, Well-equipped Classrooms and Tutorial Rooms to Meet the Curriculum Requirements (15)

The classrooms allocated to the MCA program are well-equipped with modern facilities that create an effective and comfortable learning environment for students. Each classroom is fitted with a high-quality sound system, ensuring clear audibility of lectures, presentations, and interactive sessions. The presence of LCD projectors enables faculty members to deliver content using multimedia presentations, enhancing conceptual understanding and student engagement.

Air conditioning systems are installed in all classrooms to maintain a comfortable temperature, which contributes to better concentration and a pleasant learning atmosphere. The overall ambience of the classrooms is thoughtfully designed, with proper lighting, ventilation, and cleanliness, creating a positive academic environment. In addition, the classrooms are furnished with ergonomically designed chairs and well-maintained benches that provide adequate comfort during long lecture hours. These seating arrangements support good posture and help students remain attentive throughout the sessions. The integration of such facilities ensures that teaching-learning processes are smooth, interactive, and technology-enabled. Overall, the infrastructure of MCA classrooms reflects the institution's commitment to providing quality education through a conducive and student-friendly environment.

Table 6.1 Classrooms and Tutorial Rooms allocated to MCA

Sr. No.	Room No.	Class / Division	Details	Capacity	Carpet Area
1	A1-725	MCA First year	Classroom	60	66 Sq. Meter
2	A1-726	MCA Second year	Classroom	60	66 Sq. Meter
3	A1-712	Tutorial Room	Tutorial Room	40	33 Sq. Meter

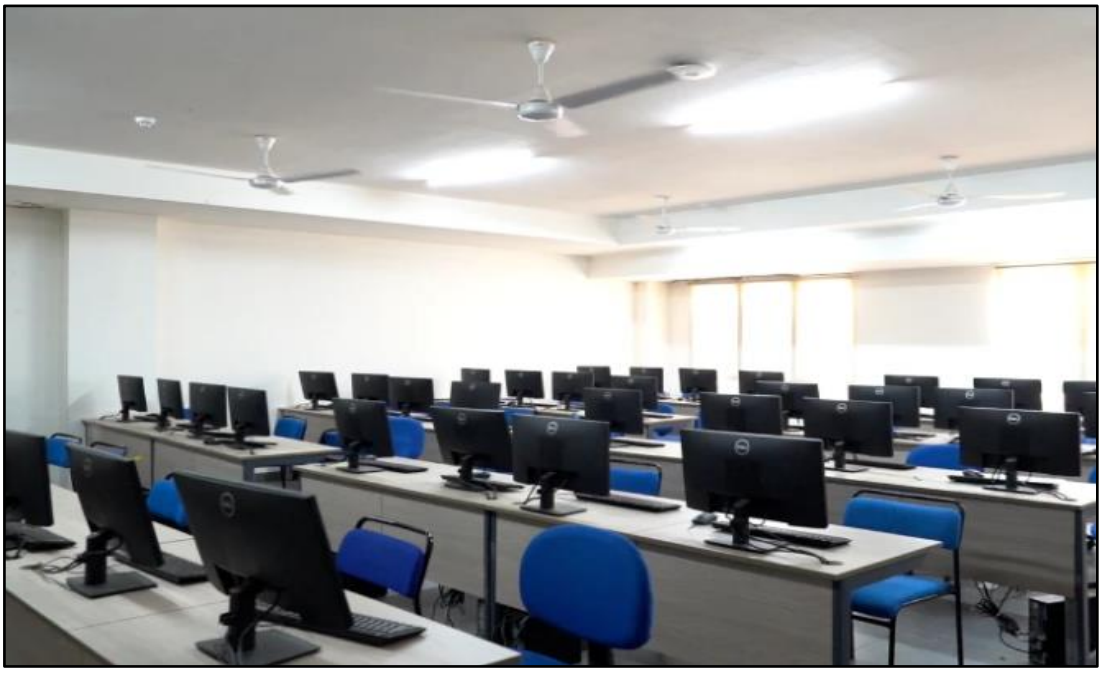


Fig. 6.1 : Glimpse of MCA Computer Laboratories

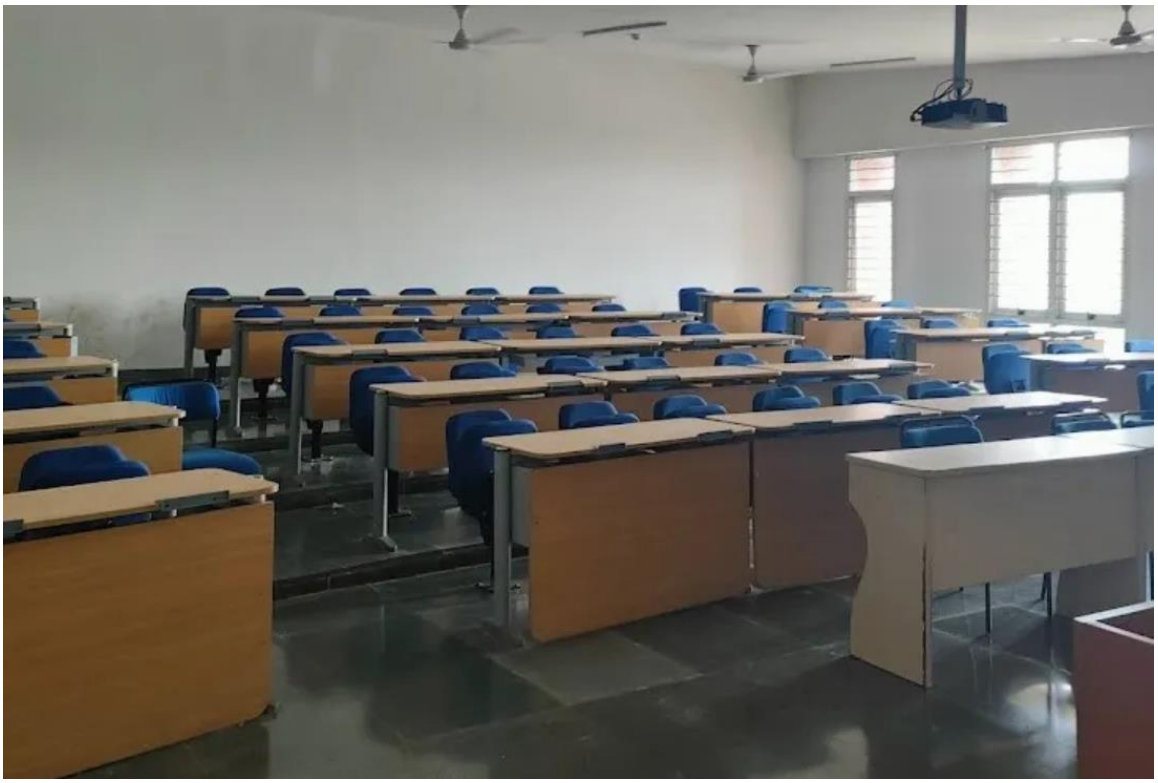


Fig. 6.2 : Glimpse of MCA Classrooms.

6.2 Adequate and Well-Equipped Laboratories (15)

The MCA program is supported by well-equipped computing laboratories that facilitate effective conduct of scientific experiments and practical sessions. These laboratories are designed to meet the academic and research requirements of students, ensuring the availability of modern computing resources, updated software tools, and reliable internet connectivity. The infrastructure is adequate to support various programming, data analysis, database management, networking, and emerging technology experiments.

The laboratories maintain an optimal batch size, ensuring that each student gets sufficient hands-on experience. Typically, the student-to-computer ratio is maintained at an ideal level, allowing individual access to systems during practical sessions. This enhances active participation, better understanding of concepts, and skill development.

The availability of necessary hardware and software resources, along with uninterrupted power supply and network support, ensures smooth execution of laboratory activities. Faculty members and lab assistants provide continuous guidance, making the learning process more interactive and effective. These computing facilities are regularly upgraded and maintained to keep pace with technological advancements. Overall, the laboratories are adequate, well-maintained, and highly effective in supporting experiential learning, enabling MCA students to develop strong technical competencies and practical problem-solving skills essential for the IT industry.

Table 6.2 List of laboratories in the Department.

SN	Name of the lab	Batch size	Name of major equipment
1	A1-729 (Computer Centre)	30	50 Personal Computers, LCD Projector, Mic and Sound System, 10 KVA UPS. HP PRO Tower 280 G9 PCI Desktop PC 12th Gen, Intel R core (TM) i5- 12500 3.00 Ghz, RAM- 16 GB, SSD- 512 GB, Graphics card- Nvidia T400 Graphics 4 GB). Operating System: Windows 11 Pro.
2	A1-728 (Computer Lab 1)	30	50 Personal Computers, LCD Projector, Mic and Sound System, 10 KVA UPS. 18 desktops 12th Gen, Intel R core (TM) i5- 12500 3.00 Ghz, RAM- 16 GB, SSD- 512 GB, Graphics card- Nvidia T400 Graphics 4 GB) and 30 Dell Workstation Precision 3460 SFF (i7-12th Gen, RAM- 32 GB, SSD- 512 GB, Graphics card- Nvidia T1000 Graphics 8 GB). Operating System: Windows 11 Pro. HP PRO Tower 280 G9 PCI Desktop PC and 30 desktop : Dell Workstation Precision 3460 SFF.
3	A1-727 (Computer Lab 2)	30	50 Personal Computers, LCD Projector, MIC and Sound System. Dell Workstation Precision 3460 SFF, (i7-12th Gen, RAM- 32 GB, SSD- 512 GB, Graphics card- Nvidia T1000 Graphics 8 GB) Operating System: Windows 11 Pro
4	A1-308 (Project Lab)	30	Make Model: DELL- OptiPlex Micro 7010, Hardware Configuration: 12th Gen Intel(R) Core (TM) I5-12500T (2.00GHZ), 16 GB RAM, SSD 240 GB. 35 Personal Computers, 7.5 KVA UPS, LCD Projector, MIC and Sound System. Operating System: Windows 11 Pro
5	Language Laboratory A2-108	30	32 Personal Computer HP 280 G1 MT, Intel i-5 6500 6th Gen (3.20 GHz), RAM- 8GB, SSD-240 GB and 500 GB HDD, Graphics 2 GB (Nvidia GT 730). Operating System: Windows 11 Pro

Fig. 6.1 Language Laboratory

Table 6.3 Internet Service and Availability

Sr. No.	Facility	Details
1	Name of the Internet Provider	Sify and one broadband.
2	Available Bandwidth	2 GBPS
3	Wi-Fi Facility availability with Bandwidth	WIFI Facility available.
4	Internet access in labs, classrooms, library and other offices.	Internet services available
5	Security arrangements (related to Wifi & Internet, Firewalls)	AUM campus has High Tech Security System
6	Justification of the bandwidth for support to digitization process adopted like LMS, video based learning etc	Bandwidth is equally distributed between all users

Table: 6.4: List of Software Available in the department

Sr. No	Software / Tool Available	Sr. No	Software / Tool Available
1	Adobe Azure	21	MS SQL Server
2	Adobe Flash	22	MYSQL
3	Anaconda (Python Distribution)	23	Node.JS for Windows
4	Android Studio	24	Oracle
5	Apache Tomcat	25	Packet Tracer
6	Azure Free Access	26	Power BI
7	Docker	27	Python
8	Eclipse	28	R Studio, R language
9	Figma	29	React.js
10	Git	30	Remix Online Studio
11	IntelliJ IDEA	31	Selenium Driver for Chrome
12	Java Development Kit (JDK)	32	Spring Source Tool Suite
13	Jenkins	33	Terraform for Windows
14	Jupyter Notebook	34	Turbo C++
15	Kali Linux	35	VirtualBox
16	Kubernetes	36	Visual Studio Code

17	Maven	37	VMWare
18	Microsoft Office	38	VS Code
19	Microsoft Visual Studio Community Edition	39	Wireshark
20	Mozilla Firefox Browser	40	XAMPP Server

6.3 Technical Staff (15)

Graduate technical staff play a crucial role in the maintenance and upgradation of computer laboratories in the MCA department at Amity Institute of Information Technology (AIIT). These staff members, possessing relevant skills for handing the in IT Infrastructure, ensure the smooth functioning of laboratory infrastructure by regularly monitoring hardware and software systems.

They are responsible for installation, configuration, and maintenance of operating systems, application software, and licensed tools required for academic and research activities. Routine tasks such as system diagnostics, troubleshooting, network management, and data backup are efficiently handled to minimize downtime.

In addition, graduate technical staff actively contribute to lab upgradation by assisting in the deployment of new technologies, updating software versions, and integrating advanced tools aligned with the evolving curriculum, such as AI/ML platforms, cybersecurity tools, and cloud-based environments. They also coordinate with vendors for procurement and maintenance of equipment. Their technical expertise and proactive support ensure a reliable, secure, and updated laboratory environment, thereby enhancing the quality of practical learning and supporting project-based activities in the MCA program.

Table 6.5 List of technical staff in the Department.

SN	Name of the technical staff	Designation	Date of joining (MM/YYYY)	Qualification		Other technical skills gained	Responsibility
				At Joining	Now		
1	Mr. Umesh Ramchandra Bhoir	Lab Assistant	21/09/2026	B.Sc.	B.Sc.	Computer Course, MS-CIT	Handing Personal Computers, Software Installation and Maintenance.
2	Mr. Vinesh Patil	Lab Assistant	16/05/2016	ITI	ITI	Knowledge of Computer	Handing Personal Computers, Software Installation and Maintenance.

6.3.1 Availability of Adequate and Qualified Technical Supporting Staff for Program Specific Laboratories (10)

The MCA department ensures the availability of adequate and qualified technical supporting staff for program-specific laboratories to facilitate effective teaching and learning. Skilled lab assistants and technical staff with relevant academic backgrounds and hands-on expertise support the smooth functioning of computing laboratories, networking labs, and specialized domains such as

Artificial Intelligence and Cyber Security.

These staff members assist faculty and students in conducting practical sessions, maintaining hardware and software resources, and troubleshooting technical issues. They also ensure timely installation, upgrades, and maintenance of required tools, platforms, and licensed software. Regular training and skill enhancement programs are conducted to keep the technical staff updated with emerging technologies. Their continuous support enhances laboratory efficiency, ensures minimal downtime, and provides a conducive environment for experiential learning and project-based activities in the MCA program.

6.3.2 Incentives, Skill Upgrade, and Professional Advancement (5)

Technical staff such as lab assistants in the MCA department at Amity Institute of Information Technology (AIIT) are provided with an annual increment based on the performance, skill upgradation opportunities through technical training and professional advancement support to enhance their efficiency and motivation. The institution encourages continuous learning by facilitating participation in training programs, and workshops, focused on emerging technologies such as cybersecurity, software installation, infrastructure maintenance, networking tools upgrade and utilization, and system administration.

Technical staff are also supported in obtaining certifications which improve their technical competence and career growth. Performance-based incentives, appreciation certificates, and recognition during institutional events are used to acknowledge their contributions to laboratory management and student support. Opportunities for career progression are available based on experience, qualifications, and performance. These initiatives ensure a motivated, competent, and future-ready technical workforce supporting the MCA program.

6.4 Additional Facilities Created for Improving the Quality of Learning Experience in Laboratories (10)

Table 6.4.1 List of additional facilities created in the Department.

SN	Facility Name	Details Reason(s) for creating facility	Utilization	Areas in which students are expected to have enhanced learning	Relevance to POs
1)	High Speed Wi-Fi Access point	To access internet-based resources such as cloud platforms, online coding environments, virtual labs, and software repositories	Regularly used	Accessibility of the information anytime during the regular laboratory hours.	PO6 & PO1
2)	LCD Projector and high-quality display systems	For practical Demonstrations during laboratory hours and interactive presentations to be delivered.	Regularly used	Better understanding of the concepts due to proper display.	PO1 & PO2
3)	MIC and Sound System in Computer	Ensure clear and effective communication between the instructor and students	Regularly used	Fulfills excellent communication during laboratory hours. Useful during group activity	PO5
4)	Battery Backup and UPS	ensure continuity of lab sessions without disruption.	Regularly used and during interrupted power supply	Avoids power failure, and uninterrupted access to the Computes and Internet.	PO7
5)	LAN connectivity	Allow all computers to be interconnected, facilitating seamless sharing of resources	All Computers are connected to LAN	Enhances the accessibility of the software resources and data storage.	PO3

		such as files, software, printers, and servers.			
6)	Ergonomic Seating	Provide a comfortable learning atmosphere	Regularly used	Comfortable seating arrangement makes learning better.	PO3
7)	Well-Ventilated Space	Allows for adequate circulation of fresh air, reducing heat, humidity, and accumulation of indoor pollutants generated by computer systems and continuous usage.	Regularly used	Creates better learning environment.	PO8
8)	Proper Lighting Systems	Balanced illumination prevents glare and reflections on monitors, allowing students to focus clearly on coding, design, and other practical tasks.	Regularly used	Improves the visibility of the study material displayed by the faculty members.	PO5
9)	Air-Conditioning	Air conditioning creates a comfortable atmosphere, especially during long lab hours and in warm climatic conditions. It reduces fatigue, improves concentration, and allows students to focus better on programming, problem-solving, and project work.	Regularly used	Maintains good temperature and humidity, which improves the concentration in learning.	PO7
10)	Extinguishers	Ensuring preparedness in case of fire-related emergencies. Given the presence of multiple electrical devices, wiring systems, and continuous power usage	Used in case of Emergency. However, regular audit and refilling are done.	Used in case of emergency as a fire fighting equipment.	PO5
11)	CCTV surveillance	Ensure safety, security, and effective monitoring of the lab environment. The installation of CCTV cameras helps to maintain discipline among students and promotes responsible usage of laboratory resources. It acts as a deterrent against unauthorized activities, misuse of systems, and potential security breaches.	24X 7 Recording available. Regularly used.	Improves the Students safety and avoids the unauthorized activities.	PO7
12)	Student official email system.	Students are assigned a unique institutional email ID, which serves as the primary mode of official correspondence between students, faculty members, and administrative departments.	Regularly used by students to communicate within university as well as to communicate officially.	To enhance effective Communication skills.	PO7 & PO8
13)	Server Storage Space	Accessibility of the Modern Tools and software.	Regularly used by the students.	High Availability of the data storage and modern tools.	PO4

The MCA department at Amity Institute of Information Technology (AIIT) has established a wide range of additional facilities in laboratories to enhance the overall quality of the teaching-learning experience. These facilities are designed to create a technology-enabled, safe, and student-friendly environment that supports effective practical learning and innovation. Laboratories are equipped with LCD projectors and sound systems, enabling faculty to demonstrate concepts, conduct live coding sessions, and deliver interactive presentations. The availability of high-speed Wi-Fi and LAN connectivity ensures seamless access to online resources, cloud platforms, virtual labs, and research databases, facilitating blended and digital learning.

To maintain a comfortable learning atmosphere, laboratories are provided with air conditioning systems, adequate ventilation, ceiling fans, and proper lighting arrangements, which help students focus during extended practical sessions. Ergonomically designed chairs, spacious workstations, and high-resolution monitors further enhance usability and reduce fatigue. Regular maintenance and cleanliness are ensured through dedicated housekeeping support, creating a hygienic and organized workspace. Power continuity is maintained through battery backup systems/UPS, preventing data loss and disruptions during lab sessions. From a safety and security perspective, laboratories are equipped with fire extinguishers, CCTV surveillance systems, and controlled access mechanisms to ensure the well-being of students and safeguard institutional resources. The presence of podiums and instructional setups aids faculty in delivering structured and engaging lab sessions.

Additional features such as window drapes/blinds help control glare and improve screen visibility, while cameras and recording facilities support hybrid learning and session documentation. These facilities are actively utilized during regular lab sessions, workshops, hackathons, and project work, significantly enhancing the effectiveness, engagement, and overall learning experience for MCA students. The continuous upgradation and optimal utilization of these resources reflect the department's commitment to quality education and student-centric learning.

6.5 Laboratories: Maintenance and Overall Ambiance (10)

Role of IT Team in Laboratory Maintenance

The IT team plays a crucial role in ensuring that all computer laboratories function efficiently. Regular system checks are conducted to verify the proper working of desktops, servers, networking devices, and installed software. Updates, antivirus scans, and troubleshooting activities are carried out periodically to maintain system security and performance. The team also ensures that all required academic software and tools are installed and updated in accordance with curriculum requirements.

Entry Register and Usage Monitoring

An entry register is maintained at each laboratory to record the details of students and faculty accessing the lab. This helps in tracking usage patterns, ensuring discipline, and maintaining accountability. It also supports lab scheduling and avoids overcrowding, thereby contributing to an organized academic environment.

Housekeeping and Cleanliness

The housekeeping staff is responsible for maintaining cleanliness and hygiene within the laboratories. Daily cleaning activities include dusting of desks, computers, and peripherals, as well as floor cleaning. Special care is taken to ensure that equipment is handled safely during cleaning. A clean environment not only enhances the aesthetic appeal but also ensures longevity and proper functioning of electronic equipment.

Electrical Maintenance and Lighting

Electricians regularly inspect and maintain electrical systems, including power supply units, wiring, and backup systems. Proper lighting is ensured through well-maintained fixtures, providing a comfortable and strain-free environment for students. Immediate attention is given to any electrical faults to avoid disruptions in academic activities.

Overall Ambiance and Learning Environment

The combined efforts of the IT team, housekeeping staff, and electricians create a well-maintained and conducive learning environment. Adequate ventilation, proper seating arrangements, and organized infrastructure contribute to a positive ambiance. This enhances student concentration, supports effective teaching-learning processes, and ensures a safe and comfortable laboratory experience.

CCTV Surveillance and Security Measures:

All laboratories are equipped with CCTV cameras to ensure continuous monitoring and prevent any unauthorized activities. The surveillance system helps in maintaining discipline, safeguarding equipment, and providing evidence in case of any mishap. In addition, security guards ensure that laboratories are properly locked when not in use, restricting unauthorized access and enhancing overall safety.

Fire Safety and Emergency Preparedness:

Fire safety is a critical component of laboratory protection. Fire extinguishers are strategically installed and regularly inspected to ensure readiness during emergencies. Electrical systems are maintained to prevent short circuits, and proper guidelines are displayed for handling emergency situations. Periodic checks and mock drills help in ensuring preparedness among staff and students.

Rules and Regulations for Equipment Usage:

Strict rules and regulations are defined and communicated to students to prevent misuse or damage to laboratory equipment such as computers, LAN systems, LCD projectors, and microphone systems. Students are instructed to handle all devices carefully, avoid unauthorized installations, and report any faults immediately. Any violation of rules is addressed seriously to maintain discipline and accountability.

Regular Monitoring and Infrastructure Audit:

The laboratories undergo regular monitoring and periodic audits to ensure that all infrastructure is functioning optimally. These audits include checking hardware, software, networking components, and safety equipment. Timely maintenance and upgrades are carried out based on audit findings, ensuring uninterrupted academic activities.

Role of Lab Assistant:

Lab assistants play a vital role in maintaining the laboratories. They oversee daily operations, assist students during practical sessions, ensure proper functioning of equipment, and coordinate with the IT team for troubleshooting. They also maintain records related to equipment usage and report any discrepancies.

Organized Facilities and Student Convenience:

Bag racks are provided within or near laboratories to encourage students to keep their belongings in a designated area, reducing clutter and preventing accidental damage to equipment. This promotes a neat and organized workspace.

Energy Conservation Practices:

Centralized electrical switches are used to manage power supply efficiently. After laboratory sessions, systems such as computers, projectors, and lights are switched off to conserve energy. This not only reduces electricity consumption but also enhances the lifespan of electronic devices. Overall, these combined measures ensure that the laboratory environment remains secure, well-regulated, and conducive to effective teaching and learning.

6.6 Project Laboratory (10)

Usefulness of Project Laboratory for MCA Students

The project laboratory serves as a vital platform for MCA students to apply theoretical knowledge into practical implementation. It provides a structured environment where students can work on academic projects, research activities, and innovative ideas using modern computing resources.

Students extensively use personal computers (PCs) in the laboratory for coding, testing, debugging, and executing their project work. The availability of updated software tools and development environments enables them to work on diverse domains such as web development, data analytics, artificial intelligence, and mobile applications.

The LAN connectivity ensures seamless data sharing among team members, allowing them to collaborate effectively on group projects. Through the LAN, students can access shared resources, transfer files, and work in a synchronized manner. In addition, high-speed internet access helps students explore online resources, research papers, documentation, and tutorials, which enhances the quality and innovation in their projects.

Fig. 6.3: Project Laboratory

The LCD projector and presentation systems are used by students to present their project ideas, progress, and final outcomes. This helps in improving their presentation and communication skills, which are essential for professional growth. The project laboratory also promotes teamwork and group activities. Students often work in teams, where they learn collaboration, task distribution, time management, and problem-solving skills. This collaborative environment simulates real-world industry practices.

Students utilize the lab for documentation work, including preparing Software Requirement Specification (SRS), System Analysis Reports (SAR), design documents, and final project reports. The availability of computing and printing facilities supports the creation of well-structured and professional documentation.

Moreover, the laboratory provides space and resources for developing prototypes of projects, enabling students to test their concepts and demonstrate working models. Overall, the project laboratory enhances technical proficiency, teamwork, and practical exposure, making students industry ready.

6.7 Safety Measures in Laboratories (5)

Table 6.7.1 Safety measures in Computer Laboratory

SN	Name of the Laboratory	Safety measures
1	A1-729 (Computer Center)	a) Electrical Safety

		b) Fire Safety Measures c) Ergonomic Arrangements d) Well-Ventilated Spaces And Air-Conditioning e) CCTV Surveillance f) Cleanliness And Maintenance g) Emergency Exits h) First-Aid Kits i) Safety Instructions
2	A1-728 (Computer Lab 1)	a) Electrical Safety b) Fire Safety Measures c) Ergonomic Arrangements d) Well-Ventilated Spaces And Air-Conditioning e) CCTV Surveillance f) Cleanliness And Maintenance g) Emergency Exits h) Safety Instructions i) First-Aid Kits
3	A1-727 (Computer Lab 2)	a) Electrical Safety b) Fire Safety Measures c) Ergonomic Arrangements d) Well-Ventilated Spaces and Air-Conditioning e) CCTV Surveillance f) Cleanliness And Maintenance g) Emergency Exits h) Safety Instructions i) First-Aid Kits
4	A1-308 (Project Lab)	a) Electrical Safety b) Fire Safety Measures c) Ergonomic Arrangements d) Well-Ventilated Spaces And Air-Conditioning e) CCTV Surveillance f) Cleanliness And Maintenance g) Emergency Exits h) Safety Instructions i) First-Aid Kits
5	Language Laboratory A2-108	a) Electrical Safety b) Fire Safety Measures c) Ergonomic Arrangements d) Well-Ventilated Spaces And Air-Conditioning e) CCTV Surveillance f) Cleanliness And Maintenance g) Emergency Exits h) Safety Instructions i) First-Aid Kits

Safety in computer laboratories is essential to ensure a secure, disciplined, and hazard-free learning environment for MCA students. Several measures are implemented to protect both individuals and equipment. Firstly, electrical safety is maintained through proper wiring, earthing, and the use of circuit breakers to prevent short circuits and power overloads. Equipment is regularly inspected to avoid faults. Fire safety measures, including the installation of fire extinguishers and adherence to emergency protocols, help in handling unexpected incidents effectively.

Ergonomic arrangements such as proper seating, monitor positioning, and adequate spacing between systems are ensured to prevent physical strain and promote comfort during long lab sessions. Well-ventilated spaces and air-conditioning help regulate temperature and maintain a

healthy environment.

CCTV surveillance is used to monitor activities, ensuring discipline and preventing misuse or damage to laboratory resources. Access to labs is controlled, allowing only authorized users to maintain security.

Additionally, cleanliness and maintenance are prioritized, with regular cleaning schedules to keep the lab hygienic and dust-free, which also protects equipment. Students are instructed to follow standard operating procedures, such as no food or drinks near systems and proper shutdown of computers after use.

Emergency exits, first-aid kits, and clear safety instructions further enhance preparedness. Overall, these safety measures create a secure and efficient environment, enabling students to focus on learning without risk or disruption.

CRITERION 7	Continuous Improvement	50

7 Continuous Improvement (50)

7.1 Improvement in the Quality of Students Admitted to the Program (10)

The quality of students admitted to the program has significantly improved through a structured and merit-based selection process. Admissions are primarily based on strong academic performance in graduation, ensuring a solid foundational background. The top-ranked admitted student has consistently secured above 90% marks in graduation, reflecting high academic standards. In addition, faculty members actively conduct personal interviews to assess candidates' knowledge of computer fundamentals, communication skills, and general aptitude. This comprehensive evaluation process helps in selecting competent and motivated students. As a result, the program attracts academically strong and industry-ready learners. The average percentage for the entry level degree was 78.68 for AY 2025, and 70.84 for AY 2024, and 79.83 for AY 2023.

Table 7.1. Improvement in quality of students admitted to program for past 3 years including CAY

Item		CAY (2025-26)	CAY*m1* (2024-25)	CAY*m2* (2023-24)
National Level Entrance Examination (Name of the Entrance Examination)	No. of students admitted	N/A	N/A	N/A
	Opening score/rank	N/A	N/A	N/A
	Closing score/rank	N/A	N/A	N/A
State/University level Entrance Examination/Others (Name of the Entrance Examination)	No. of students admitted	N/A	N/A	N/A
	Opening score/rank	N/A	N/A	N/A
	Closing score/rank	N/A	N/A	N/A
Average percentage of marks of all admitted students in entry level degree		78.68	70.84	79.83
Merit based on Graduation Marks	No. of students admitted	53	42	55
	Opening score/rank	96.85	94	96.33
	Closing score/rank	55.46	41.97	55.31

7.2 Improvement in Success Index of Students Without Backlogs (10)

The success rate of students without backlogs has shown a consistent and commendable improvement over the last three years, with values recorded at 0.89, 1, and 1 respectively. This trend reflects the academic strength and effective learning outcomes achieved by the students. Statistically, the performance indicates that almost all students have successfully cleared their courses without any backlogs in recent years.

Table 7.2. Improvement in success index of students without backlog for past 3 years.

Items	LYG	LYG*m1*	LYG*m2*
Success index (from 4.2.1)	0.89	1.0	1.0

This improvement can be attributed to a well-structured quality evaluation framework adopted by the

program. The question papers are designed in alignment with Bloom's Taxonomy, ensuring a balanced assessment of knowledge, understanding, application, and higher-order thinking skills. Additionally, a robust moderation process is followed to maintain fairness, consistency, and appropriate difficulty levels in examinations.

Continuous evaluation methods such as assignments, quizzes, presentations, and practical assessments further support student learning and performance tracking. These methods encourage regular study habits and provide timely feedback for improvement. Overall, the consistently high success index demonstrates the effectiveness of the teaching-learning and evaluation processes, indicating a strong academic ecosystem and sustained student achievement.

7.3 Improvement in Placement including Entrepreneurs and Higher Studies (10)

The MCA program has demonstrated consistent performance in student placements over the past three academic years, reflecting strong industry linkage and employability of graduates. The average placement package stood at 6.3 LPA for the 2023 batch, followed by 5.8 LPA in 2024, and 5.12 LPA for the 2025 batch. While there is a slight variation in the average salary offered, the overall placement ecosystem remains robust, with a steady increase in the number and diversity of recruiters. A wide spectrum of reputed companies participated in the placement process, including leading organizations such as Capgemini Technology Services India Limited, Tech Mahindra Ltd., Jio, Axis Bank, Amazon, and BNP Paribas India Solution Pvt. Ltd. In addition, several emerging startups and technology firms such as Glow Logic Solutions, LaunchED Global, Acmegrade, and TEACHNOOK have actively recruited students, enhancing opportunities across domains.

Table 7.3. Improvement in placement including entrepreneurs and higher studies for past 3 years

Items	LYG	LYG*m*1	LYG*m2*
Placement index (from 4.5)	0.9636	0.9574	1

The presence of diverse recruiters from IT services, consulting, banking, analytics, edtech, and product-based companies indicates the multidisciplinary skill set of MCA students. Furthermore, consistent participation from companies like Resonacle, LearnFlu Edutech, and Value Score Business Solution LLP reflects strong institutional collaboration and trust. Overall, the placement trend highlights not only stable salary outcomes but also significant improvement in the breadth of recruiters, job roles, and industry exposure.

7.4 Improvement in Faculty Qualification, Publications, Sponsored Research Projects and Consultancy Work (10)

Faculty Publications

Assessment of research performance in the MCA program at Amity Institute of Information Technology is comprehensively based on faculty publications, sponsored research projects, filing of the intellectual property rights. and the outcomes generated from these activities. This multidimensional approach ensures that both academic excellence and industry relevance are effectively evaluated.

Table 5 Faculty publications details for the past 3 years.

Item	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
No. of quality journal papers published	17	13	12
No. of quality conference papers published	05	02	02
No. of books/book's chapters published	06	02	05
No. of citations	137	138	66
No. of awards (best paper, best researcher, young scientist, etc (related to academic research))	03	00	01
Any others (IPRs)	01	09	02

The faculty members have published research papers, book chapters, conference papers in Scopus, Web of Science and peer reviews journals. The faculty members of the MCA department actively engage in comprehensive efforts to promote research, innovation, and intellectual property creation. They consistently work towards identifying relevant research problems and preparing high-quality project proposals for submission to various funding agencies. These initiatives aim to secure financial support for advancing research in emerging areas of technology and computing.

In addition, faculty members encourage innovation by developing novel solutions and translating them into intellectual property assets. They actively participate in filing patents, registering designs, and securing copyrights for their original work, thereby contributing to the institution's research ecosystem. These sustained efforts not only strengthen the research culture within the department but also motivate students to engage in innovative thinking. Overall, the proactive approach of the faculty enhances academic excellence, industry relevance, and the institution's reputation in research and innovation.

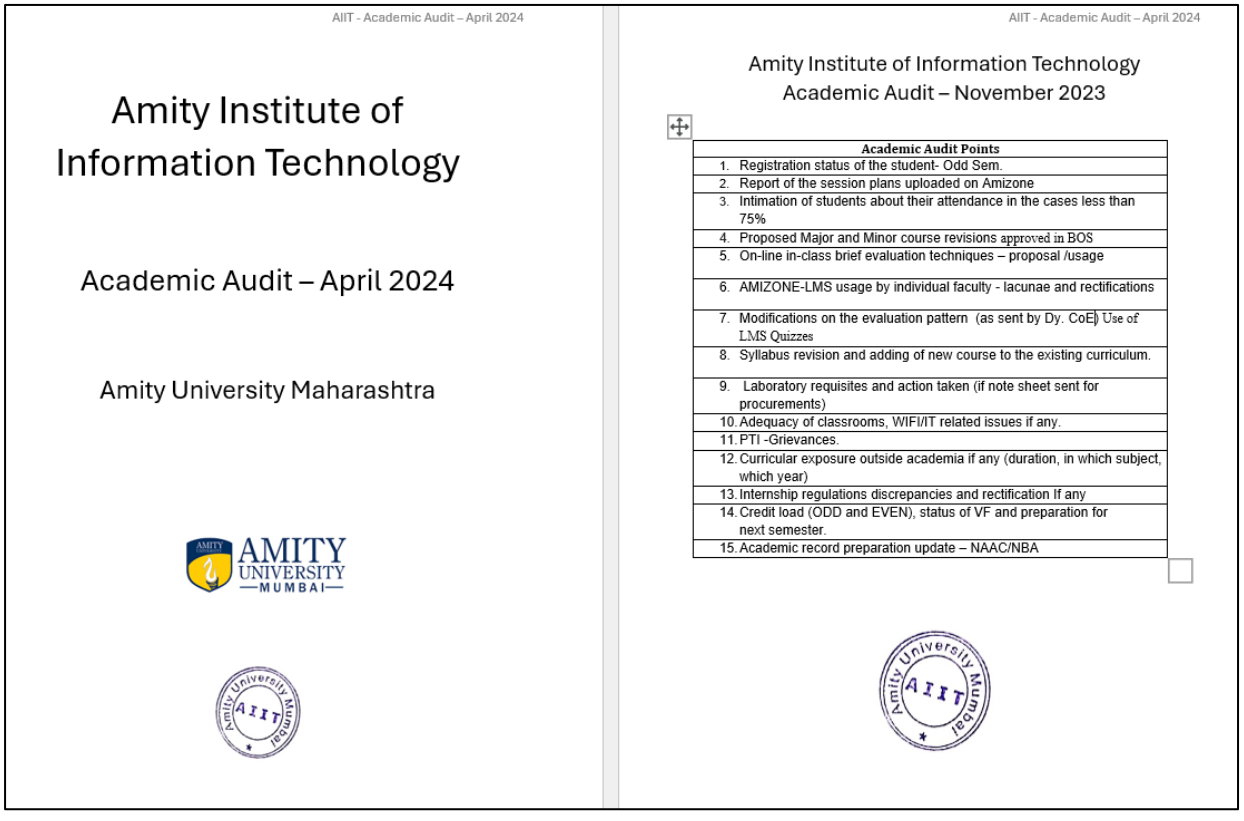
The faculty members at MCA department have also demonstrated good research performance through publications in reputed national and international journals, conferences, and indexed databases. Their collective efforts contribute to enhancing the academic reputation and research culture of the institute.

Table: 7.4 Details of Funded Research Project

Project Title	Digital Forensics Practices and Reforms in IT Legal Regime
Sanction Amount	8 Lakh
Date of Sanction	8-August-2022 and completed 15/10/2025.
Principal Investigator	Prof. (Dr.) Manoj Devare
Reference No.	RP/11/2022
Funding Agency	West Bengal University of Juridical Sciences (WBNUJS). Dr. Ambedkar Bhavan, 12, LB Block, Sector-III, Salt Lake City, Kolkata- 700106 (India). Funding from the Indian Council for Social Sciences Research (ICSSR).
Outcome of The Funded Project	The research project report is submitted to the funding agency and then further publication of the book.

7.5 Academic Audit and Actions Taken thereof during the Assessment Period (5)

Every semester an academic audit is conducted considering the session plan uploading, quality of question paper for mid semester and end semester. The careful audit performed by dean academics for the course outcomes are mapped to Bloom's Taxonomy or not. The use of the Learning Management System (LMS) is done to see whether the learning material and the continuous evaluation are done or not. The audit also sees that the student attendance emails are sent to the parents and initiated about the students' performance in the academics. It also covers the monitoring of the additional expert lectures from the industry and academicians. During the academic audit, it is also reviewed that, the quality of the projects undertaken by the students are having an fruitful outcomes in the form of software products, or research results.



AIIT - Academic Audit – April 2024

Amity Institute of Information Technology

Academic Audit – April 2024

Amity University Maharashtra

AMITY UNIVERSITY MUMBAI

AIIT - Academic Audit – April 2024

Amity Institute of Information Technology
Academic Audit – November 2023

Academic Audit Points
1. Registration status of the student- Odd Sem.
2. Report of the session plans uploaded on Amizone
3. Intimation of students about their attendance in the cases less than 75%
4. Proposed Major and Minor course revisions approved in BOS
5. On-line in-class brief evaluation techniques – proposal /usage
6. AMIZONE-LMS usage by individual faculty - lacunae and rectifications
7. Modifications on the evaluation pattern (as sent by Dy. CoE) Use of LMS Quizzes
8. Syllabus revision and adding of new course to the existing curriculum.
9. Laboratory requisites and action taken (if note sheet sent for procurements)
10. Adequacy of classrooms, WIFI/IT related issues if any.
11. PTI -Grievances.
12. Curricular exposure outside academia if any (duration, in which subject, which year)
13. Internship regulations discrepancies and rectification If any
14. Credit load (ODD and EVEN), status of VF and preparation for next semester.
15. Academic record preparation update – NAAC/NBA

Fig. 7.1 Sample Academic Audit Report Copy April 2024

Table 7.5 Action Taken Report of April 2024 Academic Audit.

AIIT - Academic Audit – April 2024

Action Taken Report of April 2024 Academic Audit

Audit Points	Action Taken
The improvement in the LMS utilization by the Faculty	The LMS is fully utilized by the AIIT faculty members. The assignments, quizzes, study materials are uploaded by the faculty members.
Effective CO-PO Mapping and Quality Question Paper Preparation	The Course Outcomes and Program Outcomes mapping is done during the question paper preparation. The Bloom's taxonomy is used to effectively evaluate the students' performance.
Wi-fi is not working properly at the classrooms.	Communicated with IT Support staff for improvement in the speed of Internet.
CRC Support Required for Summer Internship.	Meeting conducted with CRC Team for MCA Summer internship Opportunities.

Amity University Mumbai AIIT

7.6 Actions Taken based on the Results of Evaluation of Each of the POs (5)

The analysis of Program Outcomes (POs) attainment levels highlights certain areas of weakness, particularly in domains such as problem analysis, modern tool usage, and effective communication skills. These gaps are identified through continuous assessment data, student performance records, and feedback mechanisms. In response, corrective measures have been planned and implemented across assessment years.

To improve PO attainment, targeted initiatives such as group activities, collaborative learning sessions, and hands-on workshops are regularly organized. These activities encourage peer learning, critical thinking, and practical application of concepts. Additionally, special sessions delivered by faculty members focus on strengthening conceptual understanding and bridging knowledge gaps in identified weak areas.

Remedial classes, mentoring, and interactive classroom practices have also been introduced to support slow learners. Continuous monitoring and periodic evaluation ensure that these measures contribute effectively toward enhancing overall PO attainment levels and improving the quality of the program outcomes.

Table 7.6. POs attainment and actions taken for improvement– CAYm1 (Batch 2023-25)

POs	Target Level	Attainment Level	Observations
PO1 (Foundation Knowledge): Apply knowledge of mathematics, programming logic and coding fundamentals for solution architecture and problem solving.			

PO1	2.60	2.64	Target is achieved.
Action 1: To maintain the student performance in programming and logic, the more logical questions are in the question paper are maintained in the programming courses like Java programming, and Python Programming.			
PO2 (Problem Analysis): Identify, review, formulate and analyze problems primarily focusing on customer requirements using critical thinking frameworks.			
PO2	2.6	2.58	Target is almost achieved, with gap of -0.02.
Action 1: Group activity on Customer Requirements gathering and interpretation is arranged.			
PO3 (Development of Solutions): Design, develop and investigate problems with an innovative approach for solutions incorporating ESG/SDG goals.			
PO3	2.6	2.58	Target is almost achieved, with gap of -0.02.
Action 1: Session arranged to improve the awareness among the students about the Sustainable Development Goals.			
PO4 (Modern Tool Usage): Select, adapt and apply modern computational tools such as development of algorithms with an understanding of the limitations including human biases.			
PO4	2.6	2.58	Target is almost achieved, with gap of -0.02.
Action 1: A session on the effective use of Generative AI Tool is arranged.			
PO5 (Individual and Teamwork): Function and communicate effectively as an individual or a team leader in diverse and multidisciplinary groups. Use methodologies such as agile.			
PO5	2.6	2.52	The gap of 0.08 is Observed
Action 1: The group activity on poker method of the consensus-based estimation technique Conducted. **Action 2:** A activity on the use of Scrum Agile methodology is organized.			
PO6 (Project Management and Finance): Use the principles of project management such as scheduling, work breakdown structure and be conversant with the principles of Finance for profitable project management			
PO6	2.6	2.4	The gap of -0.2 is Observed
Action 1: A case study on the work-break down structure and effect on the cost of project is conducted.			
PO7 (Ethics): Commit to professional ethics in managing software projects with financial aspects. Learn to use new technologies for cyber security and insulate customers from malware.			
PO7	2.6	2.32	The gap of -0.28 is Observed
Action 1: A group discussion on workplace ethics, effective utilization of the organizational resources is arranged. **Action 2:** A student group activity on network and system security is organized.			
PO8 (Life-long learning): Change management skills and the ability to learn, keep up with contemporary technologies and ways of working.			
	2.6	2.37	The gap of -0.23 is Observed
Action 1: A session on the use of Amizone (ERP System) E-Library to access IEEE Xplore published papers is arranged.			

Table No. 7.7. POs attainment and actions taken for improvement– CAYm2 (Batch 2022-24)

POs	Target Level	Attainment Level	Observations
PO1 (Foundation Knowledge): Apply knowledge of mathematics, programming logic and coding fundamentals for solution architecture and problem solving.			
PO1	2.50	2.58	The target is achieved.
Action 1: More Questions on Aptitude are given in "Mathematical Aptitude" course in continuous evaluation.			

PO2 (Problem Analysis): Identify, review, formulate and analyze problems primarily focusing on customer requirements using critical thinking frameworks.

PO2	2.5	2.53	The target is achieved.

Action 1: To maintain the quality a data flow diagram (DFD) drawing assignments are given to the students

PO3 (Development of Solutions): Design, develop and investigate problems with an innovative approach for solutions incorporating ESG/SDG goals.

PO3	2.5	2.52	The target is achieved.

Action 1: A case study to calculate carbon emission under scope-1 and scope-2 is arranged.

PO4 (Modern Tool Usage): Select, adapt and apply modern computational tools such as development of algorithms with an understanding of the limitations including human biases.

PO4	2.5	2.47	The difference of -0.03 is Observed

Action 1: A practical hands-on session arranged on the use of Version Controlling Tools.

PO5 (Individual and Teamwork): Function and communicate effectively as an individual or a team leader in diverse and multidisciplinary groups. Use methodologies such as agile.

PO5	2.5	2.53	The Target is achieved.

Action 1: IEEE Format for Software Requirement Specification is shared with students.

PO6 (Project Management and Finance): Use the principles of project management such as scheduling, work breakdown structure and be conversant with the principles of Finance for profitable project management.

PO6	2.5	2.46	The gap of -0.04 is Observed

Action 1: A Flip class activity on the COCOMO cost estimation model is organized.

PO7 (Ethics): Commit to professional ethics in managing software projects with financial aspects. Learn to use new technologies for cyber security and insulate customers from malware.

PO7	2.5	2.35	The gap of -0.15 is Observed

Action 1: A collaborative group discussion on the social engineering tricks used by the attacker is organized.

PO8 (Life-long learning): Change management skills and the ability to learn, keep up with contemporary technologies and ways of working.

PO8	2.5	2.35	The gap of -0.15 is Observed

Action 1: A Session on the effective use of the remix studio to write solidity contracts is arranged.

Table No. 7.8. POs attainment and actions taken for improvement– CAYm3 (Batch 2021-23)

POs	Target Level	Attainment Level	Observations
PO1 (Foundation Knowledge): Apply knowledge of mathematics, programming logic and coding fundamentals for solution architecture and problem solving.			
PO1	2.4	2.42	Target is achieved.
Action 1: The question on the higher order BL level on covering the mathematical equation in to the programming logic are included.			
PO2 (Problem Analysis): Identify, review, formulate and analyze problems for primarily focusing on customer requirements using critical thinking frameworks.			
PO2	2.4	2.44	Target is achieved.
Action 1: No action.			
PO3 (Development of Solutions): Design, develop and investigate problems with ~~as~~ an innovative approach for solutions incorporating ESG/SDG goals.			
PO3	2.4	2.45	Target is achieved.
Action 1: Awareness about the University's commitment on various SDG is discussed in the session.			
PO4 (Modern Tool Usage): Select, adapt and apply modern computational tools such as development of algorithms with an understanding of the limitations including human biases.			
PO4	2.4	2.41	Target is achieved.
Action 1: Target achieved. No action.			
PO5 (Individual and Teamwork): Function and communicate effectively as an individual or a team leader in diverse and multidisciplinary groups. Use methodologies such as agile.			
PO5	2.4	2.37	The gap of -0.03 is Observed.
Action 1: A group activity on the Sprint planning in the Scrum Agile framework is arranged.			
PO6 (Project Management and Finance): Use the principles of project management such as scheduling, work breakdown structure and be conversant with the principles of Finance for profitable project management.			
PO6	2.4	2.38	The difference of -0.02 is Observed.
Action 1: A session on the comparison of the line of code in the different programming languages, its impact on the software cost estimation is arranged as a co-operative learning activity.			
PO7 (Ethics): Commit to professional ethics in managing software projects with financial aspects. Learn to use new technologies for cyber security and insulate customers from malware			
PO7	2.4	2.28	The gap of -0.12 is Observed.
Action 1: A flip class activity on the recent ransomware attacks and Information Technology Act is conducted.			
PO8 (Life-long learning): Change management skills and the ability to learn, keep up with contemporary technologies and ways of working.			
PO8	2.4	2.37	The gap of -0.03 is Observed.
Action 1: A session on adaptation to new technologies on AI, and Cloud Computing are arranged.			

CRITERION 8	Student Support Systems	80

8 Student Support Systems (80)

8.1 Mentoring System to Help at Individual Levels (5)

Mentor Mentee System

The Mentor–Mentee system at AIIT has been thoughtfully established with the objective of providing holistic support and comprehensive care to students enrolled in the MCA program. Recognizing that each student has unique academic needs, career aspirations, and personal challenges, the committee ensures that every student is assigned a dedicated faculty mentor who serves as a constant guide and support system throughout their academic journey.

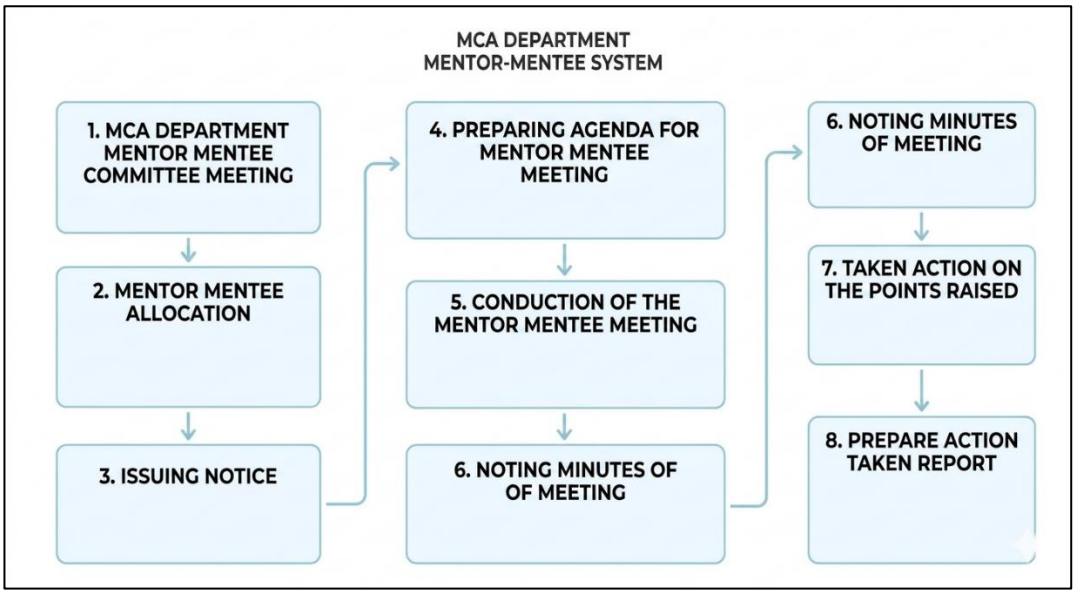
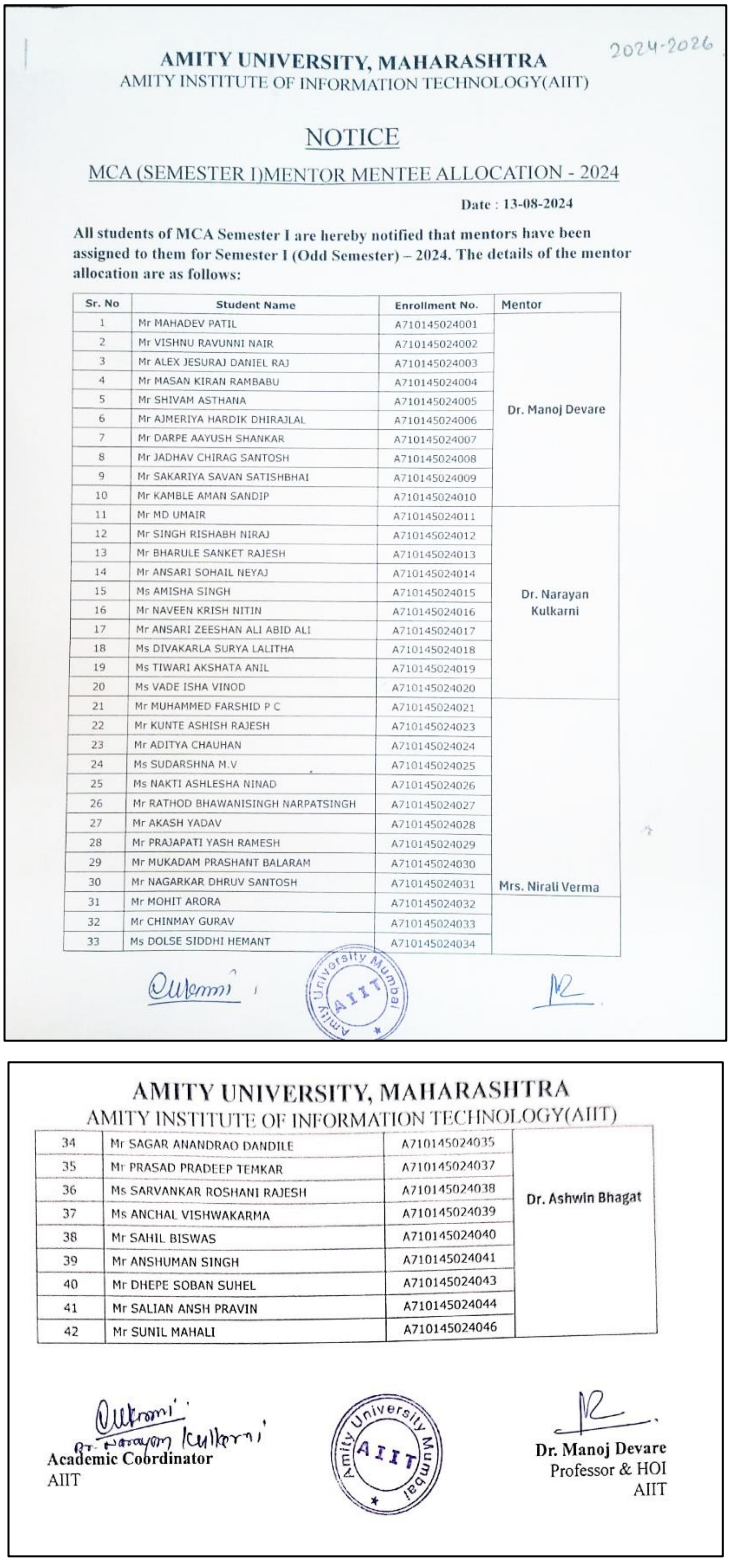


Fig. 8.1 Flow Diagram for Mentor Mentee System at MCA

Each mentor is responsible for conducting structured monthly interactions with their assigned mentees. These meetings are designed to go beyond routine academic monitoring and include meaningful discussions on academic performance, subject-specific difficulties, project guidance, skill development, and career planning. In addition, mentors actively address concerns related to campus life, including social adjustment, time management, stress management, and participation in co-curricular and extracurricular activities. Where necessary, mentors also provide early identification of issues and recommend appropriate interventions, including referrals to specialized support services.

The system emphasizes continuous monitoring and documentation of student progress, enabling mentors to track improvements, identify patterns, and provide timely, data-driven guidance. This personalized mentoring approach helps in setting clear academic and career goals for students, motivating them to achieve their full potential while also building confidence and resilience.
Furthermore, the Mentor–Mentee Committee fosters a culture of trust, open communication, and

mutual respect, encouraging students to freely share their concerns and aspirations. Regular feedback is also collected from both mentors and mentees to enhance the effectiveness of the system and ensure continuous improvement.



AMITY UNIVERSITY, MAHARASHTRA
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2024-2026

NOTICE

MCA (SEMESTER I)MENTOR MENTEE ALLOCATION - 2024

Date : 13-08-2024

All students of MCA Semester I are hereby notified that mentors have been assigned to them for Semester I (Odd Semester) – 2024. The details of the mentor allocation are as follows:

Sr. No	Student Name	Enrollment No.	Mentor
1	Mr MAHADEV PATIL	A710145024001	Dr. Manoj Devare
2	Mr VISHNU RAVUNNI NAIR	A710145024002	
3	Mr ALEX JESURAJ DANIEL RAJ	A710145024003	
4	Mr MASAN KIRAN RAMBABU	A710145024004	
5	Mr SHIVAM ASTHANA	A710145024005	
6	Mr AJMERIYA HARDIK DHIRAJLAL	A710145024006	
7	Mr DARPE AAYUSH SHANKAR	A710145024007	
8	Mr JADHAV CHIRAG SANTOSH	A710145024008	
9	Mr SAKARIYA SAVAN SATISHBHAI	A710145024009	
10	Mr KAMBLE AMAN SANDIP	A710145024010	
11	Mr MD UMAIR	A710145024011	Dr. Narayan Kulkarni
12	Mr SINGH RISHABH NIRAJ	A710145024012	
13	Mr BHARULE SANKET RAJESH	A710145024013	
14	Mr ANSARI SOHAIL NEYAJ	A710145024014	
15	Ms AMISHA SINGH	A710145024015	
16	Mr NAVEEN KRISH NITIN	A710145024016	
17	Mr ANSARI ZEESHAN ALI ABID ALI	A710145024017	
18	Ms DIVAKARLA SURYA LALITHA	A710145024018	
19	Ms TIWARI AKSHATA ANIL	A710145024019	
20	Ms VADE ISHA VINOD	A710145024020	
21	Mr MUHAMMED FARSHID P C	A710145024021	Mrs. Nirali Verma
22	Mr KUNTE ASHISH RAJESH	A710145024023	
23	Mr ADITYA CHAUHAN	A710145024024	
24	Ms SUDARSHNA M.V	A710145024025	
25	Ms NAKTI ASHLESHA NINAD	A710145024026	
26	Mr RATHOD BHAWANISINGH NARPATSINGH	A710145024027	
27	Mr AKASH YADAV	A710145024028	
28	Mr PRAJAPATI YASH RAMESH	A710145024029	
29	Mr MUKADAM PRASHANT BALARAM	A710145024030	
30	Mr NAGARKAR DHRUV SANTOSH	A710145024031	
31	Mr MOHIT ARORA	A710145024032	
32	Mr CHINMAY GURAV	A710145024033	
33	Ms DOLSE SIDDHI HEMANT	A710145024034	

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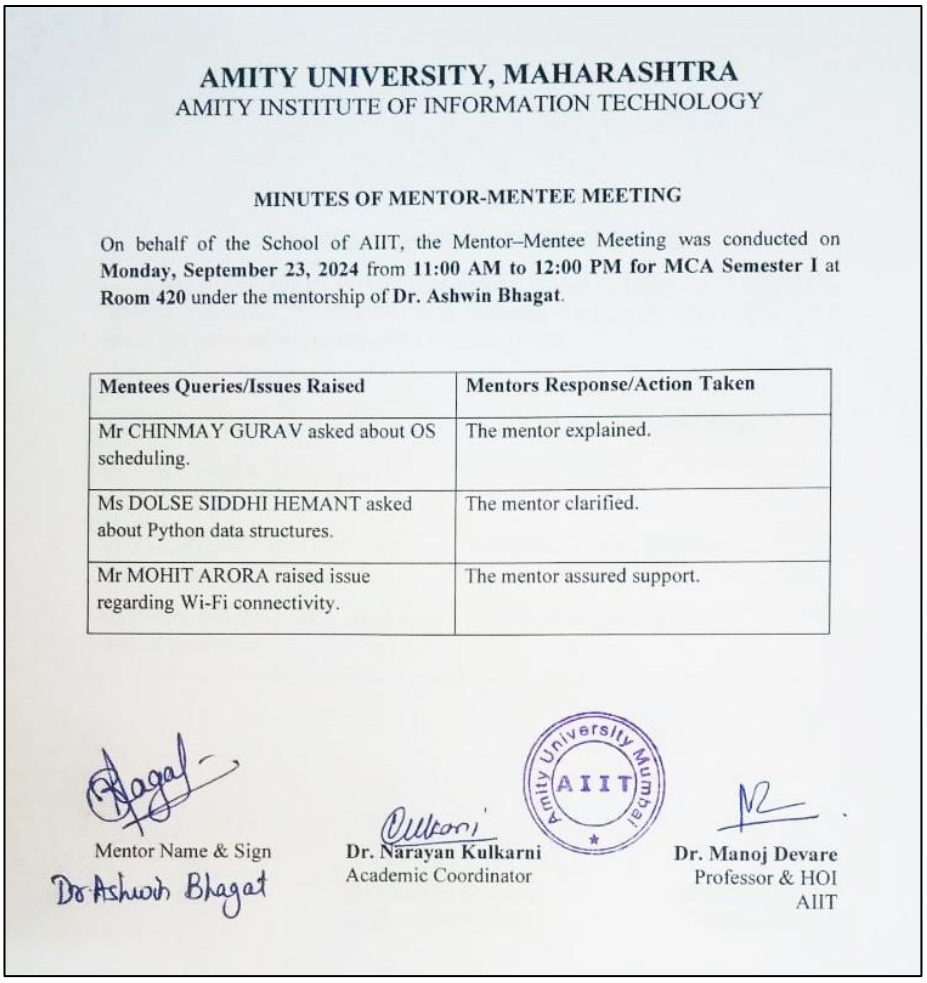
34	Mr SAGAR ANANDRAO DANDILE	A710145024035	Dr. Ashwin Bhagat
35	Mr PRASAD PRADEEP TEMKAR	A710145024037	
36	Ms SARVANKAR ROSHANI RAJESH	A710145024038	
37	Ms ANCHAL VISHWAKARMA	A710145024039	
38	Mr SAHIL BISWAS	A710145024040	
39	Mr ANSHUMAN SINGH	A710145024041	
40	Mr DHEPE SOBAN SUHEL	A710145024043	
41	Mr SALIAN ANSH PRAVIN	A710145024044	
42	Mr SUNIL MAHALI	A710145024046	

Dr. Narayan Kulkarni
Academic Coordinator
AIIT

Dr. Manoj Devare
Professor & HOI
AIIT

Fig. 8.1 : Mentor Mentee Allocation in August 2024.



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MINUTES OF MENTOR-MENTEE MEETING

On behalf of the School of AIIT, the Mentor–Mentee Meeting was conducted on **Monday, September 23, 2024** from **11:00 AM to 12:00 PM for MCA Semester I** at **Room 420** under the mentorship of **Dr. Ashwin Bhagat**.

Mentees Queries/Issues Raised	Mentors Response/Action Taken
Mr CHINMAY GURAV asked about OS scheduling.	The mentor explained.
Ms DOLSE SIDDHI HEMANT asked about Python data structures.	The mentor clarified.
Mr MOHIT ARORA raised issue regarding Wi-Fi connectivity.	The mentor assured support.

Mentor Name & Sign
Dr Ashwin Bhagat

Dr. Narayan Kulkarni
Academic Coordinator

Amity University Mumbai AIIT

Dr. Manoj Devare
Professor & HOI
AIIT

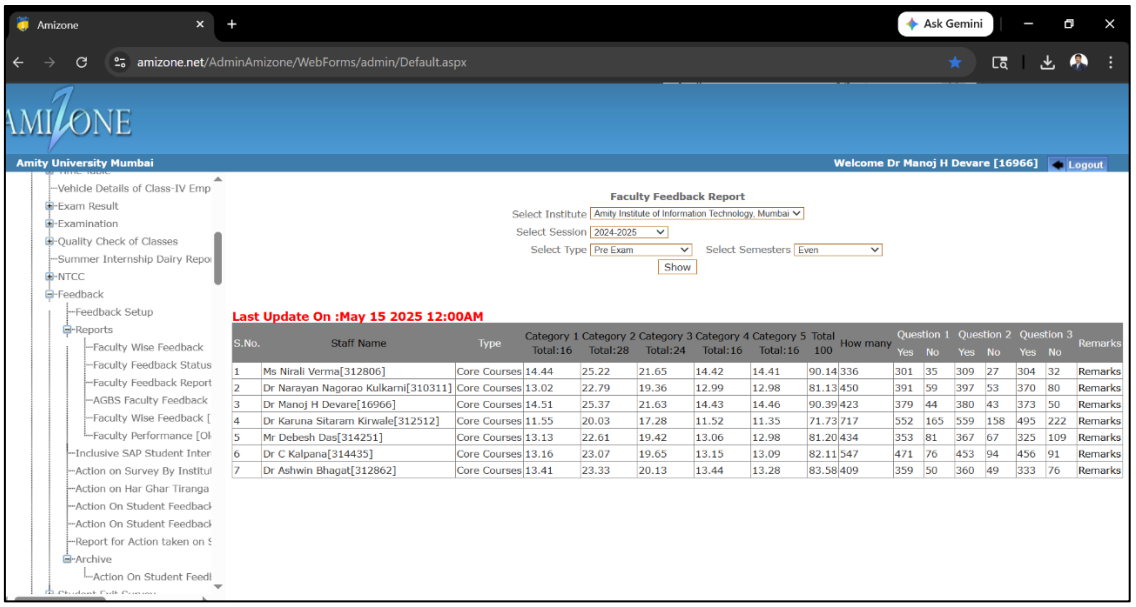
Fig. 8.2 Minutes of Mentor Mentee Meeting and Action Taken Report

Efficacy of the Mentor Mentee System

By adopting a proactive and student-centric approach, the Mentor–Mentee System at MCA program play a pivotal role in enhancing student engagement, reducing academic and personal challenges, and strengthening mentor–mentee relationships. Ultimately, this structured support mechanism contributes significantly to the overall well-being, academic success, and professional readiness of students in the MCA program at AIIT.

8.2 Feedback Analysis and Reward /Corrective Measures, if any (10)

For the MCA program at AIIT, Amity University Mumbai, a well-structured and comprehensive feedback mechanism has been designed and implemented to ensure continuous improvement in teaching–learning processes and attainment of Program Outcomes (POs).



S.No.	Staff Name	Type	Category 1 Total:16	Category 2 Total:28	Category 3 Total:24	Category 4 Total:16	Category 5 Total:16	Total 100	How many	Question 1 Yes	Question 1 No	Question 2 Yes	Question 2 No	Question 3 Yes	Question 3 No	Remarks
1	Ms Nirali Verma[312806]	Core Courses	14.44	25.22	21.65	14.42	14.41	90.14	336	301	35	309	27	304	32	Remarks
2	Dr Narayan Nagorao Kulkarni[310311]	Core Courses	13.02	22.79	19.36	12.99	12.98	81.13	450	391	59	397	53	370	80	Remarks
3	Dr Manoj H Devare[16966]	Core Courses	14.51	25.37	21.63	14.43	14.46	90.39	423	379	44	380	43	373	50	Remarks
4	Dr Karuna Sitaram Kirwale[312512]	Core Courses	11.55	20.03	17.28	11.52	11.35	71.73	717	552	165	559	158	495	222	Remarks
5	Mr Debesh Das[314251]	Core Courses	13.13	22.61	19.42	13.06	12.98	81.20	434	353	81	367	67	325	109	Remarks
6	Dr C Kalpana[314435]	Core Courses	13.16	23.07	19.65	13.15	13.09	82.11	547	471	76	453	94	456	91	Remarks
7	Dr Ashwin Bhagat[312862]	Core Courses	13.41	23.33	20.13	13.44	13.28	83.58	409	359	50	360	49	333	76	Remarks

Fig. 8.3:Faculty Feedback Record on Amizone.

The institution has developed an effective and scientifically designed feedback questionnaire that captures multiple dimensions of the teaching–learning experience. The questionnaire includes parameters such as clarity of concepts, subject knowledge of faculty, teaching methodology, use of ICT tools, industry relevance of content, engagement level in the classroom, assessment transparency, and support provided for skill and career development. The design of the questionnaire aligns with outcome-based education principles, ensuring that the feedback directly contributes to evaluating the attainment of course outcomes (COs) and Program Outcomes (POs).

The feedback mechanism is robust and fully operational, and feedback is collected for all courses offered in the MCA program. The process is conducted through an online feedback system at the end of each semester, ensuring transparency, confidentiality, and ease of participation. On average, a 100% participation rate consistently achieved, which ensures that the feedback data is reliable, representative, and meaningful for analysis.

The collected feedback is systematically analysed at multiple levels, including course coordinators, program heads, and institutional academic committees. Quantitative data is evaluated using statistical measures, while qualitative feedback is carefully reviewed to identify specific strengths and areas for improvement. The analysis results are documented and discussed in departmental meetings and academic review forums.

Based on the feedback analysis, both faculty appraisal mechanisms and corrective measures are implemented. Faculty members receiving feedback scores are recognized through appreciation, incentives, and consideration in performance appraisals. On the other hand, constructive corrective actions are taken for areas needing improvement, such as conducting faculty development programs (FDPs), mentoring by senior faculty, revising teaching

strategies, enhancing use of technology, and updating course delivery methods.

Over the last three years, several corrective actions have been undertaken based on feedback analysis. These include revision of course content to align with industry requirements, increased use of experiential learning methods such as case studies and project-based learning, improved assessment strategies, and enhanced student support systems. The corrective measures have been implemented during this period, demonstrating the institution's commitment to continuous quality enhancement.

Overall, the feedback mechanism at AIIT for the MCA program is highly effective, participative, and outcome driven. It not only evaluates teaching quality comprehensively but also ensures continuous improvement, thereby contributing significantly to achieving the desired levels of Program Outcomes and maintaining high academic standards.

8.3 Feedback on Facilities (5)

Library Facilities:
The MCA program at AIIT, Amity University Mumbai, maintains a well-established feedback mechanism to continuously enhance library resources and services. Feedback is systematically collected from students at the end of each semester, covering aspects such as availability of textbooks, access to digital resources, journal subscriptions, study environment, and library staff support. The library and administration team plays a crucial role in coordinating the feedback collection process, ensuring maximum student participation and transparency. The collected feedback is thoroughly analysed to identify gaps, such as the need for additional reference books, updated editions, or extended digital access. Based on this analysis, corrective actions are promptly implemented, including procurement of new titles, subscription to reputed e-journals, and improvement in seating and study infrastructure. Regular monitoring by the administration ensures that the corrective measures are effectively executed. This proactive approach has significantly improved student satisfaction and supports academic and research activities in the MCA program.

Computing Facilities:
AIIT ensures state-of-the-art computing facilities for MCA students, and a structured feedback system is in place to assess their effectiveness. Students provide feedback on parameters such as system performance, availability of required software, internet speed, lab accessibility, and technical support. The IT team actively oversees the feedback collection process and collaborates with IT staff for detailed analysis. Based on the insights obtained, timely corrective actions are taken, such as upgrading hardware configurations, installing updated software tools, enhancing cybersecurity measures, and improving Wi-Fi connectivity across labs. Regular maintenance schedules and quick resolution of technical issues are also ensured. The involvement of the administration team guarantees that feedback is not only collected efficiently but also translated into actionable improvements. This continuous enhancement of computing facilities enables students to perform programming, research, and project work effectively, aligning with industry standards.

Canteen Facilities:
The institution has established an effective feedback mechanism to evaluate and improve canteen services for MCA students. Feedback is collected periodically on aspects such as food quality,

hygiene, pricing, variety, and service efficiency. The administration team is directly involved in gathering this feedback and ensuring that student concerns are addressed promptly. The feedback is analysed to identify recurring issues or areas requiring improvement. Based on this analysis, corrective measures are implemented, including improving food quality standards, maintaining strict hygiene protocols, introducing healthier menu options, and ensuring fair pricing. Regular inspections and vendor evaluations are conducted by the administration team to maintain consistency in service quality. This structured approach has led to a positive dining experience for students, contributing to their overall well-being and satisfaction on campus.

Sports Facilities:

AIIT promotes holistic development through well-maintained sports facilities, and feedback from MCA students plays a vital role in their continuous improvement. Students provide feedback on the availability, maintenance, and accessibility of indoor and outdoor sports infrastructure. The administration team actively manages the feedback collection process and ensures that it reflects genuine student experiences. Detailed analysis of the feedback helps in identifying requirements such as additional equipment, improved maintenance, or scheduling of sports activities. Corrective actions include upgrading sports equipment, enhancing facility maintenance, organizing regular sports events, and ensuring better access for students. The administration team closely monitors the implementation of these improvements to maintain high standards. This continuous feedback-driven enhancement encourages student participation in sports, supporting physical fitness, teamwork, and overall personality development. The badminton court, Law Tennis ground, and football ground is available on campus for the student sports activities. University organizes the annual sports event Sangathan for the student’s participation in odd semester every year.

AMITY UNIVERSITY MUMBAI

Established vide Maharashtra Act No.13 of 2014, of Government of Maharashtra, and recognized under Section 2 (f) of UGC Act 1956

AMITY INSTITUTE OF INFORMATION TECHNOLOGY

FEEDBACK FORM ON ACADEMIC FACILITIES

Instructions: Please indicate your level of satisfaction for each facility.

Rating Scale: 5 — Excellent | 4 — Very Good | 3 — Good | 2 — Average | 1 — Poor

Academic Year: ---------- Program: ----------

Department: ---------- Year/Semester: ----------

A. Classroom Facilities

Sr. No.	Parameter	5	4	3	2	1
1	Adequacy of classroom space	☐	☐	☐	☐	☐
2	Seating arrangement & comfort	☐	☐	☐	☐	☐
3	Lighting & ventilation	☐	☐	☐	☐	☐
4	Audio-visual facilities (Projector/Smart board)	☐	☐	☐	☐	☐
5	Cleanliness of classrooms	☐	☐	☐	☐	☐

B. Laboratory Facilities

Sr. No.	Parameter	5	4	3	2	1
1	Availability of laboratory equipment	☐	☐	☐	☐	☐
2	Condition & maintenance of equipment	☐	☐	☐	☐	☐
3	Availability of lab manuals/instructions	☐	☐	☐	☐	☐
4	Safety measures in laboratories	☐	☐	☐	☐	☐
5	Technical support during lab sessions	☐	☐	☐	☐	☐

C. Library & Learning Resources

Sr. No.	Parameter	5	4	3	2	1
1	Availability of textbooks & reference books	☐	☐	☐	☐	☐
2	Access to journals / e-resources	☐	☐	☐	☐	☐
3	Reading room facilities	☐	☐	☐	☐	☐

Fig. 8.4: Page 1 of Feedback form on Facilities

4	Library staff support	☐	☐	☐	☐	☐
5	Library working hours	☐	☐	☐	☐	☐

D. Computing & IT Facilities

Sr. No.	Parameter	5	4	3	2	1
1	Internet / Wi-Fi facility	☐	☐	☐	☐	☐
2	Computer laboratory facilities	☐	☐	☐	☐	☐
3	Availability of software/tools	☐	☐	☐	☐	☐
4	Technical support services	☐	☐	☐	☐	☐

E. Campus Infrastructure & Support Facilities

Sr. No.	Parameter	5	4	3	2	1
1	Cleanliness of campus	☐	☐	☐	☐	☐
2	Drinking water facilities	☐	☐	☐	☐	☐
3	Washroom & sanitation facilities	☐	☐	☐	☐	☐
4	Medical facilities	☐	☐	☐	☐	☐
5	Canteen facilities	☐	☐	☐	☐	☐
6	Safety & security on campus	☐	☐	☐	☐	☐

F. Overall Satisfaction

☐ Excellent ☐ Very Good ☐ Good ☐ Average ☐ Poor

G. Suggestions for Improvement:

H. Additional Comments (if any):

Date: _____

Fig. 8.5: Page 2 of Feedback form on Facilities

8.4 Self-Learning (10)

Digital Learning Resources and E-Library Access:

The MCA program at AIIT, Amity University Mumbai, provides extensive digital learning resources to encourage self-learning and exploration beyond the prescribed syllabus. Students have access to a well-equipped e-library that includes subscriptions to reputed journals, e-books, research databases, and online repositories. Platforms such as IEEE, Springer, and other digital libraries enable students to explore advanced topics, recent research trends, and industry-relevant technologies. In addition, access to online learning platforms and MOOCs allows students to pursue certifications and gain interdisciplinary knowledge. The institution continuously updates its digital resources based on student needs and technological

advancements. This rich digital ecosystem empowers students to take initiative in their learning, enhances research aptitude, and supports lifelong learning habits, which are essential for success in the dynamic field of computer applications.

Table 8.1 Learning resources available in Library

Learning Resources	Number of Resources
Books	548
E Journals	12574
e-Journals/e-books	1286
List of Print Magazines/Journal	19
List of Newspaper	5
CD/DVD	6

Table 8.2: Expenditure in last three years on learning resources

Year	No. of New Titles Added	No of new volumes added	Expenditure
CFYm3 2022-2023	6	10	8612
CFYm2 2023-2024	31	125	121791
CFYm1 2024-2025	54	119	43722
CFY 2025-2026	20	66	31285

Table 8.3: Last three years on E-Journals Subscription

Year	No. of E-Journals
CFY 2022-2023	9845
CFY 2023-2024	10454
CFY 2024-2025	12456
CFY 2025-2026	13574

Support to students for Learning

Institute Library supports students for self-learning activities by creating and making available various platforms for learning. Following resources are accessible to the students:

- 9000 + NPTEL Videos
- 100+ Subjects NPTEL Text Content
- 1500+ E-Books
- Access to previous year question papers
- Access to Ekeeda Learning platform
- Access to IIRS training programs • Access to Coursera (During Covid pandemic period)
- Access to Edx platform (During Covid pandemic period)
- Organization of book exhibitions, Author meets, E resources training program for students
- Use of SLIM webopac for book search and reissue and reservation process

Digital library has been established by library for the effective use of these self-learning resources. Question point service, "Ask a Librarian" is a unique online service available where queries and reference questions from students are responded within 24 hours. Additional facilities

created in the library for improving accessibility and support to students for self-learning.

Relevance of available learning resources including e-resources :

@ E-learning sources available on Amizone.net portal (E-books and E-Journals)

@ Delnet: E-Books and E journals (Available on the Delnet portal.Login Id: mhaum , Pasword: aum9947

Advanced Computing Labs and Project-Based Learning Environment:

AIIT provides state-of-the-art computing laboratories equipped with the latest hardware, software tools, and development environments that go beyond standard curriculum requirements. These labs are accessible beyond regular academic hours, allowing students to independently explore programming languages, frameworks, and emerging technologies such as AI, data analytics, blockchain and cybersecurity. The institution strongly promotes project-based learning, where students are encouraged to work on innovative ideas, prototypes, and real-world problem-solving tasks. Faculty members guide students in undertaking mini-projects, hackathons, and interdisciplinary projects that extend beyond the syllabus. This environment fosters creativity, critical thinking, and practical skill development, enabling students to gain hands-on experience and industry readiness.

Skill Development Programs and Industry-Oriented Learning:

To support learning beyond the syllabus, AIIT regularly organize and encourage skill development programs, workshops, seminars, and guest lectures conducted by industry experts and academicians. These sessions cover emerging technologies, soft skills, entrepreneurship, and career readiness topics. Students are encouraged to participate in coding competitions, and technical clubs such as google developer club, which provide additional exposure and enhance their competencies. The institution also facilitates internships and industry collaborations, allowing students to gain practical insights and real-world experience. Such initiatives bridge the gap between academic learning and industry expectations, ensuring that students are well-prepared for professional challenges and continuous upskilling.

Dedicated Mentoring, Innovation Support, and Learning Spaces:

AIIT fosters a strong culture of self-directed learning through its mentoring system and dedicated support for innovation and research. Faculty mentors guide students in identifying their interests and encourage them to explore topics beyond the syllabus through independent study, research papers, and project work. The institution provides collaborative learning spaces, discussion forums, and innovation related activities where students can brainstorm ideas, work in teams, and develop creative solutions. Support is also extended for participation in conferences, paper presentations, and startup initiatives. Continuous encouragement from mentors and access to these facilities help students develop analytical thinking, problem-solving abilities, and a spirit of innovation, contributing to their overall academic and professional growth.

8.5 Career Guidance, Training, Placement (10)

Counselling for Higher Studies:

A dedicated counselling support for MCA students aspiring for higher studies in India and abroad. The facility is managed by the placement and academic advisory team in coordination with faculty mentors. Regular sessions are conducted on opportunities for M.Tech, MBA, and international programs, including guidance on entrance exams, application procedures, and documentation. Experts are invited

to share insights, helping students make informed decisions.

Campus Placement Support:
The MCA program at AIIT offers a well-organized campus placement support system managed by the Corporate Resource Centre (CRC) and the administration team. Students receive continuous training in aptitude, technical skills, coding, resume building, and interview preparation. Mock interviews, group discussions, and industry-oriented assessments are conducted regularly. The structured placement process ensures that students are well-prepared to meet industry expectations. The effectiveness is evident in consistent placement records, with students securing positions in reputed IT companies. The proactive involvement of the CRC team ensures smooth coordination and continuous improvement in placement outcomes.

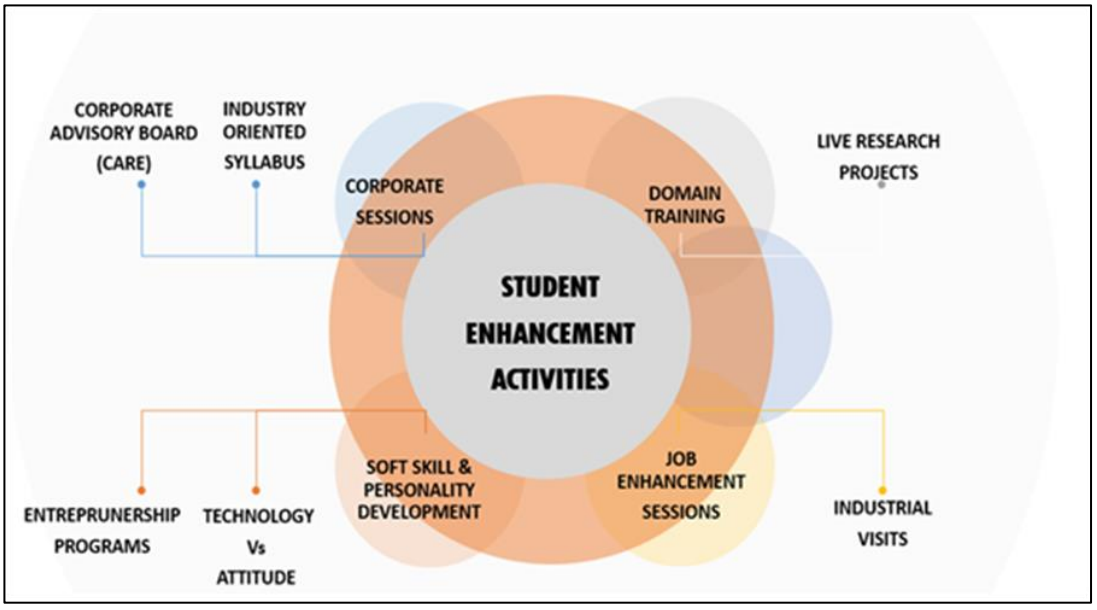


Fig. 8.9: Activities through CRC for Student Skill enhancement

Fig. 8.10: Interview Techniques Workshop

Fig. 8.11: Interview Techniques Workshop

Industry Interaction for Training/Internship/Placement:

AIIT emphasizes strong industry interaction to enhance practical exposure for MCA students. This facility is managed through collaborations with industry experts, and the placement cell. Regular guest lectures, workshops, and live projects are organized to provide real-world insights. Students are also supported in securing internships that align with their career goals. These interactions help bridge the gap between academic learning and industry requirements. The effectiveness is visible in improved student competencies, industry readiness, and successful conversion of internships into full-time job offers, demonstrating the strength of industry integration in the program.

Fig. 8.12: The Group Discussion (GD) Workshop

Fig. 8.13: The Group Discussion (GD) Workshop

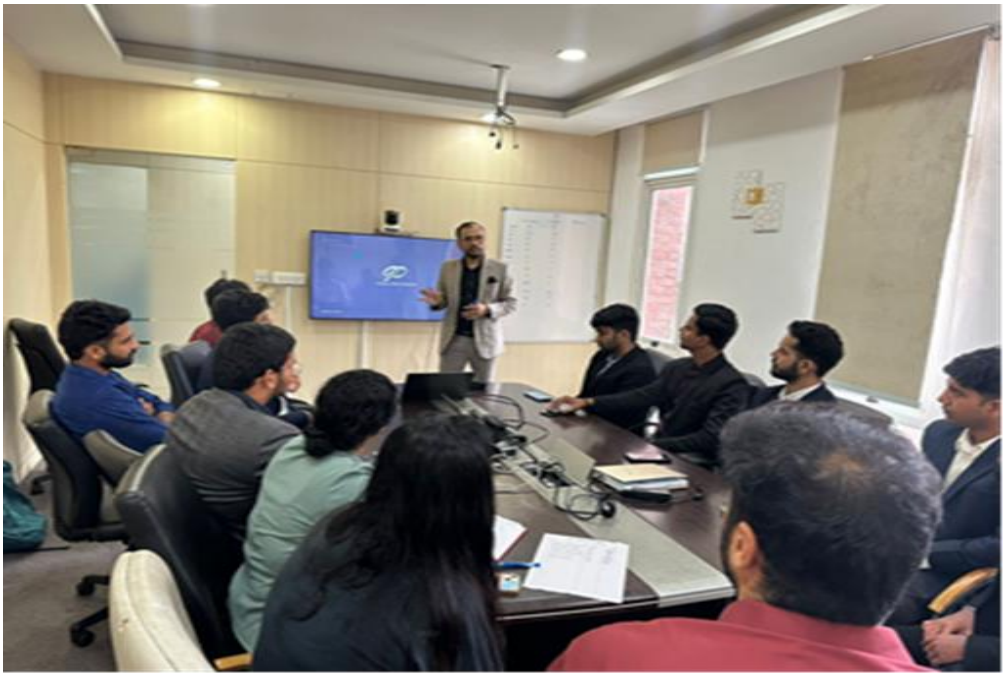


Fig. 8.14: The Group Discussion (GD) Workshop

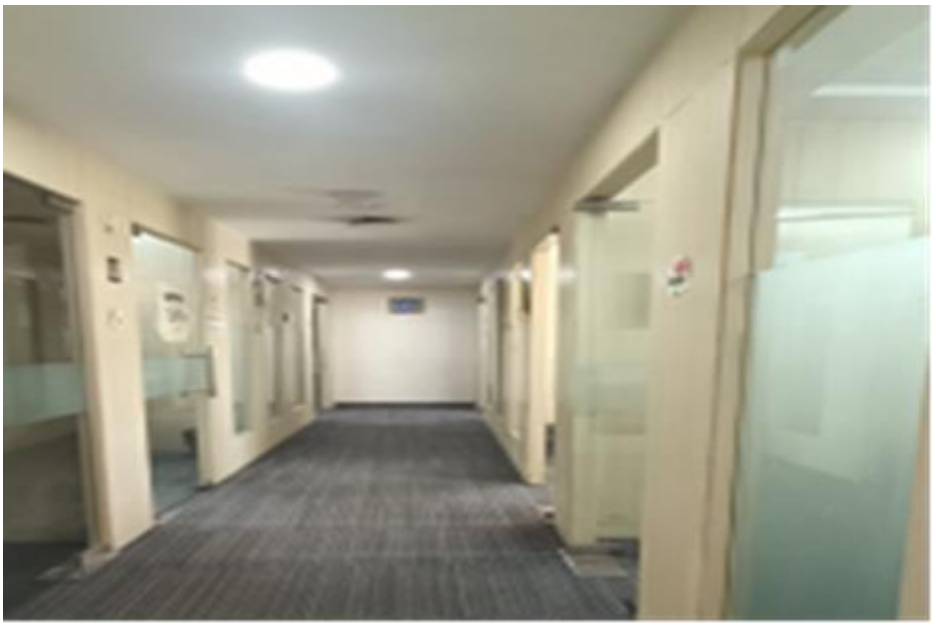


Fig. 8.15: State of the art facilities are available for the campus training and recruitment.

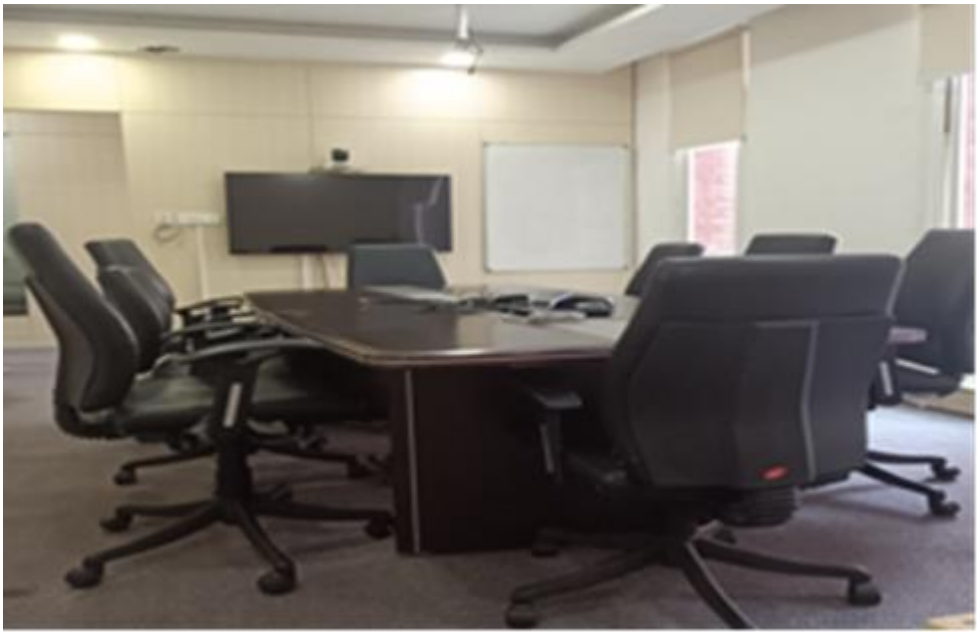


Fig. 8.16: State of the art facilities are available for the campus training and recruitment.

8.6 Entrepreneurship Cell (5)

The Entrepreneurship Cell (E-Cell) at Amity University Mumbai serves as a dynamic platform to foster entrepreneurship, innovation, and startup culture among MCA students. The facility is well-structured and actively managed by a dedicated team comprising faculty coordinators, industry mentors, and student representatives. The E-Cell organizes regular activities such as ideation workshops, startup bootcamps, business plan competitions, and guest lectures by successful entrepreneurs and startup founders. These initiatives help students understand the fundamentals of entrepreneurship, from idea generation to business model development and market validation.

Amity University Maharashtra has established two robust systems to cultivate and maintain an entrepreneurial environment on campus: the Entrepreneurship Cell (E-Cell) and the Institution's Innovation Council (IIC). These initiatives are dedicated to fostering a culture of innovation, creativity, and

entrepreneurial thinking among students, providing them with the necessary resources, skills, and support to explore and develop their business ideas.

Amity University Maharashtra is deeply committed to nurturing an entrepreneurial spirit among its students. The university's Entrepreneurship Cell (E-Cell) serves as a dynamic platform dedicated to fostering a culture of innovation, creativity, and entrepreneurial thinking. The mission of the E-Cell is to empower students with the resources, skills, and support necessary to explore and develop their business ideas, transforming them into viable enterprises. By promoting entrepreneurship, the E-Cell aims to instill an entrepreneurial mindset among students, encouraging them to think creatively and innovate.

The E-Cell provides a range of resources, including mentorship, networking opportunities, workshops, and access to funding, all of which are crucial in helping students navigate the complexities of starting and running a business. Through various programs and activities, the E-Cell focuses on enhancing student's entrepreneurial skills, such as business planning, financial management, marketing, and leadership.

One of the hallmark events organized by the E-Cell is the Annual Innovation Week, a vibrant celebration of creativity and entrepreneurship. During Innovation Week, more than 20 events are conducted, including idea pitching competitions, workshops and seminars with industry experts and successful entrepreneurs, hackathons, and networking events. These events not only stimulate entrepreneurial thinking but also provide practical experience and exposure to the challenges and rewards of entrepreneurship (Table 9.5.1: List of events conducted by E-cell during the academic year 2025-2026)

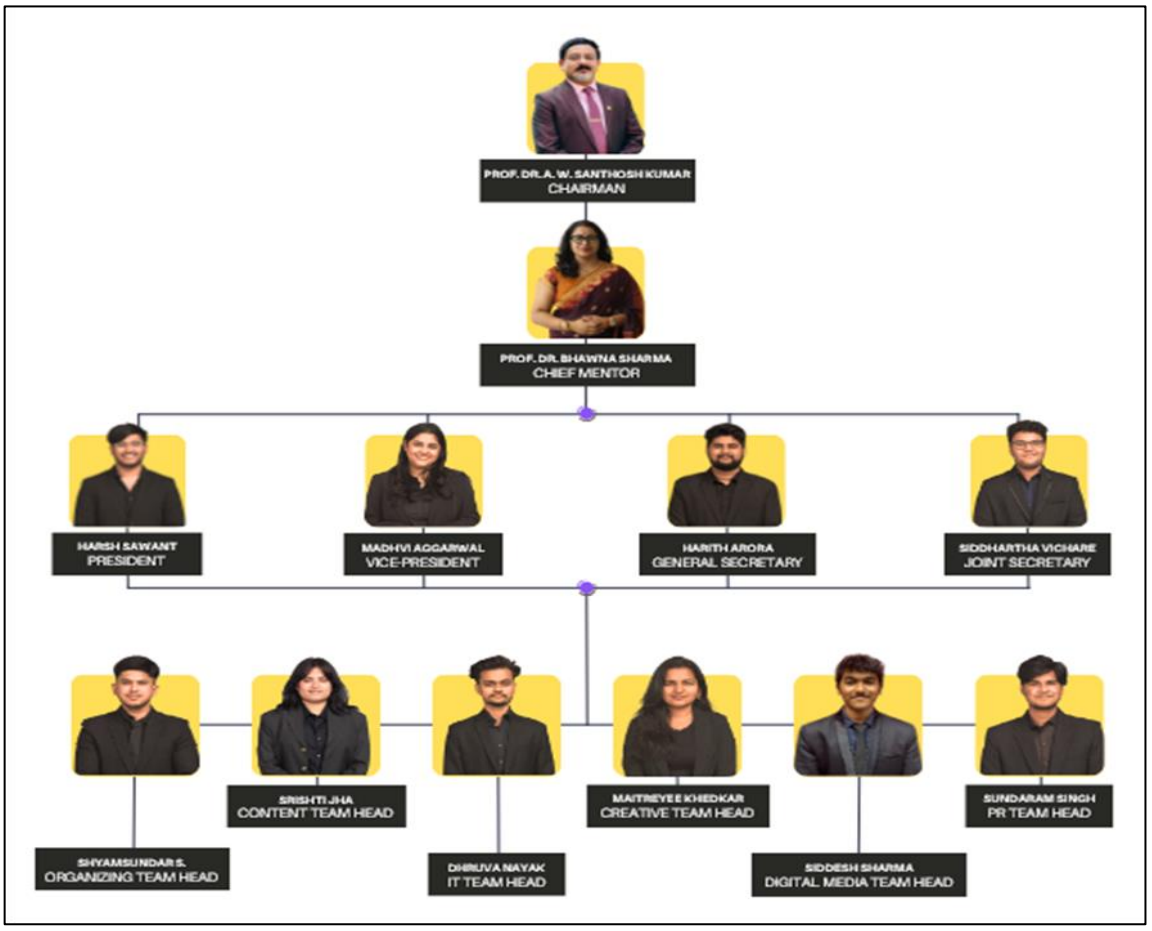


Fig. 8.17: E-Cell Team 2024-2025

Table: 8.1: List of events conducted by E-cell during the academic year 2025-2026

Sr. No.	Date of conduction	Name of the Event

1	25th September 2025 - 3pm to 5pm, Seminar Hall	Guest Lecture on "Logistics Startups & Venture Opportunities in India and Beyond"
2	25th September 2025, Bhatan pada village from 10am -4 pm	Nukkad natak by B Pharm students Health Checkup Camp Health counselling session
3	26th September 2025, Display of LCD in Atrium	ASCO organizing an exclusive Photography Workshop in collaboration with Panasonic Lumix India. This initiative aims to provide the junior batch of students with hands-on exposure to professional photography techniques, industry-standard equipment, and creative practices that align with the spirit of innovation.
4	26 September 2025, Atrium	The primary aim of this research was to explore the possibilities of reusing waste materials to produce a fashionable outdoor jacket. The use of waste materials needs to be considered carefully, In particular, the zero-waste pattern-making approach and the modular transformable design process are two things that can be implemented in the industry right now.
5	26-September-2025	Trends, Opportunities and Movements in the Tourism Industry / Travel Tech - Product Demonstration
6	26rd September 2025, Time: 11.00 am onwards till 4.00 pm. Venue: Atrium.	The various product ideas will be displayed in the forms of posters, prototypes, software models, paper or 3D printing models. The prototype will be showcased on the notice boards. Maximum team size will be 2 students. The inter-school participation in the team is recommended, to come with inter-disciplinary solutions to the new product ideas.
7	26th September 2025	The Project Presentation & Poster Making Competition,
8	26 September 2025, 10:00 AM onwards in Atrium and ASAP department.	Project Display in Atrium by Amity School of Architecture and Planning. ASAP is also organizing a Guest Lecture Session by Ms. Shachi Tanga on the theme "Life Beyond Architecture: Journey through IIT, ISB, and Entrepreneurship". This event will highlight the career opportunities after Architecture and MBA, struggles in building a startup, and strategies for success.
9	26th Sept 2025 2:30 pm to 3:30 pm, Seminar Hall	” Innovation week”
10	26 September 2025 30 Sept, 12:00-5:00pm, Guest Lecture and Competition.	BIOVATE 2025 is an interactive, real-time pitch-building event designed to inspire creative biotech startup ideas addressing global healthcare challenges.
11	26th September 2025 - Project Display - Atrium 29th September 2025 - Guest Lecture- Seminar Hall	Introduction to the Nuclear Energy Mission for Viksit Bharat.
12	27 September at 11 am ,room no-704	The teams will be asked to pick a piece of paper from a pile and with the help of the corresponding item, they will be asked to pitch them in an advertisement style either in graphics, skits or posters.
13	29rd September 2025, 02: 30 to 3: 30 pm, Seminar Hall	Green Building Quiz – Sustainable Practices for a Better Future as part of the World Green Building Week 2025.
14	30th September 2025, 2:00- 5:00 PM	“Consume with Care, Create with Purpose – SDG 12 E-Campaign” as part of Innovation Week 2025.
15	1st October, Tuesday, Auditorium, 10AM to 1 PM	The Psych
16	3rd October 2025, 11am-01 pm in ALS Classroom	The legal industry is undergoing a significant transformation driven by technology, innovation, and changing client expectations. Startups in the field of law—often called LegalTech ventures—are reshaping how legal services are delivered, accessed, and consumed. This session explores the

		emerging trends shaping the sector, such as AI-powered research tools, contract automation, online dispute resolution platforms, legal marketplaces, compliance management solutions, and data-driven analytics.
17	7-9 October 2025, Auditorium 11 AM to 01 PM	A Shark Tank-style pitching platform where budding entrepreneurs showcase their business ideas to a panel of mock investors.
18	09-October-2025	Incubators Meet / Valedictory Ceremony

The management of the E-Cell ensures continuous engagement through collaborations with industry experts, incubators, and startup networks. Students receive mentorship support for refining their ideas, developing prototypes, and preparing pitch platform. The institution also provides access to incubation support, including workspace, technical resources, and guidance on funding opportunities, intellectual property rights, and startup registration processes.

The effectiveness of the E-Cell is evident in the growing number of student-led startup ideas and participation in national-level innovation challenges. It encourages "campus-preneurs" by creating a supportive ecosystem where creativity and risk-taking are nurtured. Students gain hands-on experience in problem-solving, leadership, and business strategy, which enhances their confidence and entrepreneurial mindset. Overall, the E-Cell at Amity University Mumbai plays a significant role in promoting innovation-driven learning and empowering MCA students to transform their ideas into viable startups.

Fig. 8.17 : Product Prototype Exhibition E-Cell Activity

8.7 Financial Support in the Form of Scholarships and Paper Presentation for Students (10)

On-Admission Merit-Based Scholarships

Amity University Mumbai offers a scholarship aimed at promoting academic excellence and supporting meritorious students, including those enrolled in the MCA program. The primary category is on-admission merit-based scholarships, which are awarded based on academic performance in Class XII and graduation. Students can receive 100%, 50%, or 25% tuition fee waivers depending on their academic scores, with higher percentages granted to top-performing candidates.

Continuation Scholarships

In addition to merit-based scholarships, the university also provides continuation scholarships, which are renewed in subsequent years based on consistent academic performance and adherence to institutional criteria. This ensures that students remain motivated to maintain high academic standards throughout their program. Overall, the scholarship ecosystem at Amity University Mumbai is comprehensive, transparent, and performance-driven, ensuring that deserving MCA students receive financial support and encouragement to excel academically.

The table shows the list of MCA students and the scholarship amount provided to them.

Table 8.1 : Details of the Scholarship awarded to MCA Students in assessment years.

Sr. No	Batch	Roll No.	Name of Student	Scholarship Amount Rs.
1	2022-2024	A710145022017	Ms CHAVI NITESH JAIN	45,250
2	2022-2024	A710145022009	Mr DEBESH SANDEEP DAS	54,300
3	2023-2025	A710145023028	Mr KUSHAL SHAILESH JAISWAL	45,500
4	2023-2025	A710145023032	Mr SURYWANSHI RUSHIKESH RAVINDRA	45,500
5	2023-2025	A710145023034	Mr DEVERSH BELE	45,500
6	2023-2025	A710145023035	Ms ELADI SHWETA SHRIKANT	45,500
7	2023-2025	A710145023036	Mr SONAWANE VEDANT JITENDRA	45,500
8	2023-2025	A710145023038	Ms SAMANT PRAPTI SANDEEP	57,600
9	2023-2025	A710145023040	Mr RAKSHAN	91,000
10	2023-2025	A710145023041	Mr YASH SHARMA	45,500
11	2023-2025	A710145023042	Mr KANDPAL SUMIT LALIT	45,500
12	2023-2025	A710145023047	Mr ABHIMANYU JITHESH	45,500
13	2023-2025	A710145023061	Mr VISHWAKARMA NITESH RAJKUMAR	45,500
14	2023-2025	A710145023060	Mr PATIL CHINMAY SUDHIR	45,500
15	2024-2026	A710145024034	Ms DOLSE SIDDHI HEMANT	48000
16	2024-2026	A710145024039	Ms ANCHAL VISHWAKARMA	48000
17	2024-2026	A710145024040	Mr SAHIL BISWAS	48000
18	2025-2027	A710145025014	MR SHIVAM SUDHAKAR MARGAJ	50500
19	2025-2027	A710145025019	Ms BHAGYA P BIJAY KUMAR	50500
20	2025-2027	A710145025029	Mr TANMAY PATIL	50500
21	2025-2027	A710145025030	Mr PRASAD NAGAMBAR JAMBUKAR	50500
22	2025-2027	A710145025041	Ms ANKITA PATWADE	50500
23	2025-2027	A710145025042	Mr AASHISH MANOJ BALA	50500
24	2025-2027	A710145025046	Mr HARSHAL RAVINDRA PATIL	50500
25	2025-2027	A710145025049	Mr ANKIT KUMAR KANHAIYALAL GAUTAM	50500
26	2025-2027	A710145025050	Mr ASJAD AHMED KHAN	50500
27	2025-2027	A710145025054	Mr SAMBHAV RAHUL CHOUDHARY	50500
28	2025-2027	A710145025058	Mr FAIZAN ANWAR	50500

Support to the students from Faculty members:

Faculty members of the MCA department provide comprehensive support to students for participating in various academic, co-curricular, and extracurricular activities. They actively mentor and guide students in selecting suitable competitions such as technical events, hackathons, coding contests, paper presentations, and cultural programs. Faculty also assist in preparing project ideas, presentations, and documentation, ensuring that students are well-prepared to perform confidently.

In addition to academic guidance, logistical support is provided by facilitating registrations, coordinating schedules, and granting academic flexibility when required. Faculty members encourage participation by recognizing student efforts and achievements. To further motivate students, financial support is extended in the form of prizes and incentives for winners and outstanding performers. This not only rewards excellence but also boosts confidence and encourages wider participation among students.

8.8 Cultural, Community and Outreach Activities (15)

Cultural Activities:

The MCA program at AIIT, Amity University Mumbai actively promotes cultural engagement as an essential component of holistic student development. During the assessment period, students participated in various cultural events such as annual fests Aminova, talent shows, music and dance competitions, and inter-university cultural meets. Events like Amity Youth Fest "Aminova" provided a vibrant platform for students to showcase their artistic talents and celebrate diversity. The activities are well-coordinated by cultural committees with support from faculty and administration. These initiatives foster creativity, teamwork, leadership, and cross-cultural understanding among students. The enthusiastic participation of MCA students reflects the effectiveness of these activities in enhancing student engagement, confidence, and overall personality development beyond academics.

Community Engagement Activities:

AIIT emphasizes social responsibility through structured community engagement initiatives involving MCA students. During the assessment period, students actively participated in activities such as cleanliness drives, awareness campaigns on Language Understanding, and educational support for underprivileged community. These activities are organized in collaboration with institutional committees and guided by faculty members. Students contribute their technical knowledge by conducting basic computer training sessions for community members, thereby bridging the digital divide. The management ensures proper planning and execution of these initiatives. Such activities instil values of empathy, social responsibility, and civic awareness, making students more socially conscious and responsible citizens.

Outreach Activities:

The MCA program at AIIT has been actively involved in outreach initiatives aimed at extending knowledge and institutional support to society. Outreach activities during the assessment period included sustainable development goals related activities. These programs are managed by departmental teams with administrative support to ensure effective implementation. MCA students play a key role in delivering sessions, demonstrating applications, and sharing technical expertise. These initiatives not only benefit the community but also enhance students' communication skills, confidence, and practical understanding. The outreach efforts reflect the institution's commitment to societal development and knowledge dissemination.

Amity University Mumbai actively promotes social responsibility and community engagement through various outreach programs conducted by the National Service Scheme (NSS), NCC, and student volunteers. These initiatives aim to bridge the gap between academic learning and societal needs

while instilling values of leadership, empathy, and civic responsibility among students.

National Cadet Corps (NCC)

Introduced at Amity University Mumbai in 2023, the National Cadet Corps plays a pivotal role in shaping students into well- rounded individuals with a strong sense of patriotism, discipline, and social responsibility. Under the guidance of trained officers, NCC cadets participate in rigorous drill practices, engage in adventure sports, and contribute to community service initiatives. These activities not only promote physical fitness but also instill leadership qualities and a spirit of camaraderie among participants. Participation in the NCC at Amity University Mumbai goes beyond conventional military training. Cadets have the opportunity to attend camps, workshops, and training sessions at regional, national, and international levels, exposing them to diverse experiences and perspectives. These engagements not only enhance their practical skills but also broaden their horizons, preparing them for challenges beyond academic realms. Furthermore, involvement in the NCC offers students incentives such as preferential treatment in government job placements, scholarships, and additional weightage in competitive exams, thereby bolstering their career prospects and contributing to their holistic development at the university.

The outreach activities conducted by AIIT focus on community development, health awareness, environmental sustainability, social equality, and rural empowerment.

Fig. 8.18 NSS Inaugural Ceremony 2024: Flag Hoisting, March Past, and Volunteer Induction at Amity University Mumbai

AIDS Awareness Rally

The National Service Scheme (NSS) of Amity University Mumbai organized its Inaugural cum Orientation

Program on 7th October 2024 at A2 Block and the Auditorium. The event witnessed enthusiastic participation from 100 NSS volunteers, 350 students, and 49 faculty members, including the Vice Chancellor and the chief guest. The program commenced with flag hoisting, followed by a march past, inspiring speeches, cultural performances, and a nukkad natak highlighting social issues. Students were organized into four teams named after historical figures, and badges were awarded to leaders. The event concluded with a vote of thanks, national anthem, group photo, and a hi-tea session.

The NSS Unit of Amity University Mumbai organized an AIDS Awareness Rally on 1st December 2024, marking World AIDS Day, from the campus to Bhatan Village. The initiative aimed to spread awareness about HIV/AIDS prevention, promote healthy practices, and reduce stigma. A total of 121 participants, including NSS volunteers, NCC cadets, students, and 19 faculty members, actively took part. Volunteers carried placards, raised slogans, and distributed informative pamphlets in local languages. They also engaged directly with villagers through interactive discussions to dispel myths and share accurate information. The activity enhanced students' communication, leadership, and social responsibility while contributing to community health awareness.

Fig. 8.19 NCC and NSS Volunteers Unite for AIDS Awareness Campaign

Trekking and Camping

A two-day trekking and camping expedition from 18th to 19th January 2025 was organized from Amity

University Mumbai to Ajinkyatara Fort and Vasota Fort in Satara District. The activity saw participation from 94 students, including MTES members, NCC cadets, NSS volunteers, and others, guided by 10 faculty members. The trek covered diverse landscapes, including the biodiverse Kas Plateau, promoting physical fitness, teamwork, and appreciation of nature and heritage. Highlights included uphill trekking, riverside camping, and a boat ride to Vasota Fort. NSS volunteers played a key role in coordination and safety. The experience enhanced leadership, resilience, and environmental awareness among participants.

Figure 8.20: NSS Volunteers Trekking Expedition Showcasing Team Spirit and Adventure

International Women's Day 2025 celebration

The International Women's Day 2025 celebration at Amity University Mumbai was a meaningful and impactful initiative dedicated to promoting women's empowerment. Through a diverse range of activities

such as fitness sessions, self-defense training, mental health awareness programs, and community engagement, the event highlighted the importance of holistic well-being for women. The enthusiastic participation of students, faculty, and volunteers showcased a strong commitment to gender equality and inclusivity. Overall, the week-long celebration successfully created awareness, encouraged confidence, and reinforced the university's vision of fostering a supportive environment where women are empowered to grow, lead, and thrive in all aspects of life.

Fig. 8.20: International Women's Week Celebration: Inspiring Growth, Empowerment, and Leadership.

NSS Special Camp Activity

The NSS Special Camp was conducted at Gram Panchayat, Kalskhand (Panvel, Raigad) by Amity University Mumbai from 21st to 30th April 2025 for ten days, involving 50 students and 10 teachers. The camp aimed to bridge the gap between academic learning and real-world community challenges through direct

engagement with villagers. Activities included issue identification, problem-solving, awareness programs on hygiene, civic responsibility, and safety, along with tree plantation, cleanliness drives, medical camps, and skill development sessions. Special focus was given to womens empowerment, elderly care, child engagement, and water conservation. Cultural and wellness programs strengthened community bonding. The camp fostered leadership, teamwork, empathy, and social responsibility among volunteers while promoting sustainable development, national integration, and the NSS motto of selfless service—"Not Me, But You."

Fig. 8.21: NSS Special Camp Activities: Community Engagement, Cleanliness Drive, and Social Outreach at Kalskhand Village.

Fig. 8.22. NSS Volunteers Engaging with Rural Community for Water Awareness and Daily Life Interaction

Fig. 8.23. NSS Volunteers Promoting Education and Community Interaction through Outreach Activities

Medical Check-up and Blood Donation Camp

The Medical and Blood Donation Camp held on 8th May 2025 at Amity University Mumbai was a well-organized initiative promoting health awareness and social responsibility. Conducted in collaboration with NCC, NSS, MediCover Hospital, and Navi Mumbai Blood Bank, the camp provided essential medical services and encouraged voluntary blood donation. With active participation from students and faculty, the event successfully facilitated health screenings and collected 35 units of blood. The dedicated efforts of medical professionals, support staff, and university volunteers ensured smooth execution. Overall, the camp reflected the university's commitment to community welfare, preventive healthcare, and fostering a culture of compassion and civic engagement.

Fig. 8.24. Blood Donation Drive at Amity University Mumbai: NCC and NSS Volunteers Contributing to a Life-Saving Cause

Fig. 8.25. Medical and Blood Donation Camp at Amity University Mumbai: A Collective Effort by NSS, NCC, and Healthcare Partners

8.9 Alumni Support in beyond Syllabus Activities (10)

Amity University Mumbai maintains an alumni microsite called Ami-connect, which serves as a virtual homecoming for graduates worldwide. This platform offers resources, networking opportunities, and ways to stay connected with fellow alumni, faculty, and the university community. The Amity Alumni Association aims to build a strong sense of camaraderie among alumni and the university through various events, enabling alumni to share their collective knowledge and perspectives, thereby contributing to the university's life and working together to create a better future. The Ami-connect microsite provides alumni with access to exclusive job listings, professional development resources, and continuing education opportunities. Alumni participate in webinars, workshops, and seminars organized by the university, staying updated on the latest advancements in their respective fields. The platform also facilitates mentorship programs where experienced alumni guide current students and recent graduates, offering insights and advice based on their professional journeys. By maintaining strong ties with its alumni, Amity University Mumbai ensures that graduates continue to benefit from the university's resources and community long after completing their studies. The microsite can be accessed at **https://amiconnect.amity.edu/ (https://amiconnect.amity.edu/)**

Alumni support plays a significant role in enriching beyond syllabus activities for MCA students at

AIIT, Amity University Mumbai. The institute maintains a strong and active alumni network that regularly collaborates with the department and the Corporate Resource Centre (CRC) to bridge the gap between academic learning and industry expectations.

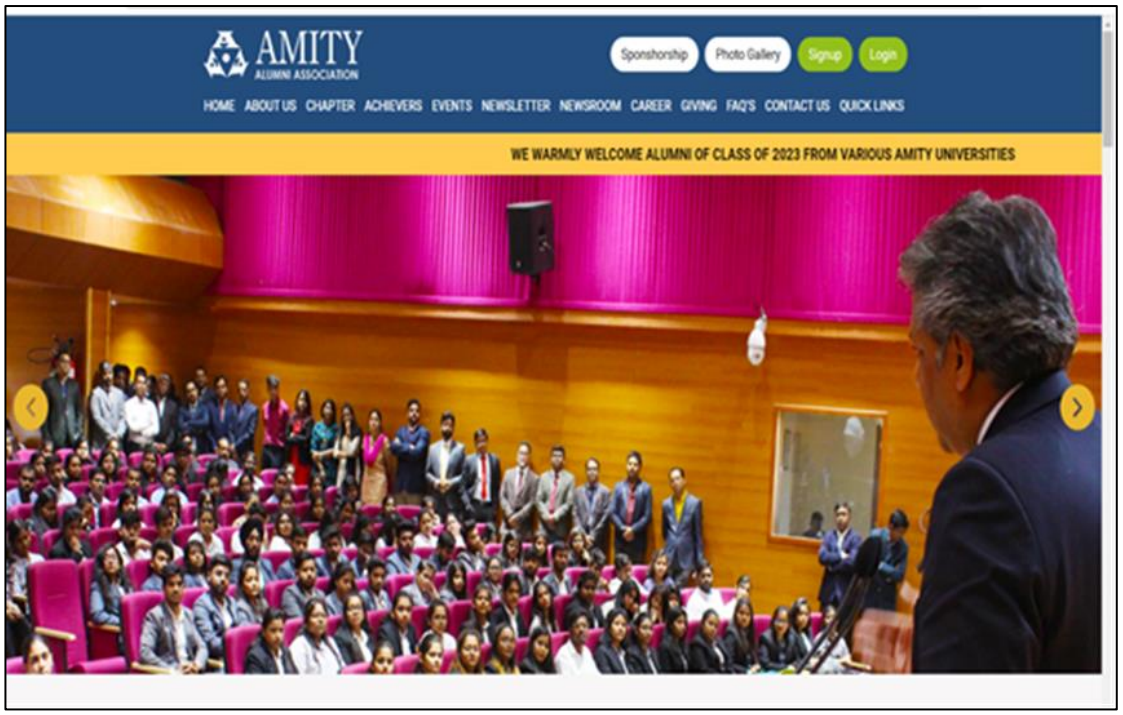


Fig. 8.18 Screenshot of Amity Alumni page

The **Annual Alumni Meet (AUM)** is one of the major platforms for strengthening alumni-institute relations. The event provides opportunities for networking, sharing professional experiences, mentoring students, and supporting institutional initiatives.

The alumni meet also facilitates discussions on:

- Industry trends and technological advancements
- Career guidance for current students
- Internship and placement opportunities
- Institutional development and collaborations

Activities conducted during this period included:

- Alumni interaction sessions with students
- Industry expert talks by alumni
- Alumni mentoring and career guidance programs
- Department-level alumni meetings
- Alumni contribution initiatives for student development

These initiatives have strengthened alumni networking and improved industry–academia interaction.

ALUMNI MEET – 2025:

AUM ALUMNI ASSOCIATION conducted its 5th Alumni Meet - "Alumni Legacy United Meet"" held on June 6th, 2025, at Kurla, it paved a remarkable 10th legacy years of gathering for the AUM that brought together alumni joining in person and few international Alums joining us online. The event was graced by Dr.Gigimon V S Hoi-ALS, Mr.Rajesh Sisodia Hoi-ASCO .

The presence of pioneer alumni Adv Billal Mulla ALS 2017,and Mr.Vikas Aute ABS 2017, especially Amity's first batch, added prestige and inspiration to the event.
Pioneer Alumni shared their wisdom, and encouragement stories representing various batches to celebrate their achievements, reminisce about shared memories, and strengthen the bonds of the AUM alumni community. Notable Alumni present at the event shared their experiences, acknowledgments and expressed deep appreciation for everyone's generosity, support, and affection, emphasizing how each presence added valuable nostalgic moments from their college days, discussed their professional journeys, and offered guidance to current students, The event not only rekindled old friendships but also inspired everyone to look forward to a future visit to Alma mater .Activity Outline:

- Opening Remarks – Mr. Sanjay Gouda, CRC & Alumni Head, AUM
- Keynote Address – Hon'ble Vice Chancellor
- Guest Talk – Leadership & Entrepreneurship Session
- International Alumni Insights – Short addresses by three global alumni (5 mins each)
- Felicitation Ceremony
- Networking Lunch
- Vote of Thanks & Group Photo Session"

Number of events are organized with alumni involvement, such as guest lectures, alumni talk series, career guidance sessions, and technical workshops. Alumni working in reputed IT organizations share their real-world experiences, current industry trends, and practical insights on emerging technologies like data science, and full-stack development. These interactions help students gain exposure beyond the curriculum and understand the skills required in the professional world.

The CRC cell, in coordination with alumni, also conducts mock interviews, resume-building workshops, coding challenges, and placement readiness programs. Alumni actively participate as mentors, interviewers, and evaluators, providing constructive feedback to students. Additionally, webinars on higher education, international opportunities, and entrepreneurship are conducted, guiding students toward diverse career paths.

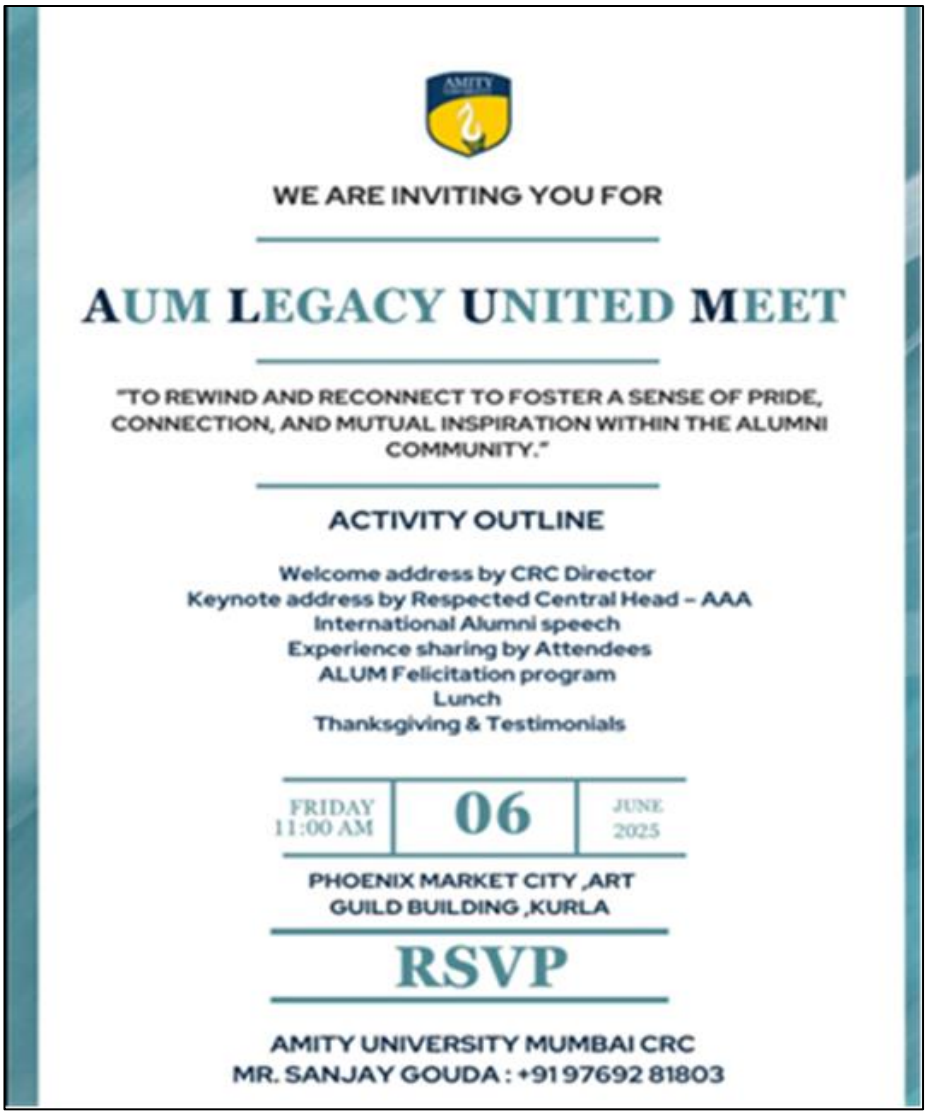


Fig. 8.19 : Alumni Meet Invitation

AIIT also organizes alumni networking events and panel discussions, where students interact informally and build professional connections. Many alumni support students by offering internship opportunities, live projects, and referrals within their organizations. This continuous engagement of alumni in beyond syllabus activities significantly enhances students' technical competencies, soft skills, and career preparedness. It creates a strong support ecosystem that motivates MCA students to excel and align themselves with evolving industry demands.

CRITERION 9	Governance, Institutional Support and Financial Resources	120

9 Governance, Institutional support and Financial Resources (120)

9.1 Organization, Governance and Transparency (60)

9.1.1 Governing Body, Administrative Setup, Functions of Various Bodies, Service Rules Procedures, Recruitment and Promotional Policies (10)

The statutes of the AUM State Private University Act define the governing structure of the University. The structure of the university is as follows:

- Governing Body chaired by the Chancellor
- Management Committee chaired by the Vice Chancellor
- Academic Council for all academic policies chaired by the Vice Chancellor

On the campus, the Vice Chancellor is the senior-most authority at Amity University Maharashtra. For day-to-day operations, the Vice Chancellor is supported by university officials consisting of Pro-Vice Chancellors, the Deputy Pro-Vice Chancellor, the Registrar, and Deans of various functions including Academics, Research, IQAC, and Student Welfare. The schools are run by the Heads of Institutions, with the faculty of the school and support staff, including office staff for secretarial support and attendants. The Controller of Examinations supports the Heads of Institutions for the conduct of assessments and examinations. Other officials include the University Librarian, and the Directors of Administration, Admission, Career Advancement, Finance, Hostel, and Security. The University's organogram is shown below in Figure.

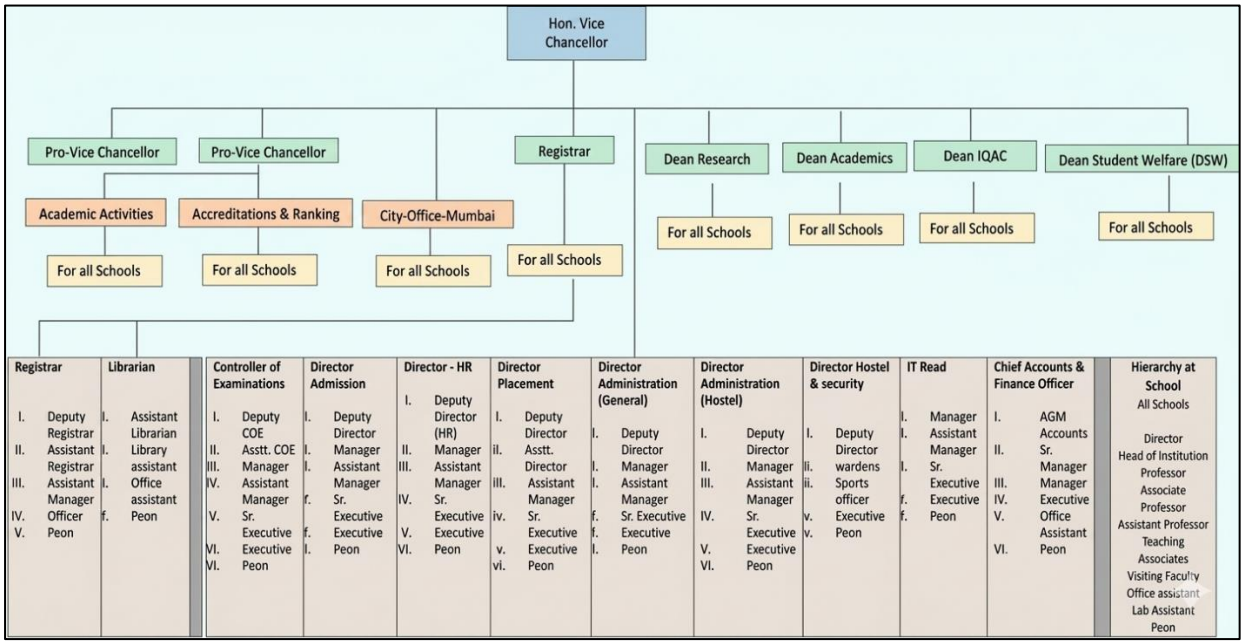


Fig. 9.1 The University Organogram

The following are the Statutory Bodies, by "the Statutes" of the University, and direct the University in realizing its mission:

- Governing Body
- Board of Management
- Academic Council

- Board of Examinations
- Board of Studies
- Board of University Teaching and Research

The **Governing Body** is the highest authority and the principal executive body of the University. It receives reports from other bodies, and the University's future strategy is deliberated within the Governing Body. This body meets twice a year.

The Board of Management (BoM) plays a crucial role in overseeing the governance and strategic direction of the institution. Its primary responsibilities include ensuring that the university's mission, vision, and values are upheld and that it operates efficiently and effectively. The BoM reviews and accepts the financial accounts and audit reports. It clears the budget estimates, including faculty requirements, and reconciles the financial expenditure. A budget estimate is presented to the Governing Body for its consideration and approval. The BoM meets six times a year.

The Academic Council is the principal academic authority of the University, responsible for establishing academic policies to maintain and improve the standards of teaching, research, extension, and collaboration programs. It approves all academic matters, including the creation and termination of programs and the revision of program structures. The Academic Council provides direction for academic excellence in teaching, research, and consultancy, taking into consideration the workload of the teachers. The Academic Council meets twice a year, with meetings conducted before the start of each semester to deliberate on proposed changes in the curriculum as reported by the Head of Institute (HoI) after conducting the Board of Studies (BoS). The Academic Council also invites student representatives and outside course specialists, who regularly assess the curriculum and offer suggestions for enhancements.

AMITY UNIVERSITY MUMBAI

Established vide Maharashtra Act No.13 of 2014, of Government of Maharashtra, and recognized under Section 2 (f) of UGC Act 1956.

Ref.: AUM/RO/GB/MoM/1325

MINUTES OF THE GOVERNING BODY MEETING

Held on Wednesday, 24th August 2022 at 11:00 am

(Through Online Mode on ZOOM Cloud Meetings)

The meeting of the Governing Body was held on Wednesday the 24th of August 2022 at 11:00 AM onwards through online mode on ZOOM Cloud Meetings.

Following members were present in the meeting: -

1. Dr. Aseem Chauhan – **Hon. President and Chancellor**
2. Dr. A W Santhosh Kumar – **Hon. Vice Chancellor**
3. Dr. D Selvamurthy – Member
4. Dr. S L Kothari – Member
5. Lt. Gen. V K Sharma AVSM (Retd) – Member
6. Dr. P B Sharma – Member
7. Dr. Kamal Kant Dwivedi – Member
8. Mr. Pradeep Kumar – Member
9. Mr. Bhushan Bajaj – Member
10. Commodore Atul Kumar – Special Invitee
11. Dr. H S Vyas – Member Secretary

Following members could not attend the meeting due to their other commitments.

1. Adv. Vijay Vaidya
2. Mr. Lalit Kshirsagar

The meeting of Governing Body started with The Chairman of Governing Body the Chancellor and President Amity University Maharashtra, Dr. Aseem Chauhan welcoming all the members of the governing Body.

The President of AUM, Dr Aseem Chauhan invited the Vice Chancellor Dr. A W Santhosh Kumar to begin the proceeding of the Governing Body meeting of the University.

1

Fig. 9.2 Minutes of the Governing Body Meeting (Excerpt)

AMITY UNIVERSITY

Established vide Maharashtra Act No. 13 of 2014, of Government of Maharashtra, and recognized under section 2(f) of UGC Act 1956.

MINUTES OF THE BOARD OF MANAGEMENT MEETING HELD ON 9th AUGUST 2022

(THROUGH ONLINE MODE ON MS TEAMS)

The meeting of the Board of Management Meeting was held on 9th August 2022 at 10:30 AM through online mode on MS Teams.

Following members were present in the meeting.

1. Dr. A W Santhosh Kumar – Vice Chancellor and Chairperson
2. Prof. (Dr.) K K Dwivedi – Member
3. Prof. (Dr.) P. B. Sharma – Member
4. Mr. Ashish Singh – Member
5. Mr. Ashish Bindra – Member
6. Dr. Shrikant Charhate – Member
7. Dr. Bhawna Sharma – Member
8. Prof. (Dr.) Kushal Vibhute – Member
9. Dr. Sagar Barge – Special Invitee
10. Mr. Sandeep Gundeti – Special Invitee
11. Dr. H. S. Vyas – Registrar & Member Secretary

Following members could not attend the meeting due to their other important engagements.

1. Lt. Col. Arun Sharma
2. Dr. Bhawana Chanana

All the agenda points were discussed one by one, and deliberations were recorded as under.

1

Fig. 9.3 Minutes of the Board of Management (Excerpt)

AMITY UNIVERSITY MUMBAI

Established vide Maharashtra Act No.13 of 2014, of Government of Maharashtra, and recognized under Section 2 (f) of UGC Act 1956.

Ref. : AUM/RO/BOM/1599 **27/10/2023**

Reconstitution of Academic Council

{Under Section 23 of Amity University Act 2014 (Maharashtra Act No. XIII of 2014) dated 24th June 2014}

The Academic Council of the University shall consist of the Twenty-two (22) members out of which one (1) member is non-voting invitee. The Academic Council shall be the principal academic body of the University. The Academic Council shall meet at least twice in a year. The Quorum for the meeting of the Academic Council is One Half. The Academic Council (AC) shall consist of the following members:

Sr. No.	Name	Designation
1.	Prof. Dr. A.W. Santhosh Kumar	Vice-Chancellor, Chairperson
2.	Prof. P. B. Sharma	Member
3.	Dr. M P Kaushik	Member
4.	Dr. P S Sali	Member
5.	Dr. Ashok Pundir	Member
6.	Dr. Sanjay Deshmukh	Member
7.	Dr. G. Thampi	Member
8.	Dr H S Vyas	Member Secretary & Registrar
9.	Dr. Supriya Dhananjay Nene	Member
10.	Prof. (Dr.) Vijay Singh Dahima	Member
11.	Dr. Penna Suprasanna	Member
12.	Dr. Shrikant Charhate	Member
13.	Dr. Sunil Dhaneshwar	Member
14.	Dr. Bhawna Sharma	Member
15.	Dr. Nima Jerrit John	Member
16.	Dr. Manjiree Vaidya	Member
17.	Dr. Gautam Gawali	Member
18.	Dr. Divya Pandey	Member
19.	Dr. Manoj Devare	Member
20.	Dr. Deepak H Havaldar	Member
21.	Dr. Bhawana Chanana	Member
22.	Mr. Bhuvanesh Gowda	Member
23.	Dr. Sanjay Patil	Member
24.	Dr. Suneela Dhaneshwar	Member
25.	Mr. Vallinayagam T	Special Invitee
26.	Mr. Sandeep Premdas Gundeti	Special Invitee

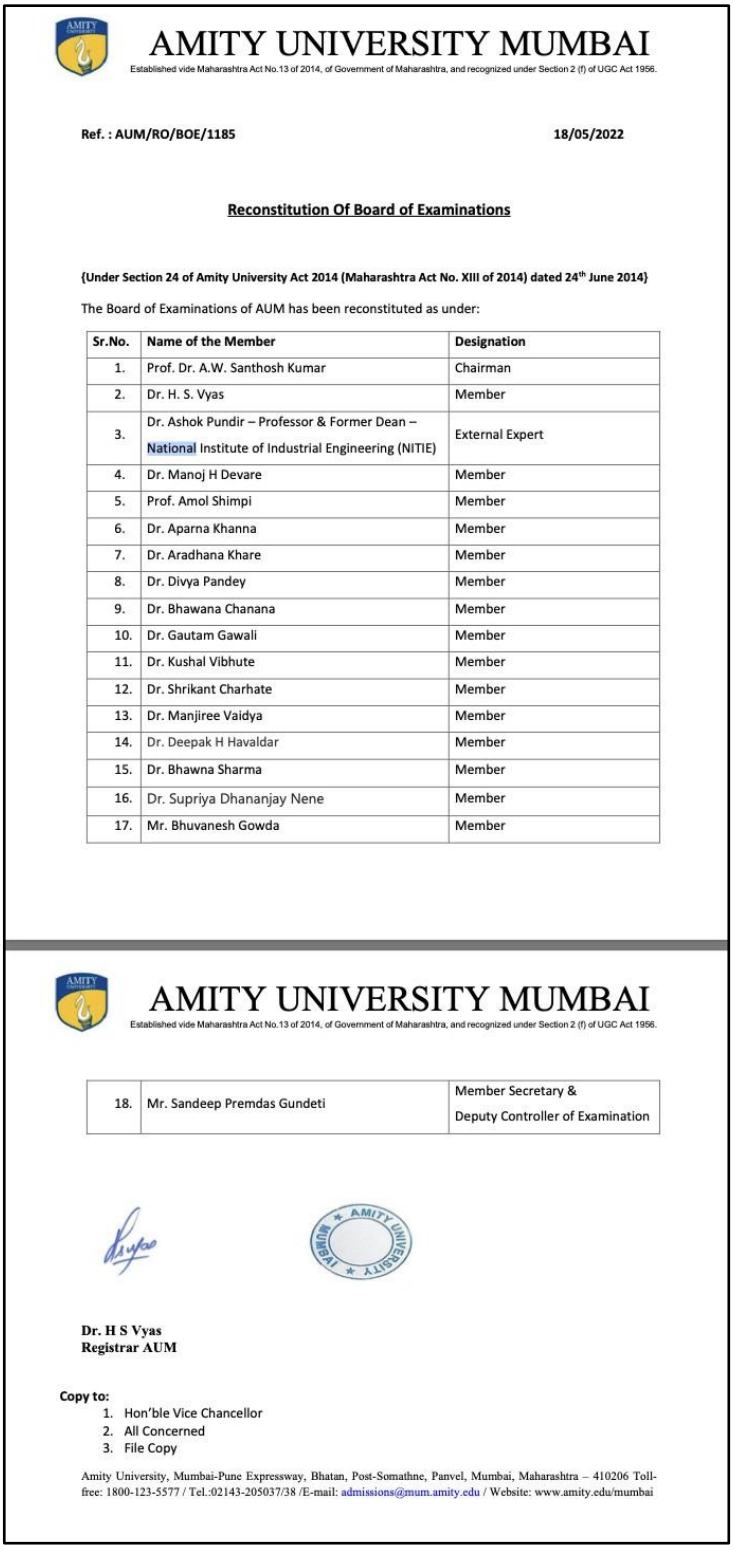
AMITY UNIVERSITY MUMBAI

Dr H S Vyas
Registrar, AUM

Copy to:
1. Hon'ble Vice Chancellor
2. All Concerned
3. File Copy

Fig. 9.4 Reconstitution of Academic Council (Excerpt)

The Board of Examinations (BoE) is the principal authority for the conduct of examinations including policy decisions regarding organizing and the conduct of examinations, improving the system of examinations, appointment of the paper-setters, examiners, and moderators, preparation of the schedule for the conduct of examinations and finally declaration of results.



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Ref. : AUM/RO/BOE/1185 **18/05/2022**

Reconstitution Of Board of Examinations

{Under Section 24 of Amity University Act 2014 (Maharashtra Act No. XIII of 2014) dated 24th June 2014}

The Board of Examinations of AUM has been reconstituted as under:

Sr.No.	Name of the Member	Designation
1.	Prof. Dr. A.W. Santhosh Kumar	Chairman
2.	Dr. H. S. Vyas	Member
3.	Dr. Ashok Pundir – Professor & Former Dean – National Institute of Industrial Engineering (NITIE)	External Expert
4.	Dr. Manoj H Devare	Member
5.	Prof. Amol Shimpi	Member
6.	Dr. Aparna Khanna	Member
7.	Dr. Aradhana Khare	Member
8.	Dr. Divya Pandey	Member
9.	Dr. Bhawana Chanana	Member
10.	Dr. Gautam Gawali	Member
11.	Dr. Kushal Vibhute	Member
12.	Dr. Shrikant Charhate	Member
13.	Dr. Manjiree Vaidya	Member
14.	Dr. Deepak H Havaldar	Member
15.	Dr. Bhawna Sharma	Member
16.	Dr. Supriya Dhananjay Nene	Member
17.	Mr. Bhuvanesh Gowda	Member

AMITY UNIVERSITY MUMBAI

Established vide Maharashtra Act No.13 of 2014, of Government of Maharashtra, and recognized under Section 2 (f) of UGC Act 1956.

18.	Mr. Sandeep Premdas Gundeti	Member Secretary & Deputy Controller of Examination

Dr. H S Vyas
Registrar AUM

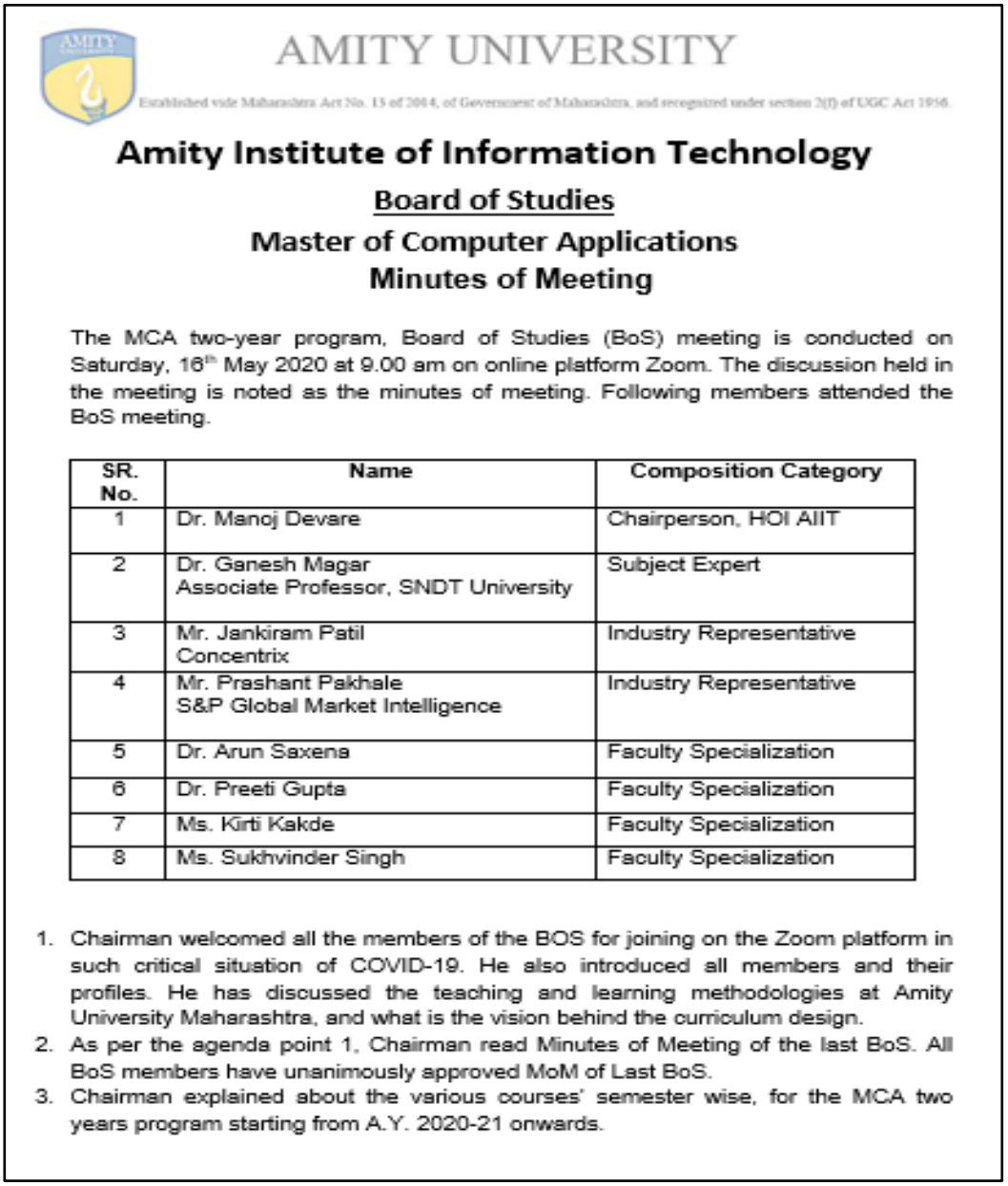
Copy to:
1. Hon'ble Vice Chancellor
2. All Concerned
3. File Copy

Amity University, Mumbai-Pune Expressway, Bhatan, Post-Somathne, Panvel, Mumbai, Maharashtra – 410206 Toll-free: 1800-123-5577 / Tel.:02143-205037/38 /E-mail: admissions@mum.amity.edu / Website: www.amity.edu/mumbai

Fig. 9.5 *Reconstitution of Board of Examinations (Excerpt)*

The Board of Studies (BoS) formulates and revises the curriculum and program structure, meeting annually or more frequently if needed. The BoS proposes changes based on emerging trends, course, and stakeholder feedback. The minutes of the BoS meetings are submitted to the Academic Council for approval. The external members of the boards are drawn from industry, academia, and research and development institutions. Faculty members from all schools and departments are represented on the boards and committees to ensure that suggestions and decisions are made in a participative manner. Every course includes a distinct module addressing the most recent advancements in the

subject, highlighted by the involvement of industry professionals. Each department or school has a Board of Studies composed of both internal and external course specialists, who regularly assess the curriculum and offer suggestions for enhancements.



AMITY UNIVERSITY

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Amity Institute of Information Technology

Board of Studies

Master of Computer Applications

Minutes of Meeting

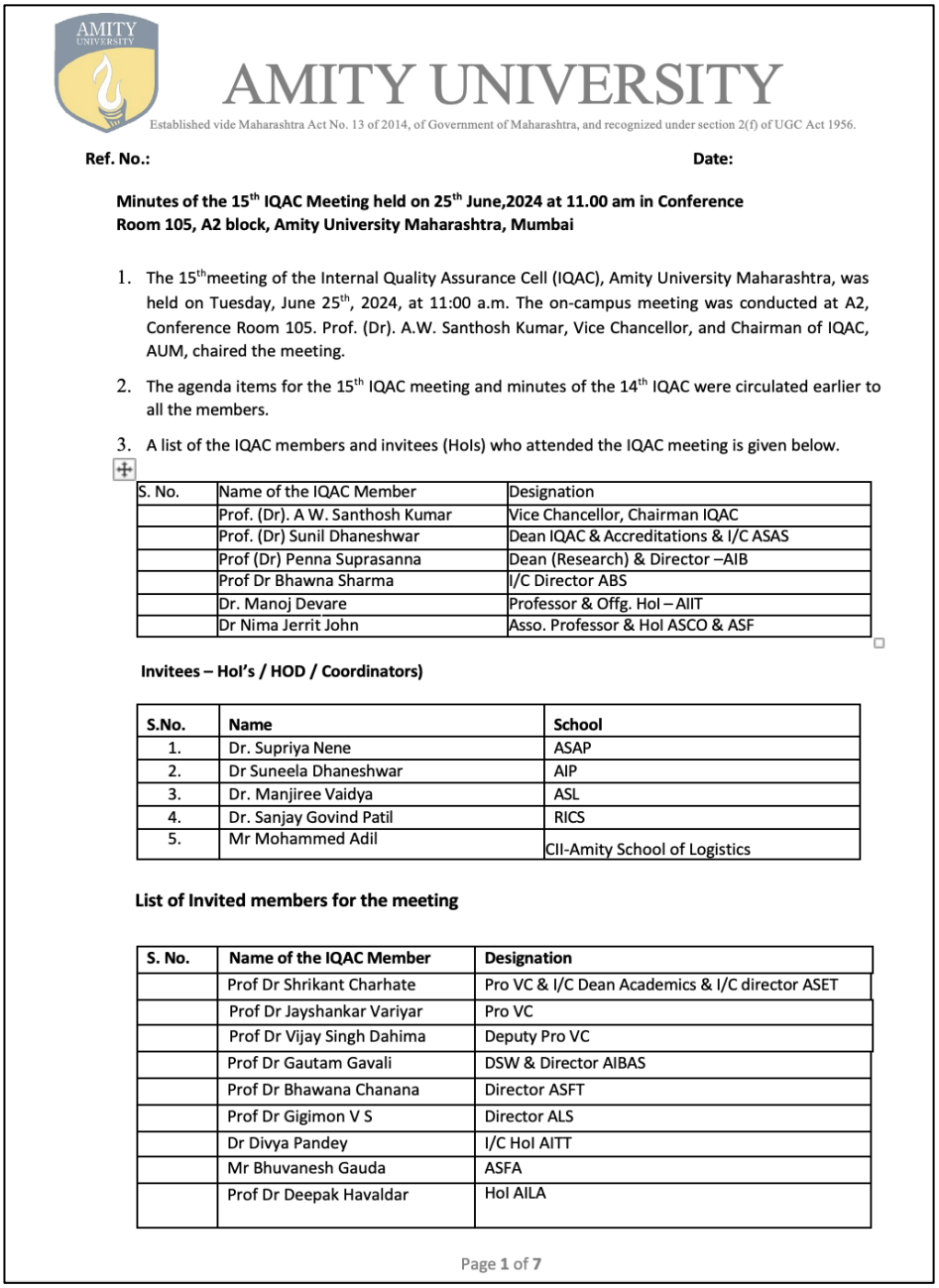
The MCA two-year program, Board of Studies (BoS) meeting is conducted on Saturday, 16th May 2020 at 9.00 am on online platform Zoom. The discussion held in the meeting is noted as the minutes of meeting. Following members attended the BoS meeting.

SR. No.	Name	Composition Category
1	Dr. Manoj Devare	Chairperson, HOI AIIT
2	Dr. Ganesh Magar Associate Professor, SNDT University	Subject Expert
3	Mr. Jankiram Patil Concentrix	Industry Representative
4	Mr. Prashant Pakhale S&P Global Market Intelligence	Industry Representative
5	Dr. Arun Saxena	Faculty Specialization
6	Dr. Preeti Gupta	Faculty Specialization
7	Ms. Kirti Kakde	Faculty Specialization
8	Ms. Sukhvinder Singh	Faculty Specialization

1. Chairman welcomed all the members of the BOS for joining on the Zoom platform in such critical situation of COVID-19. He also introduced all members and their profiles. He has discussed the teaching and learning methodologies at Amity University Maharashtra, and what is the vision behind the curriculum design.
2. As per the agenda point 1, Chairman read Minutes of Meeting of the last BoS. All BoS members have unanimously approved MoM of Last BoS.
3. Chairman explained about the various courses' semester wise, for the MCA two years program starting from A.Y. 2020-21 onwards.

Fig 9.6 Minutes of the Meeting – BoS (Excerpt)

The Internal Quality Assurance Cell (IQAC) conducts quarterly reviews of various university operations. The Heads of Institutions (HoIs), Dean Academics, Dean Research, and Dean Student Welfare report quarterly progress on research publications, student achievements, faculty achievements, research project submissions, and the progress of awarded research projects. Achievements and suggestions to meet targets based on the strategic plan are formulated. The Department of Ranking and Accreditation under the IQAC contributes to the university's increased visibility by ensuring participation in national ranking frameworks, national and international surveys, and world university rankings.



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Ref. No.: **Date:**

Minutes of the 15th IQAC Meeting held on 25th June,2024 at 11.00 am in Conference Room 105, A2 block, Amity University Maharashtra, Mumbai

1. The 15thmeeting of the Internal Quality Assurance Cell (IQAC), Amity University Maharashtra, was held on Tuesday, June 25th, 2024, at 11:00 a.m. The on-campus meeting was conducted at A2, Conference Room 105. Prof. (Dr). A.W. Santhosh Kumar, Vice Chancellor, and Chairman of IQAC, AUM, chaired the meeting.
2. The agenda items for the 15th IQAC meeting and minutes of the 14th IQAC were circulated earlier to all the members.
3. A list of the IQAC members and invitees (HoIs) who attended the IQAC meeting is given below.

S. No.	Name of the IQAC Member	Designation
	Prof. (Dr). A W. Santhosh Kumar	Vice Chancellor, Chairman IQAC
	Prof. (Dr) Sunil Dhaneshwar	Dean IQAC & Accreditations & I/C ASAS
	Prof (Dr) Penna Suprasanna	Dean (Research) & Director –AIB
	Prof Dr Bhawna Sharma	I/C Director ABS
	Dr. Manoj Devare	Professor & Offg. HoI – AIIT
	Dr Nima Jerrit John	Asso. Professor & HoI ASCO & ASF

Invitees – HoI's / HOD / Coordinators)

S.No.	Name	School
1.	Dr. Supriya Nene	ASAP
2.	Dr Suneela Dhaneshwar	AIP
3.	Dr. Manjiree Vaidya	ASL
4.	Dr. Sanjay Govind Patil	RICS
5.	Mr Mohammed Adil	CII-Amity School of Logistics

List of Invited members for the meeting

S. No.	Name of the IQAC Member	Designation
	Prof Dr Shrikant Charhate	Pro VC & I/C Dean Academics & I/C director ASET
	Prof Dr Jayshankar Variyar	Pro VC
	Prof Dr Vijay Singh Dahima	Deputy Pro VC
	Prof Dr Gautam Gavali	DSW & Director AIBAS
	Prof Dr Bhawana Chanana	Director ASFT
	Prof Dr Gigimon V S	Director ALS
	Dr Divya Pandey	I/C HoI AITT
	Mr Bhuvanesh Gauda	ASFA
	Prof Dr Deepak Havaldar	HoI AILA

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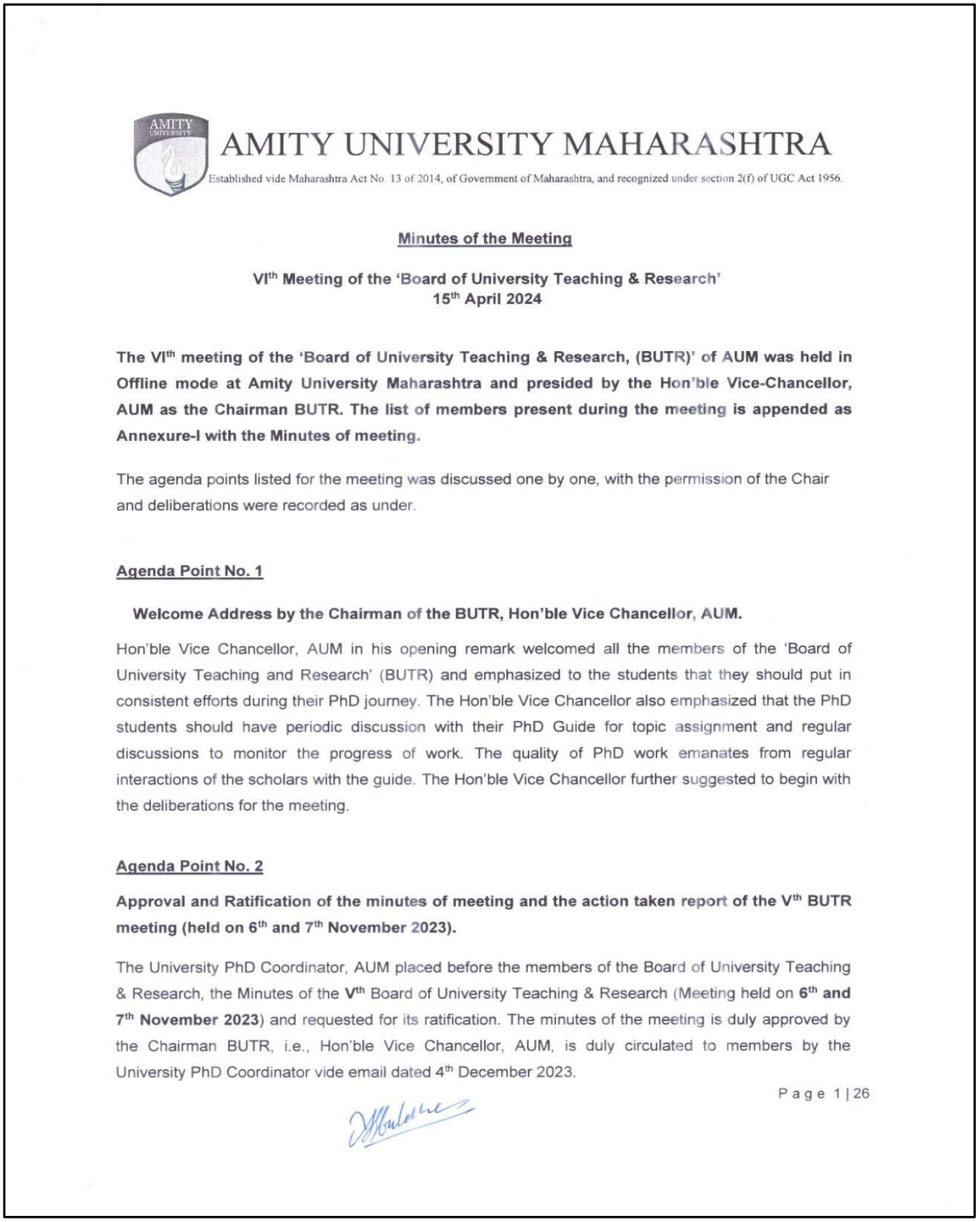
Fig. 9.7 Minutes of the Meeting – IQAC (Excerpt)

The Board of University Teaching and Research (BUTR) is the authority for the approval of PhD topics, guide allocation, guide changes, and monitoring the progress of PhD scholars, with input from the Departmental Research Committee. The Board meets twice a year.



AMITY UNIVERSITY MAHARASHTRA

Established vide Maharashtra Act No. 13 of 2014, of Government of Maharashtra, and recognized under section 2(f) of UGC Act 1956.

Minutes of the Meeting

VIth Meeting of the 'Board of University Teaching & Research'
15th April 2024

The VIth meeting of the 'Board of University Teaching & Research, (BUTR)' of AUM was held in Offline mode at Amity University Maharashtra and presided by the Hon'ble Vice-Chancellor, AUM as the Chairman BUTR. The list of members present during the meeting is appended as Annexure-I with the Minutes of meeting.

The agenda points listed for the meeting was discussed one by one, with the permission of the Chair and deliberations were recorded as under.

Agenda Point No. 1

Welcome Address by the Chairman of the BUTR, Hon'ble Vice Chancellor, AUM.

Hon'ble Vice Chancellor, AUM in his opening remark welcomed all the members of the 'Board of University Teaching and Research' (BUTR) and emphasized to the students that they should put in consistent efforts during their PhD journey. The Hon'ble Vice Chancellor also emphasized that the PhD students should have periodic discussion with their PhD Guide for topic assignment and regular discussions to monitor the progress of work. The quality of PhD work emanates from regular interactions of the scholars with the guide. The Hon'ble Vice Chancellor further suggested to begin with the deliberations for the meeting.

Agenda Point No. 2

Approval and Ratification of the minutes of meeting and the action taken report of the Vth BUTR meeting (held on 6th and 7th November 2023).

The University PhD Coordinator, AUM placed before the members of the Board of University Teaching & Research, the Minutes of the **Vth** Board of University Teaching & Research (Meeting held on **6th and 7th November 2023**) and requested for its ratification. The minutes of the meeting is duly approved by the Chairman BUTR, i.e., Hon'ble Vice Chancellor, AUM, is duly circulated to members by the University PhD Coordinator vide email dated 4th December 2023.

Page 1 | 26

Fig. 9.8 Minutes of the Meeting – BUTR (Excerpt)

In addition to the school has various internal committees. Their composition and details are listed below

Table: 9.1 Department Academic Committee (DAC)

Sr. Nr.	Name of the Member	Designation	Role
1	Dr. Manoj Devare	HOI & Professor	Chairperson
2	Dr. Ashwin Bhagat	Faculty AIIT	Member
3	Dr. Uttam Deshmukh	Faculty AIIT	Coordinator
4	Dr. Narayan Kulkarni	Faculty AIIT	Member

The primary role of the DAC is to ensure academic excellence and align the department's curriculum with current industry trends. Key responsibilities include deciding course structures, detailed syllabi, value-added courses, and electives. DAC also performs academic monitoring which includes continuously monitoring student performance, reviewing cases of slow or weak learners, and deciding on remedial actions. DAC Formulating and reviewing Program Educational Objectives (PEOs), Program Outcomes (POs), and Course Outcomes (COs) to maintain high academic standards.

Table: 9.2 Program Assessment Committee (PAC)

Sr. Nr.	Name of the Member	Designation	Role
1	Dr. Manoj Devare	HOI & Professor	Chairperson
2	Dr. C Kalpana	Faculty AIIT	Coordinator
3	Dr. Ashwin Bhagat	Faculty AIIT	Member
4	Dr. Narayan Kulkarni	Faculty AIIT	Member

The Program Assessment Committee (PAC) is a departmental body focused on the data-driven evaluation of academic programs to ensure they meet quality standards and learning objectives. While the Department Academic Committee (DAC) handles general administration and broad curriculum decisions, the PAC is specifically tasked with monitoring Outcome-Based Education (OBE).

Student Research Committee (SRC)

The Student Research Committee (SRC) at AIIT plays a crucial role in guiding and supporting PhD scholars throughout their research journey. Meeting twice a year, the SRC provides essential feedback and advice to help students progress effectively in their doctoral studies. The committee is composed of research guides and is chaired by the HOI of the school. The structured input process ensures that scholars receive comprehensive guidance, which is subsequently reviewed by the Department Research Committee (DRC) for further refinement.

Table 9.3 Student Research Committee

Sr. Nr.	Name of the Member	Designation	Role
1	Prof. Dr. Manoj Devare	Professor and HOI -AIIT	Chairperson
2	Dr. Narayan Kulkarni	Faculty AIIT	Coordinator
3	Dr. Ashwin Bhagat	Faculty AIIT	Member
4	Dr. C Kalpana	Faculty AIIT	Member

Department Research Committee

The Department Research Committee (DRC) at AIIT is pivotal in overseeing the progress and development of PhD scholars. This committee ensures that research activities are conducted

effectively, align with the highest academic standards, and contribute to the field's body of knowledge. The committee's recommendations and submissions to the apex committee (BUTR) help maintain the institution's high standards and support the continuous improvement of the research programs. The inclusion of external experts further enriches the committee's insights, enhancing the overall research output and its impact on both academia and industry. Committee meets twice a year

Table 9. 4 Department Research Committee

Sr. No.	Name	Designation & Affiliation	Role
1	Prof. Dr. Manoj Devare	Professor & HOI, AIIT	Chairman
2	Dr. Ashwin Bhagat	Faculty AIIT	Member –Internal
3	Dr. Narayan Kulkarni	Faculty AIIT	Member – Internal
4	Dr. Ajitkumar Shitole	Associate Professor & Head, Dept. of Computer Engineering, I2IT, Hinjewadi, Pune.	Member – External
5	Dr. Shankar Patil	Professor, Smt. Indira Gandhi College of Engineering, Ghansoli, Navi Mumbai.	Member – External

School Quality Assurance Committee (SQAC)

The School Quality Assurance Committee (SQAC) plays a crucial role in maintaining and enhancing the quality of education and overall academic standards at AIIT. Reporting to the apex committee, the Internal Quality Assurance Cell (IQAC), the SQAC is responsible for implementing quality assurance processes, monitoring academic performance, and ensuring continuous improvement across all programs.

Table 9.5 School Quality Assurance Committee

Sr. Nr.	Name of the Member	Designation	Role
1	Prof. Dr. Manoj Devare	Professor and HOI -AIIT	Chairperson
2	Dr. C Kalpana	Faculty AIIT	Coordinator
3	Dr Karuna Kirwale	Faculty AIIT	Member
4	Dr. Narayan Kulkarni	Faculty AIIT	Member

School Exam Committee

The School Exam Committee at AIIT is dedicated to ensuring the smooth and fair conduct of end-term examinations. Meeting twice a year, the committee collaborates closely with the university exam department to plan and coordinate examinations, ensuring all logistical arrangements are in place. The committee is committed to maintaining the integrity and transparency of the examination process by enforcing strict adherence to rules and regulations, preventing any form of malpractice. It oversees the preparation and secure handling of question papers, assigns and trains invigilators, and addresses student queries and concerns. Additionally, the committee works with faculty to ensure all exam-

related activities are carried out seamlessly and coordinates with course instructors to clarify any ambiguities. After the exams, the committee ensures timely and accurate compilation of results, conducts post-examination reviews to identify areas for improvement, and gathers feedback from students, faculty, and invigilators. Through diligent supervision, strict adherence to regulations, and continuous improvement, the School Exam Committee upholds academic standards and provides a reliable assessment environment for students.

Table: 9.6 School Exam Committee

Sr. Nr.	Name of the Member	Designation	Role
1	Prof. Dr. Manoj Devare	HOI	Chairperson
2	Dr. Ashwin Bhagat	Faculty AIIT	Exam Coordinator
3	Dr Uttam Deshmukh	Faculty AIIT	Member

Internship, Pre-Placement and Placement Committee

The Internship, Pre-Placement, and Placement Committee at AIIT is dedicated to coordinating and supporting students in securing internships and placements. Meeting every semester, the committee plays a crucial role in bridging the gap between academic learning and corporate life. It organizes various pre-placement activities designed to prepare students for the professional world, covering essential skills such as resume writing, interview techniques, and corporate etiquette. The committee works closely with industry partners to identify internship and job opportunities, ensuring that students have access to a wide range of career prospects. By providing personalized guidance and resources, the committee helps students navigate the placement process effectively, fostering their professional growth and enhancing their employability. Through continuous engagement with students and employers, the Internship, Pre-Placement, and Placement Committee ensures that MCA graduates at AIIT are well-prepared to excel in their careers.

Table: 9.7 School Placement Committee

Sr. Nr.	Name of the Member	Designation	Role
1	Prof. Dr. Manoj Devare	HoI	Chairperson
2	Dr. Karuna Kirwale	Faculty AIIT	CRC Coordinator
3	Dr. Narayan Kulkarni	Faculty AIIT	Member

School Admission Committee

The School Admission Committee at AIIT is dedicated to attracting prospective students by implementing diverse marketing strategies and conducting informative webinars and outreach program. This committee plays a pivotal role in raising awareness about the school's MCA program, highlighting their unique features and career opportunities. By organizing interactive sessions, the committee provides prospective students with detailed information about the curriculum, faculty, and career paths, helping them make informed decisions about their education. Through personalized counselling, the committee addresses queries and offers guidance on how the programmes can

align with students' career aspirations. The School Admission Committee's efforts ensure that potential students are well-informed and inspired to join MCA program at AIIT, contributing to the institution's growth and reputation.

Table 9.8 School Admission Committee

Sr. Nr.	Name of the Member	Designation	Role
1	Prof. Dr. Manoj Devare	HoI	Chairperson
2	Dr. C Kalpana	Faculty AIIT	Counsellor
3	Dr. Uttam Deshmukh	Faculty AIIT	Counsellor

Mentor Mentee Committee

The Mentor Mentee Committee at AIIT is established to provide comprehensive pastoral care for students. This committee assigns each student a dedicated mentor who conducts regular meetings to address and resolve issues related to academics, career enhancement, and campus life. By fostering a supportive and nurturing environment, the committee ensures that students receive personalized guidance and assistance, helping them navigate their educational journey effectively. The Mentor Mentee Committee's proactive approach in addressing student concerns and fostering strong mentor-mentee relationships contributes significantly to the overall well-being and success of the students at AIIT.

Table 9.9 Mentor Mentee Committee

Sr. No.	Name of the Member	Designation	Role
1	Prof. Dr. Manoj Devare	HoI	Chairperson
2	Dr. Ashwin Bhagat	Faculty AIIT	Coordinator

E-Cell Committee

The E-Cell (Entrepreneurial Cell) Committee at AIIT is dedicated to fostering an entrepreneurial mindset among students and encouraging innovations and startup ideas. The committee's primary functions and responsibilities include organizing workshops, seminars, and guest lectures with industry leaders and successful entrepreneurs to provide students with insights into the entrepreneurial journey. E-Cell at AUM also facilitates networking opportunities, allowing students to connect with potential mentors, investors, and business partners. Additionally, the committee supports students in developing their business ideas through mentorship programs, startup incubation, and access to resources such as funding, office space, and technical assistance. By promoting an entrepreneurial culture, the E-Cell Committee empowers students to pursue their business ventures, equipping them with the skills and knowledge necessary to navigate the challenges of entrepreneurship. Through these initiatives, the E-Cell Committee aims to

nurture the next generation of innovators and leaders, driving progress and growth within industry.

Table: 9.10 E-Cell Committee at School Level

Sr. Nr.	Name of the Member	Designation	Role
1	Dr. C Kalpana	Faculty AIIT	Coordinator
2	Dr. Uttam Deshmukh	Faculty AIIT	Member

Discipline Committee

The Discipline Committee in the MCA department plays a crucial role in maintaining a structured, respectful, and academically focused environment for students. Its primary responsibility is to ensure that all students adhere to the code of conduct prescribed by Amity University Mumbai. The committee monitors student behavior within classrooms, laboratories, and common areas to promote discipline, punctuality, and professional ethics.

The committee addresses issues such as absenteeism, misconduct, use of unfair means in examinations, and violation of institutional rules. It conducts inquiries in a fair and transparent manner and recommends appropriate corrective actions when necessary. In addition, the committee plays a preventive role by organizing awareness sessions on discipline, ethics, and responsible behavior.

For MCA students, who are preparing for professional careers in the IT industry, the Discipline Committee helps instill values such as accountability, teamwork, and integrity. It also ensures a safe and inclusive learning environment by addressing grievances related to student behavior and promoting mutual respect among peers.

Table: 9.11 Discipline Committee at School Level

Sr. Nr.	Name of the Member	Designation	Role
1	Dr. Manoj Devare	HOI & Professor	Chairperson
2	Dr. Uttam Deshmukh	Faculty AIIT	Coordinator
3	Dr. C Kalpana	Faculty AIIT	Women Representative
4	Dr. Narayan Kulkarni	Faculty AIIT	Member

University Officers

To improve governance, the University has established several committees for effective and decentralized management at the university, school, and department levels.

The Dean of Research prepares the strategy for research and monitors the progress in academic research, sponsored research, and industrial consulting to foster an inventive culture and research atmosphere. Policies and procedures on research and consulting are formulated by the Dean of Research and later approved by the Academic Council (AC) and Board of Management (BoM). The University has a strategic plan in place for raising resources from the government, private, and other funding agencies. AUM engages in academic, student, and research exchange partnerships with

international institutes and universities.

The University Officers, responsible for overseeing the institution's daily operations, include the Honorable Vice-Chancellor, who serves as the principal executive officer. The Vice-Chancellor oversees all operations and is responsible for implementing the decisions made by the statutory authorities. In all academic matters, the Vice-Chancellor is supported by the Pro Vice-Chancellors and Deputy Pro Vice-Chancellors.

The Registrar, as the institution's administrative leader, manages all administrative functions. The Registrar represents the institution in all formal gatherings and judicial processes under the Vice-Chancellor's guidance.

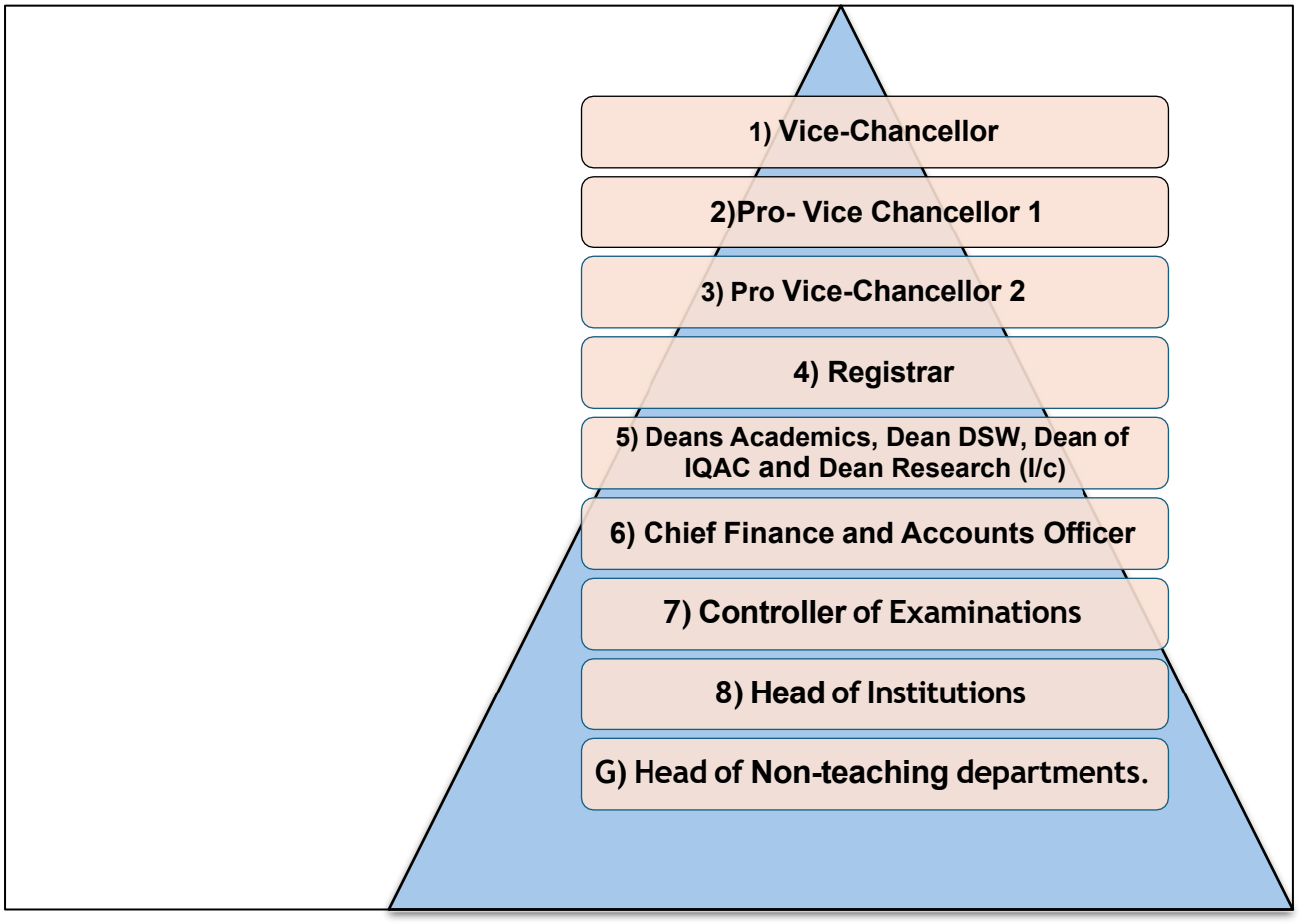


Fig. 9.9 University Officer List

The IPR cell of the University formulates and directs the IP strategy for the large base of knowledgeable faculty and highly talented students. The IPR Cell also supports the faculty and students in patenting through the Amity Patent Cell. Specialized research centers for transdisciplinary and interdisciplinary fields have also been established at AUM.

AUM participates in several community-focused social welfare programs through various clubs to

benefit the community. For teaching and non-teaching staff, the HR department gathers feedback and recommends welfare programs such as health benefits, performance bonuses, and on-campus housing. Mentoring and one-on-one student welfare programs assist students in resolving both personal and academic issues. A dedicated team of counsellors offers psychological counselling through the Office of Students.

The University comprises eighteen schools, each containing various departments. Faculty members, administrative staff, and department heads are part of these departments. Directors and the Head of Institution (HoI) oversee each school. Support personnel, including academic, administrative, and technical staff, enable the schools, labs, and research institutes to function effectively. The school provides clear and transparent principles, including standards and guidelines for the behavior of instructors, staff, and students.

9.1.2 Strategies for Implementation of Education Policy (10)

The implementation of the National Education Policy 2020 in the MCA program at Amity Institute of Information Technology (AIIT) is aligned with the broader vision of flexibility, multidisciplinary learning, skill development, and research orientation. While MCA is a postgraduate program, many NEP principles are integrated through academic and administrative reforms. Following key Initiatives for NEP 2020 Implementation in MCA (AIIT, Amity University Mumbai).

Flexible Curriculum Design: The MCA curriculum is structured to include elective courses, such as AI, Data Science, Cyber Security , and choice-based credit systems. This supports NEP's emphasis on flexibility and student-centric learning.

Multidisciplinary Learning Approach: Students are encouraged to take courses beyond core computing, such as communication skills, behavioral science, and involve in E-Cell activities of entrepreneurship. NEP promotes holistic and multidisciplinary education for diverse career opportunities.

Skill-Based and Outcome-Oriented Education: The program integrates industry-relevant tools like Python, cloud computing, and Business Analytics. Emphasis is placed on practical learning, problem-solving, and employability skills in-line with NEP's focus on 21st-century competencies.

Integration of Research and Innovation: Students are encouraged to undertake research projects, publish papers, and participate in innovation activities such as hackathons and startup activities organized by E-Cell. Hence MCA promotes NEP as research-driven education and innovation ecosystems.

Experiential Learning and Industry Connect: Internships, live projects, and expert sessions are organized for MCA Students. This aligns with NEP's objective of bridging academia and industry.

Use of ICT and Digital Learning: Advanced labs, LMS platforms, virtual labs, and blended learning methods are used. NEP strongly advocates digital transformation in education.

Continuous and Comprehensive Assessment: Assessment methods include quizzes, assignments, presentations, and project evaluations instead of only end-sem exams, promoting continuous learning.

Inclusivity and Student Support: Mentoring systems, language support sessions, and remedial classes ensure inclusive education, a core NEP principle.

Alignment with NEP Academic Structure: Although MCA remains a 2-year program, it is indirectly aligned with NEP pathways where students from 4-year UG (Honours/Research) programs can pursue 1-year master's options in the future.

9.1.3 Policy and Implementation Initiatives on Sustainable Development Goals (SDG) (5)

Amity University Mumbai has implemented several policy and practical initiatives aligned with the Sustainable Development Goals (SDGs), focusing on environmental sustainability, resource management, and social responsibility. The university promotes a green campus through tree plantation drives, maintenance of green belts, and biodiversity conservation, creating an eco-friendly learning environment. Effective water conservation practices such as rainwater harvesting, wastewater recycling, and zero discharge systems are adopted to ensure responsible water usage. In terms of energy management, the institution encourages the use of renewable energy sources like solar power along with energy-efficient infrastructure to reduce its carbon footprint. A structured waste management system is in place that includes segregation of waste, safe disposal of e-waste, and promotion of paperless practices. The university also supports sustainable transportation by encouraging shared mobility and minimizing vehicular emissions within the campus. Sustainability is integrated into the curriculum and research, where students engage in projects related to environmental and social challenges. Regular awareness programs, workshops, and outreach activities are conducted to sensitize students and the community about sustainable practices. The campus also promotes plastic-free initiatives and eco-friendly alternatives, along with conducting environmental audits and air quality monitoring. Through collaborations with industries and government organizations, the university strengthens its commitment to achieving SDGs and contributing to sustainable development.

Table 9.15 Policy Names and their Links

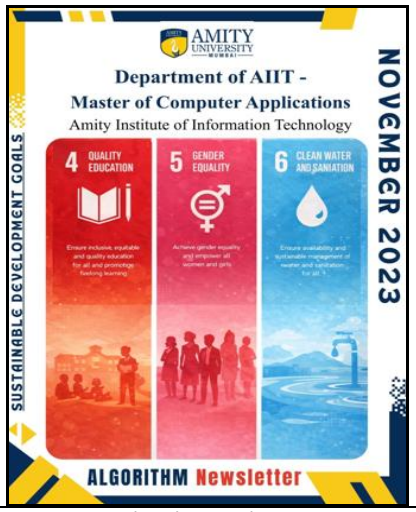
Policy Name	Policy URL	SDG
Student Scholarship Policy	https://www.amity.edu/mumbai/pdf/amity_university_scholarship_policy.pdf	SDG 4 & SDG 1
Innovation and Start-up Policy	https://www.amity.edu/mumbai/unsdg/pdf/partners hip-goals/2021/17.2.1%20national%20innovation%20and%20startup%20policy%20-%20evidence%201.pdf	SDG 9
Smoke Free Policy	https://www.amity.edu/mumbai/unsdg/pdf/good-health/2024/3.3.6smoke.pdf	SDG 3
Non-Discrimination Policies for Transgender	https://www.amity.edu/mumbai/unsdg/pdf/quality-education/2024/4.3.5policy.pdf	SDG 5, SDG 8 & SDG 15
Lifelong Learning Access Policy	https://www.amity.edu/mumbai/unsdg/pdf/quality-education/2021/life-long%20learning%20access%20policy.pdf	SDG 4
Policies Protecting those Reporting Discrimination	https://www.amity.edu/mumbai/unsdg/pdf/gender-equality/2024/5.6.8policy.pdf	SDG 5, SDG 8 & SDG 15
Policy of Non-Discrimination Vs. Women	https://www.amity.edu/mumbai/unsdg/pdf/gender-equality/2024/5.6.1non-discrimination.pdf	SDG 5, SDG 8 & SDG 15
Policy on Women Representation	https://www.amity.edu/mumbai/unsdg/pdf/gender-equality/2024/5.3.2policy.pdf	SDG 5, SDG 8
Maternity Policy	https://www.amity.edu/mumbai/unsdg/pdf/gender-equality/2024/5.6.3maternity.pdf	SDG 5, SDG 8
Climate Action Plan Policy	https://www.amity.edu/mumbai/pdf/climate-action-plan-policy-aum.pdf	SDG 7, SDG 11, SDG 12, SDG 13
Sustainable Procurement Policy	https://www.amity.edu/mumbai/pdf/sustainable-procurement-policy-aum.pdf	SDG 12, SDG 1
Sustainable Investment Policy	https://www.amity.edu/mumbai/pdf/sustainable-investment-policy-aum.pdf	SDG 10
Sustainable Donation and Funding Policy	https://www.amity.edu/mumbai/pdf/sustainable-donation-and-funding-policy-aum.pdf	SDG 10

Equality, Diversity and Inclusion Policy	https://www.amity.edu/mumbai/pdf/equality-diversity-and-inclusion-policy-aum.pdf	SDG 5, SDG 16, SDG1
Institutional Ethics Committee	https://www.amity.edu/mumbai/pdf/institutional-ethics-committee-aum.pdf	SDG 4 & SDG 16
Student representation in Governance of the University	https://www.amity.edu/mumbai/pdf/student-representation-governance-aum.pdf	SDG 4
Student led Society for Sustainability	https://www.amity.edu/mumbai/pdf/student-laid-society-for-sustainability-activity-report-aum.pdf	All SDGs
Disability Support Office	https://www.amity.edu/mumbai/pdf/disability-support-office.pdf	SDG 1, SDG3, SDG 16, SDG 10
Anti-Harassment Policy	https://www.amity.edu/mumbai/pdf/sustainbility/22.%20anti-harrassment%20policy.pdf	SDG 16
Student Council	https://www.amity.edu/mumbai/pdf/sustainbility/28.%20student%20council.pdf	SDG10
Faculty Training on Ethical Values Academia 2.0 and MUN	https://www.amity.edu/mumbai/pdf/sustainbility/26.%20training%20on%20ethical%20values%20academia%202.0%20and%20mun.pdf	SDG 8
Anti-Bribery Anti-Corruption Policy	https://www.amity.edu/mumbai/pdf/sustainbility/23.%20anti-bribery%20anti%20corruption%20policy.pdf	SDG 8, SDG 16
Strategic Document on Facilitate a Holistic Ethical Organizational Culture	https://www.amity.edu/mumbai/pdf/sustainbility/25.%20strategic%20document%20on%20facilitate%20a%20holistic%20ethical%20organisational%20cul ture.pdf	SDG 8, SDG 16
Student Representation in Institutional Quality Assurance Cell (IQAC)	https://www.amity.edu/mumbai/pdf/sustainbility/31.%20student%20representation%20in%20institutional%20quality%20assurance%20cell%20(iqac).pdf	SDG4
Approved Ordinance of the Amity University Maharashtra	https://www.amity.edu/mumbai/pdf/public-disclosure/approved%20first%20ordinance_amity%20university%20maharashtra.pdf	SDG4
QS Sustainability International Ranking Participation & Data Reporting.	https://www.amity.edu/mumbai/sustainbility.aspx	All SDGs Contribution
Participation in the Time Higher Education Ranking and Rating on Impact (Based on	https://www.amity.edu/mumbai/u	All SDGs Contribution

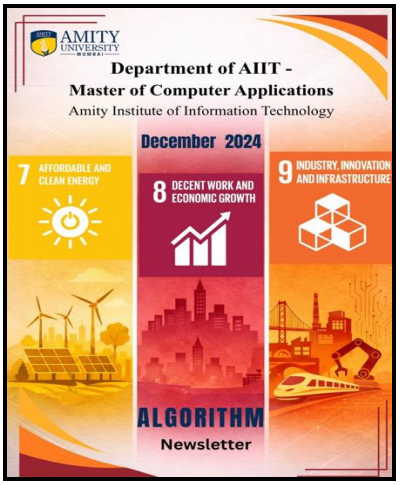
UN SDGs)	nsdg/index.html	

At MCA program, the department published a Department Magazine "Algorithm" in year 2022, 2023, and 2024 focusing on the Sustainable Development Goals. This has promoted the sustainability related product development activities in the department. Departments also organize the events related to innovation with special focus on the Sustainability.

Algorithm Newsletter
Special Focus on SDG-1, 2 and 3
Newsletter -October 2022



Algorithm Newsletter
Special Focus on SDG-4, 5 and 6
Newsletter -November 2023



Algorithm Newsletter
Special Focus on SDG-7, 8 and 9
Newsletter -December 2024

Fig. 9.10 Student Oriented Department SDG Focused Newsletter Editions.

9.1.4 Financial Support for Startup Eco-System (10)

The Entrepreneurship Cell (E-Cell) at Amity University Mumbai plays a significant role in fostering innovation, startup culture, and entrepreneurial thinking among students, including those in the MCA program. Its structured initiatives align with institutional goals of promoting self-reliance, innovation, and industry readiness. University has designed and adopted the Startup and Innovation policy aligned with the National Innovation and Startup policy. The university has the Institutional Innovation Council which organizes various events under the IIC. These activities are directly beneficial to the MCA Student through the counselling and activities conducted by the various mentors.

Startup Cell:

The E-Cell acts as a dedicated Startup Cell that nurtures entrepreneurial talent by providing mentorship, incubation support, and networking opportunities. It serves as a platform where MCA students can transform their technical ideas into viable business solutions, especially in domains like software development, AI, and Data Analytics.

Startup Policy:

The university follows a well-defined startup and innovation policy aligned with national initiatives such as Startup India. The policy encourages students to pursue startups alongside academics by offering flexibility in attendance, project work aligned with startup ideas, and academic support for innovation-driven activities. It also promotes intellectual property rights, patent filing, and prototype development.

Budget:

A dedicated budget is allocated by the university to support startup-related activities, including funding

for incubation, organizing events, conducting workshops, and supporting student participation in competitions. Financial assistance is also extended for prototype development and seed funding for promising startup ideas, benefiting MCA students working on technology-driven innovations.

Activities:

The E-Cell regularly organizes hackathons, startup boot camps, ideation challenges, guest lectures by industry experts, and entrepreneurship development programs. MCA students actively participate in coding competitions, app development challenges, and innovation contests, which enhance their technical and problem-solving skills. Collaboration with industry and startup mentors further strengthens practical exposure.

The active students are beneficiaries those are actively participate in E-Cell and start-up activities in MCA program. Participants gets hands-on experience in entrepreneurship, innovation, and product development. They benefit through skill enhancement, startup exposure, funding opportunities, and career diversification beyond traditional placements. Faculty members also benefit through involvement in mentoring and collaborative research, while the university strengthens its innovation ecosystem.

9.1.5 Decentralization and Delegation of Financial Powers (10)

The University has nineteen Schools, each fostering a culture of decentralized and participatory governance:

- Amity Institute of Information Technology (AIIT)
- Amity Business Schools (ABS)
- Amity School of Engineering & Technology (ASET)
- Amity Institute of Biotechnology (AIB)
- Amity School of Communication (ASCO)
- Amity Film School (AFS)
- Amity Institute of Technology (AIT)
- Amity Law School (ALS)
- Amity School of Architecture & Planning (ASAP)
- Amity School of Fashion Design & Technology (ASFT)
- Amity Institute of Behavioral and Allied Science (AIBAS)
- Amity School of Languages (ASL)
- Amity Institute of Liberal Arts (AILA)
- Amity School of Fine Arts (ASFA)
- Amity Institute of Travel & Tourism (AITT)
- Amity Institute of Applied Sciences (AIAS)
- CII – School of Logistics
- RICS – School of Built Environment
- Amity Institute of Pharmacy (AIP)

Directors and Heads of Institutions (HoIs) possess administrative and financial authority to propose budgets for laboratory equipment, events, and the strategic development of their respective schools. Faculty members have access to a variety of educational resources at the school level, including ICT equipment such as LCD projectors, classroom resources, laboratory equipment, computers, high-end computing resources, internet access, and the Learning Management System. The financial powers are also delegated to the HOIs to initiate the procurement of the laboratory resources.

At AUM, the principles of decentralization, delegation of power, and collective decision-making are deeply embedded. Under the leadership of the Vice Chancellor, each department and administrative function formulates specific growth plans and strategies that align with the university's overarching goals. Academic and administrative staff collaborate effectively to ensure the university's efficient operation. Key academic leadership positions such as Directors, Deans, and Heads of Institutions (HoIs) play crucial roles in this participatory process, implementing actions as directed by the Statutory Bodies. Support service divisions, including international relations, estate management, payroll management, human resources, and finance, assist all stakeholders involved.

Each of the nineteen schools oversees one or more academic departments and is led by a Head of Institution (HoI), Director, or Dean. These leaders have the authority to guide the development of their schools in alignment with the university's strategic plan. Each school or department has a Board of Studies, which includes external specialists from academic institutions and companies, as well as academics from within and outside the department.

Faculty members and student representatives actively participate in the university's statutory bodies and various committees. The university manages multidisciplinary degrees and programs with academic flexibility and an interdisciplinary focus, facilitated by a process of decentralization and empowerment at various levels.

Expert external members from academia and business are integral to the Statutory Bodies such as the Board of Studies, Planning and Monitoring Board, Academic Council, Board of Governors, and Board of Management. Their valuable suggestions are periodically incorporated into the university's system.

The management promotes transparency and stakeholder participation, encouraging all voices to be heard in the policy formation and decision-making processes. This participatory approach fosters two-way communication between leadership and staff. Regular meetings, open houses, and social events are organized throughout the academic year, allowing Senior University Officials to engage with staff and students.

Table 9.16 List of Faculties with Administrative Responsibility

Name of the Faculty	Administrative Responsibility
Dr. Sagar Barage	Research Coordinator
Dr. Abhishek Guldhe	University PhD Coordinator
Dr. Sanjay Patil	Director – RICS SBE
Dr. Bhawana Sharma	Director – ABS
Dr. Penna Suprasanna	Director – AIB
Dr. Bhawana Chanana	Director – ASFT
Dr. Rajesh Sidodia	HoI – ASCO
Dr. Manjeeri Vidya	HoI – ASL

Dr. Gigimon VS	Director – ALS
Dr. Gautam Gawali	Director – AIBAS
Dr. Bivek Dutta	HoI – AITT
Dr. Nilesh Wagh	A-LMS Coordinator (OSD to Hon. Vice Chancellor)
Dr. Penna Suprasanna	Dean Research (I/C)
Dr. Sunil Dhaneshwar	Dean IQAC
Dr. Suneela Dhaneshwar	Director – AIP
Dr. Manoj Devare	HoI – AIIT
Dr. Geetanjali Kapoor	Director - ASAP

9.1.6 Grievance Redressal Mechanism (10)

The institution has established various grievance redressal bodies, including the Internal Complaints Committee (ICC) and specific grievance redressal committees for students, faculty, and staff members. For instance, in cases of sexual harassment, a student can file a complaint with the head of the relevant committee. The university takes strict action on any complaints made by students or staff. Information boards displaying the helpline number and relevant contact details are posted at various building entrances. The anti-ragging committee also acts immediately on related complaints. Students can also report these cases directly to the head of the institute. Each school within the university has its own grievance redressal committee to address academic issues faced by students. These committees handle concerns related to attendance marking, examination results, the Learning Management System, student disciplinary matters, and the refund of fees and security deposits.

Table : 9.17 Various Committees

Appointment of the Ombudsperson	https://www.amity.edu/mumbai/pdf/public-disclosure/appointment-of- ombudsperson.pdf
Student Grievance Redressal Committee	https://www.amity.edu/mumbai/pdf/public-disclosure/students- grievance-redressal-committee-aum.pdf
Committee Against Sexual Harassment	https://www.amity.edu/mumbai/pdf/public-disclosure/reconstitution-of- committee-against-sexual-harassment-2022-1-u.pdf
Anti- Ragging Committee	https://www.amity.edu/mumbai/pdf/public-disclosure/anit-ragging- committee-2023-24.pdf

AMITY UNIVERSITY

Established vide Maharashtra Act No.13 of 2014, of Government of Maharashtra, and recognized under Section 2 (f) of UGC Act 1956.

Ref. No. AUM/RO/1735 **Date: 28/03/2024**

NOTIFICATION

CONSTITUTION OF STUDENT'S GRIEVANCE REDRESSAL COMMITTEE

The Student's Grievance Redressal Committee for the Academic Session 2023-24 comprising of the following members is hereby re-constituted:

Sr. #	Name	School/Department	Remark
1.	Dr. Gautam Gawali	AIBAS	Chairman
2.	Dr. H S Vyas	Registrar	Member
3.	Dr. Shrikant Charhate	ASET	Member
4.	Dr. Penna Suprasanna	AIB	Member
5.	Dr. Bhawna Sharma	ABS	Member
6.	Dr. Sunil Dhaneshwar	ASAS	Member
7.	Dr. Bhawana Chanana	ASFT	Member
8.	Dr. Gigimon V S	ALS	Member
9.	Dr. Manjiree Vaidya	ASL	Member
10.	Dr. Nima John	ASCO	Member
11.	Dr. Supriya Nene	ASAP	Member
12	Student Representative	Student Council	Special Invitee

Details of Ombudsperson:

Lt. Gen. V. K. Sharma, AVSM (Retd.),
Email- dsw@mum.amity.edu /registraraum@mum.amity.edu

Dr. H S Vyas
Registrar, AUM

Copy to:
All Concern
Hon'ble Vice Chancellor
Hon'ble Pro Vice Chancellor
Office Copy

Amity University, Mumbai-Pune Expressway, Bhatan, Post-Somathne, Panvel, Mumbai, Maharashtra – 410206
Toll-free: 1800-123-5577 / Tel.:02143-205037/38 /E-mail: admissions@mum.amity.edu / Website: www.amity.edu/mumbai

Fig. 9.11 : Student Grievance Addressal Committee

9.1.7 Transparency and Availability of Correct/Unambiguous Information in Public Domain (05)

Amity University Mumbai ensures “Transparency and Availability of Correct/Unambiguous Information in the Public Domain” through a well-defined system of communication, documentation, and digital access. The official website of Amity University Mumbai serves as the primary platform for disseminating authentic and updated information related to academic programs, curriculum structure, admission procedures, fee details, policies, and institutional achievements. All information is regularly reviewed and updated by concerned departments to maintain accuracy and clarity.

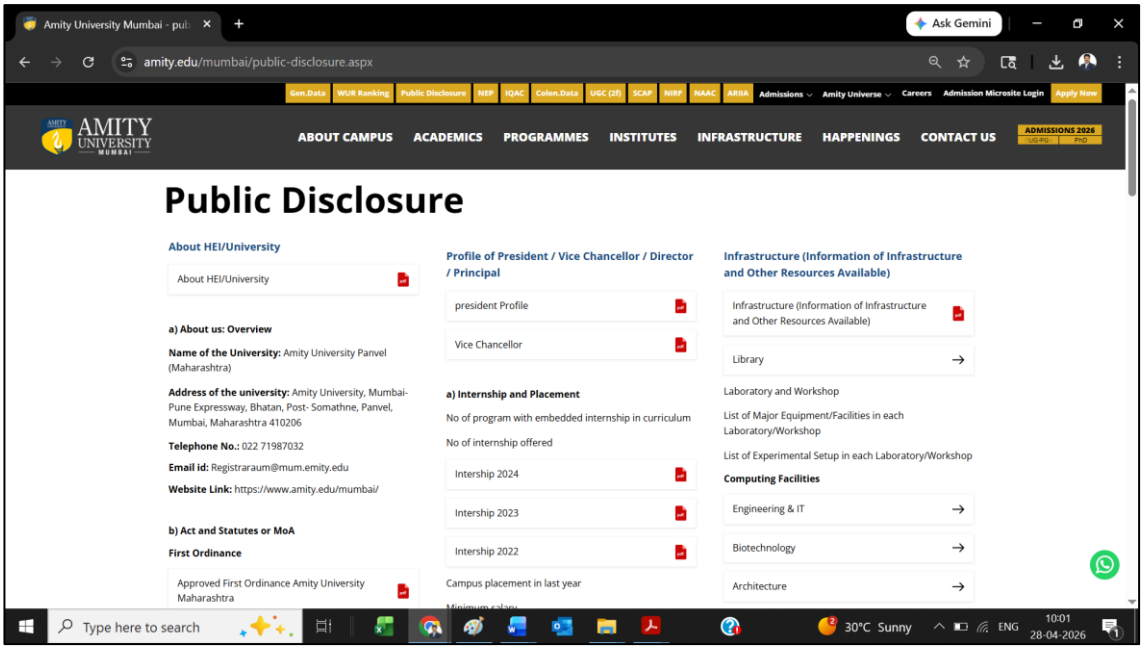


Fig. 9.12 : Amity University Mumbai Website – Public Disclosure

https://www.amity.edu/mumbai/public-disclosure.aspx

Fig. 9.13 : Amity University Mumbai Website https://www.amity.edu/mumbai/

The university publishes detailed brochures, academic calendars, and policy documents that clearly outline rules, regulations, examination patterns, and evaluation processes. This ensures that students and stakeholders have access to unambiguous academic and administrative information. Additionally, Learning Management Systems (LMS) and student portals provide real-time updates on attendance, assignments, internal marks, and examination schedules, enhancing transparency in academic processes.

Important notices, circulars, and announcements are communicated through official email systems and notice boards, ensuring that information reaches all stakeholders in a timely and reliable manner. The university also maintains transparency in assessment by sharing evaluation criteria, continuous assessment components, and feedback mechanisms with students.

Accreditation-related information, institutional reports, and compliance documents are made accessible to the public, reflecting accountability and openness. Regular audits and reviews further ensure that the information provided is accurate, consistent, and aligned with institutional policies. Amity University Mumbai maintains transparency through digital platforms, structured communication systems, and standardized documentation practices, ensuring easy access to clear, reliable, and up-to-date information for all stakeholders.

Amity University Maharashtra has implemented e-governance through TCS Ion and Amizone across all schools and university departments. This initiative streamlines daily operations, facilitates communication, and promotes transparency. The system centralizes information in a secure repository, ensuring data safety.

Examination rules, grading systems, debarring criteria, unfair means policies, scholarship schemes, and refund policies are available on the university website. Events and updates are disseminated through social media platforms. Additionally, policies on anti-ragging and anti-discrimination based on gender, religion, and caste are disclosed on the website. University provides equal opportunities in academics, research, sports, and various extracurricular activities. Committees responsible for addressing sexual harassment and grievances accept complaints from students and staff. All policy documents related to sustainability are also accessible on the university website.

Transparency is maintained through online and regularly updated student attendance records. The Amizone system serves as a central hub for access by students, faculty, parents, and administration, including the Registrar, Accounts, and the Vice Chancellor’s Office. Parents can view their child’s attendance and examination records through their login details. The system transparently manages attendance, remedial classes, session plans, examination forms, results, and financial transactions. Financial records, including semester fee payments and security deposit refunds, are handled transparently in accordance with UGC regulations and state and central government policies, which are updated periodically. All notices about fee payment, examinations, holiday lists, academic calendars, examination calendars, and examination rules are made available to students through their Amizone login. Student representatives are included as part of the Internal Quality Assurance Cell. The minutes of Governing Body meetings are available on the university website.

Table 9.18: Supporting Documents and Resources link

Student Representation in IQAC	https://www.amity.edu/mumbai/pdf/sustainbility/31.%20student%20representation%20in%20institutional%20quality%20assurance%20cell%20(iqac).pdf
Student Council	https://www.amity.edu/mumbai/pdf/student-representation-governance-aum.pdf
Minutes of Governing Body meeting	https://www.amity.edu/mumbai/pdf/minutes-of-governing-body-meeting.pdf

9.2 Budget Allocation, Utilization, and Public Accounting at Institute level (30)

(Summary of financial year's budget and expenditure incurred (for the institution exclusively) in the four current financial years.
CFY = Current Financial Year,
CFYm1 = Current Financial Year minus 1
CFYm2 = Current Financial Year minus 2
CFYm3 = Current Financial Year minus 3)

Table No. 9.19 Total Income at Institute level.

Financial Year	Fee Received	Grant received from Government	Other Sources (specify)	Total Amount
CFY	7,39,04,262	00	13,27,136	7,52,31,398
CFYm1	6,70,83,250	00	12,22,509	6,83,05,759
CFYm2	6,50,76,975	00	11,12,208	6,61,89,183
CFYm3	4,35,03,395	00	5000	4,35,08,395

Table No. 9.20. Summary of budgeted and expenditure in rupees

Items	Budgeted in CFY	Budgeted in CFY*m*1	Budgeted in CFY*m*2	Budgeted in CFY*m*3	Actual Expenses in CFY*m*1	Actual Expenses in CFY*m*2	Actual Expenses in CFY*m*3
Capital Expenditure							
Infrastructure Built-Up	00	00	00	00	00	00	00
Library*	1,21,434	1,17,897	1,10,644	48,885	1,16,155	1,09,009	47,005
IT Infrastructure	25,74,360	25,14,023	16,89,772	10,86,093	24,76,870	16,64,800	10,44,320
Others	47,27,931	46,02,577	24,63,038	7,73,791	45,34,559	24,26,638	7,53,630
Operational Expenditure							
Salary (Teaching, Non-teaching and other Staff	1,09,91,205	88,08,676	54,57,144	44,74,866	76,21,230	46,24,525	37,31,007
Capacity Development	80,000	75,000	70,000	65,000	72,000	66,000	63,000
R&D and Startup etc.	00	00	00	00	00	00	00
Others	5,72,75,412	5,24,90,241	4,36,26,546	2,54,95,722	5,10,91,869	4,29,57,122	2,50,73,917
Total	7,57,70,342	6,86,08,415	5,34,17,144	3,19,44,357	6,59,12,683	5,18,48,094	3,07,12,879

**Paper books and electronic (e-journals, e-books, e-subscription, publications etc.)*

9.2.1 Adequacy of Budget Allocation (10)

A well-defined strategic plan and financial budget are meticulously prepared in advance for each financial, annual, and academic year, incorporating input from both faculty and administrative staff. The Chancellor conducts a quarterly review of the budget allocation to address any potential gaps. Key budget categories encompass recruitment to support the expanding campus, performance-based compensation, third-party services, the acquisition of capital equipment such as research instruments and resources for new programs, repairs, annual maintenance, library book acquisitions, online subscriptions, consumables, and chemicals.

The budget also ensures provisions for essential services, including a 24/7 Internet facility on campus, electricity, cleaning, and maintenance. The IT department is responsible for maintaining the IT infrastructure, guaranteeing uninterrupted Internet service for all students and faculty members. To enhance teaching and learning, the university allocates an annual budget for guest lectures, invited talks, visiting faculty, and alumni presentations. Additionally, financial resources are dedicated to career advancement activities, such as inviting industry leaders and organizing CEO Conclaves and HR Meets. These initiatives offer significant opportunities for the professional development of our students.

9.2.2 Budget Allocation for Industrial Linkage (5)

The budget allocation for industry linkage in the MCA program at Amity University Mumbai is planned in a structured and decentralized manner to ensure effective interaction with industry stakeholders and enhancement of student employability.

A dedicated component of the departmental budget is allocated for industry linkage activities, which includes collaborations, expert interactions, and skill development initiatives. The Entrepreneurship Cell (E-Cell) activities—such as startup workshops, hackathons, boot camps, and innovation challenges—are considered a vital part of industry linkage, as they directly connect students with entrepreneurs, startup mentors, and industry experts. Hence, the budget for E-Cell programs, events, and activities is included under the broader head of industry linkage and innovation support.

In addition, the Corporate Resource Centre (CRC)/Placement Cell is a key unit responsible for maintaining strong industry connections. It operates with a separate budget allocation, which also includes provisions specifically earmarked for MCA students. This budget supports placement drives, recruitment activities, pre-placement training, aptitude sessions, and industry networking events. The placement cell regularly interacts with companies to facilitate internships and final placements, thereby strengthening industry-academia relationships.

At the departmental level, the MCA program also utilizes allocated funds to organize guest

lectures, expert talks, industrial visits, and workshops conducted by professionals from reputed organizations. These activities are planned throughout the academic year and are funded under departmental and industry linkage budgets.

9.2.3 Utilization of Allocated Funds (10)

Based on the actual and budgeted expenses, the institute has allocated sufficient funds for various purposes. The details of each of the heads of expenses along with actual expenses and budgeted expenses are provided on the table below. Budgeted expenses are prepared by the faculty based on the requirements for conducting teaching, learning and research. The comparison of budgeted funds and actual utilization of funds shows that in most cases the budgeted fund is almost fully utilized for the purpose for which it is allocated and has been estimated with thought.

Table 9.21 Utilization of Allocated Fund

Sr. Nr.	Assessment Year	Budget allocated	Actually Expenditure	% of Utilization
1	2024-25	*6,86,08,415*	6,59,12,683	96.07%
2	2023-24	5,34,17,144	5,18,48,094	97.06%
3	2022-23	3,19,44,357	3,07,12,879	96.14%

9.2.4 Availability of the Audited Statements on the Institute's Website (5)

The university upholds a policy of transparency regarding its income and expenditure for the financial year. Periodically, the audited financial statements are made available on the institution's website.

Supporting Documents and Resources link

https://www.amity.edu/mumbai/pdf/sustainbility/29.%20financial%20statement.pdf

9.3 Library and Internet (30)

9.3.1 Quality of Learning Resources (Hard/Soft) (20)

The quality of learning resources in the library at Amity University Mumbai is comprehensive, up-to-date, and aligned with the academic and research needs of MCA students. The library is well-stocked with a wide collection of textbooks, reference books, national and international journals, magazines, and e-resources covering core areas such as programming, data science, artificial intelligence, cybersecurity, and emerging technologies.

In addition to physical resources, the library provides access to a rich digital repository, including e-books, online journals, research databases, and institutional subscriptions to platforms like IEEE, Springer, and other scholarly sources. These resources enable students

and faculty to stay updated with the latest developments in the field of computer applications and support research and project work.

The library is fully automated with modern library management systems that facilitate easy search, issue, and return of books through an Online Public Access Catalogue (OPAC). A well-designed reading environment with adequate seating, proper lighting, and a quiet atmosphere enhances the learning experience.

Students are also provided remote access to digital resources, allowing them to utilize library materials beyond campus hours. Regular updates of books and journals, along with recommendations from faculty members, ensure that the collection remains relevant and industry oriented. E-learning sources available on Amizone.net portal (E-books and E-Journals)

Relevance of available learning resources

The Delnet service to access the E-Books and E journals i.e. available on the Delnet portal. The DELNET (Developing Library Network) service is a valuable digital library resource that significantly benefits both MCA students and faculty members. It provides access to a vast network of national and international libraries, enabling users to explore a wide range of books, research journals, conference proceedings, dissertations, and e-resources. Through DELNET, MCA students can easily obtain reference materials for their coursework, projects, and research activities, thereby enhancing their academic performance and knowledge base. Faculty members benefit by accessing up-to-date research publications, which support teaching, curriculum development, and scholarly work. Additionally, DELNET facilitates inter-library loan services, allowing users to request resources that may not be available in the institute's own library. Overall, this service promotes a strong research culture, encourages self-learning, and supports continuous academic development within the MCA program.

Automation/Digital Resources

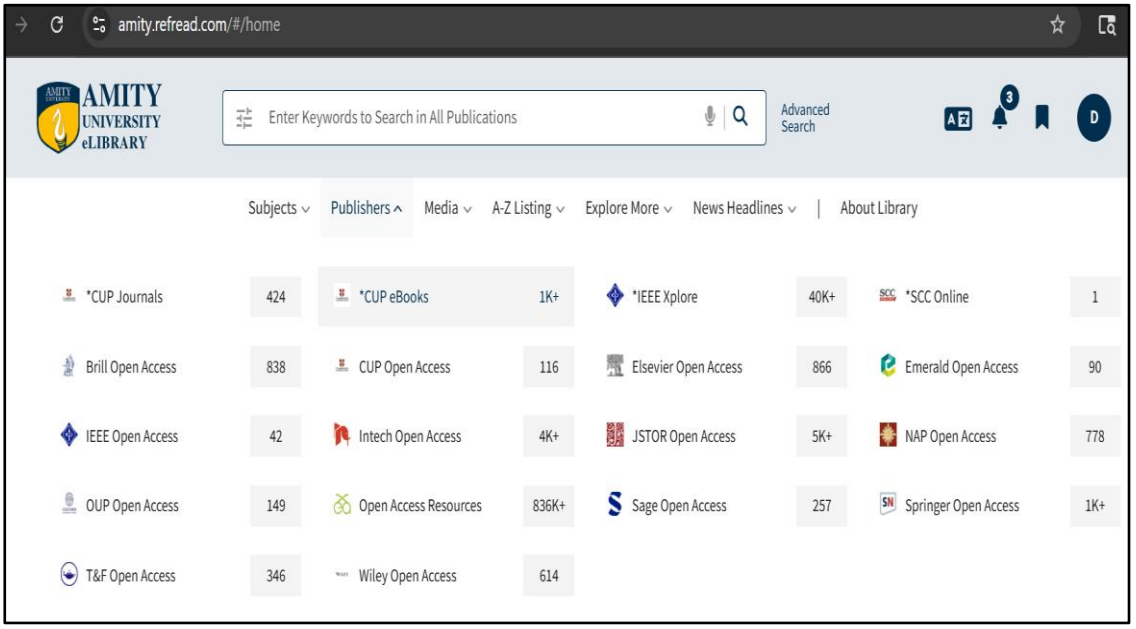


Fig. 9.12 E-Library Available through Amizone Student and Faculty login.

Accessibility to Students:

E-learning accessibility to students through Amizone login portal under Amizone Home> eLibrary Section. This centralized digital platform provides MCA students with seamless access to a wide range of academic and research resources anytime and anywhere.

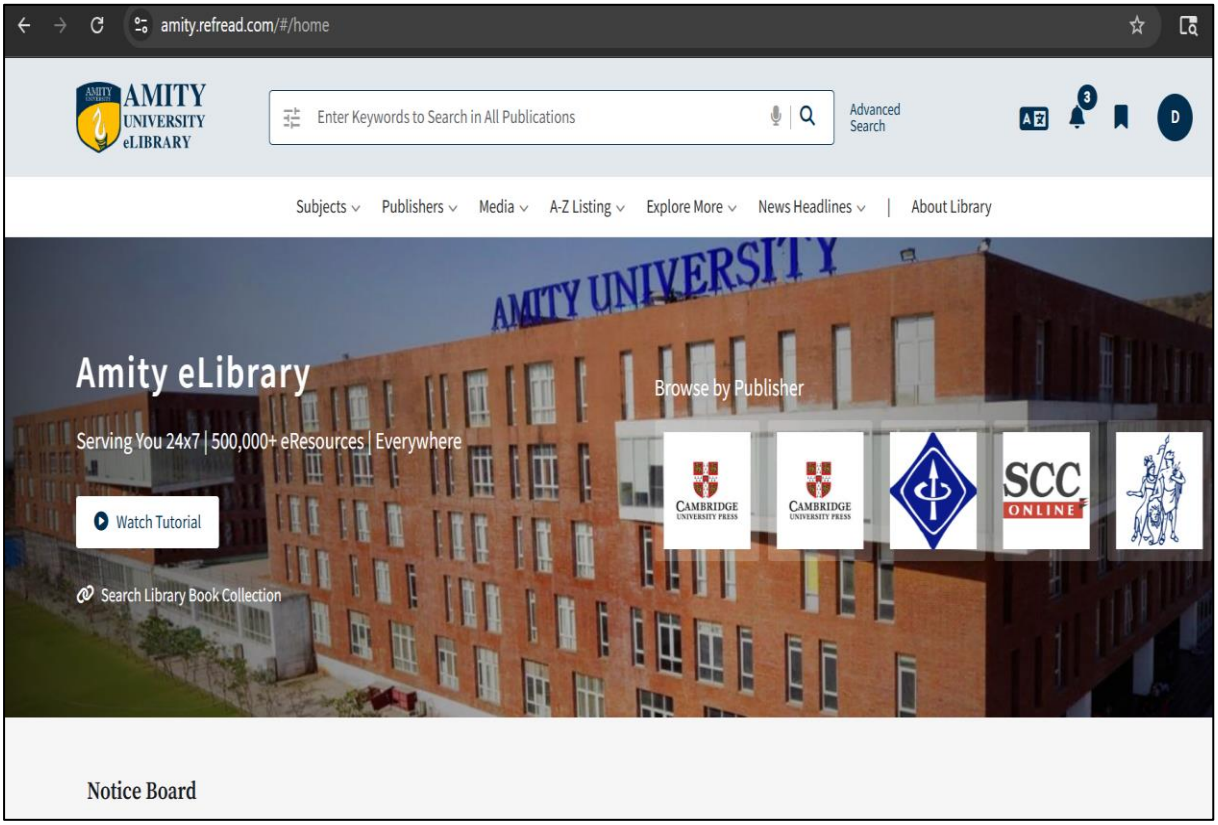


Fig. 9.13 E-Library Available through Amizone Student and Faculty login.

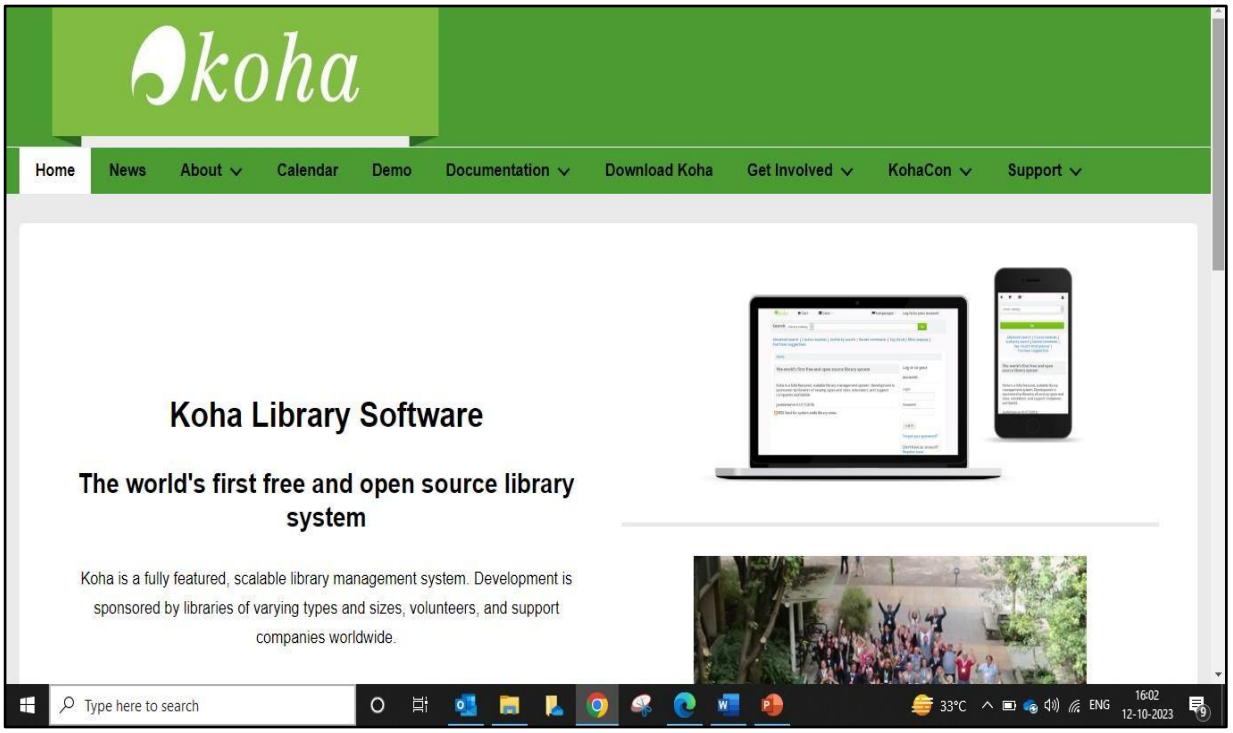


Fig. 9.14 Accessibility to students: Physically from library students can issue two books for one week through Library software (Koha software).

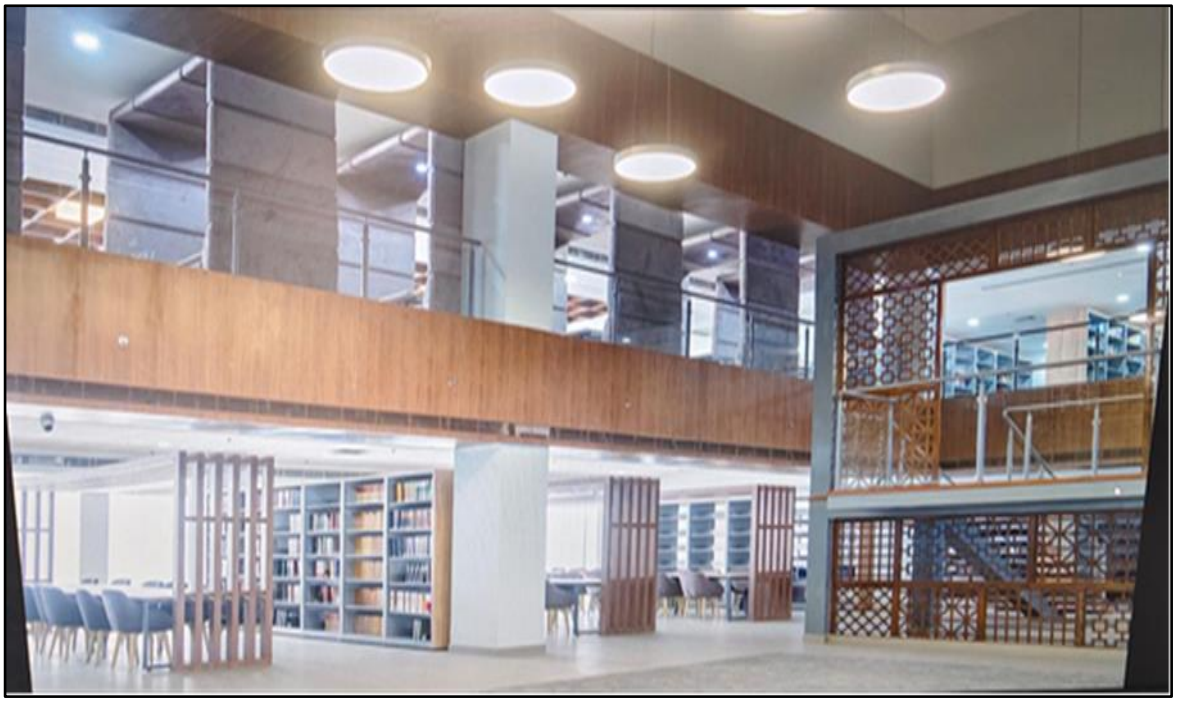


Fig. 9.15 Central Library

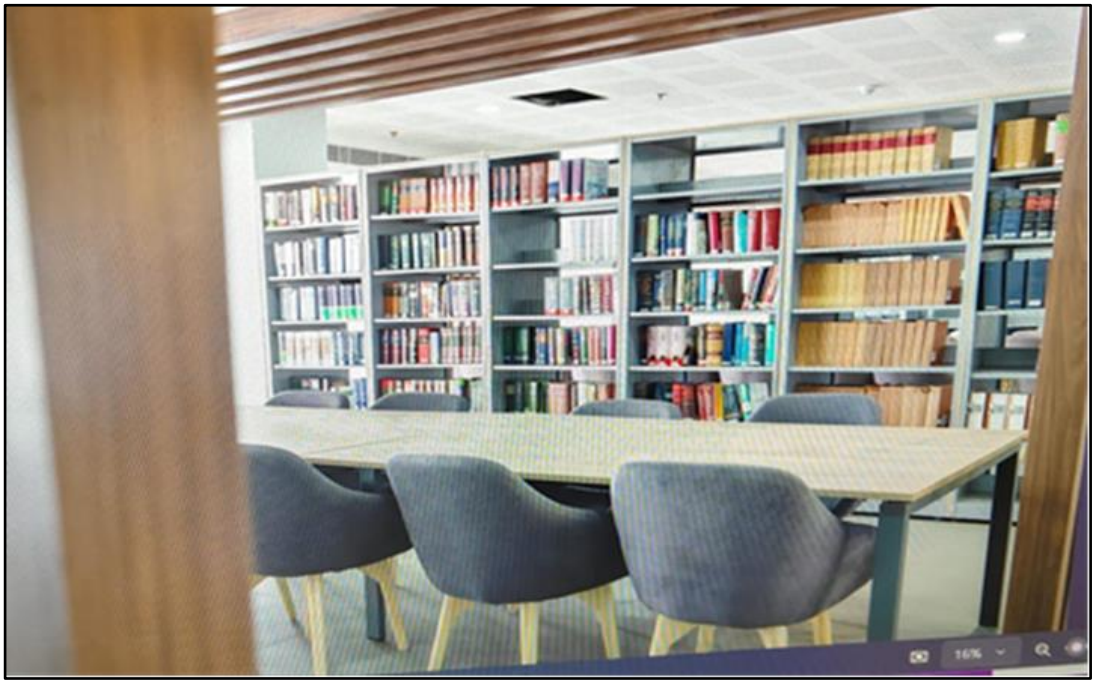


Fig. 9.16 Central Library

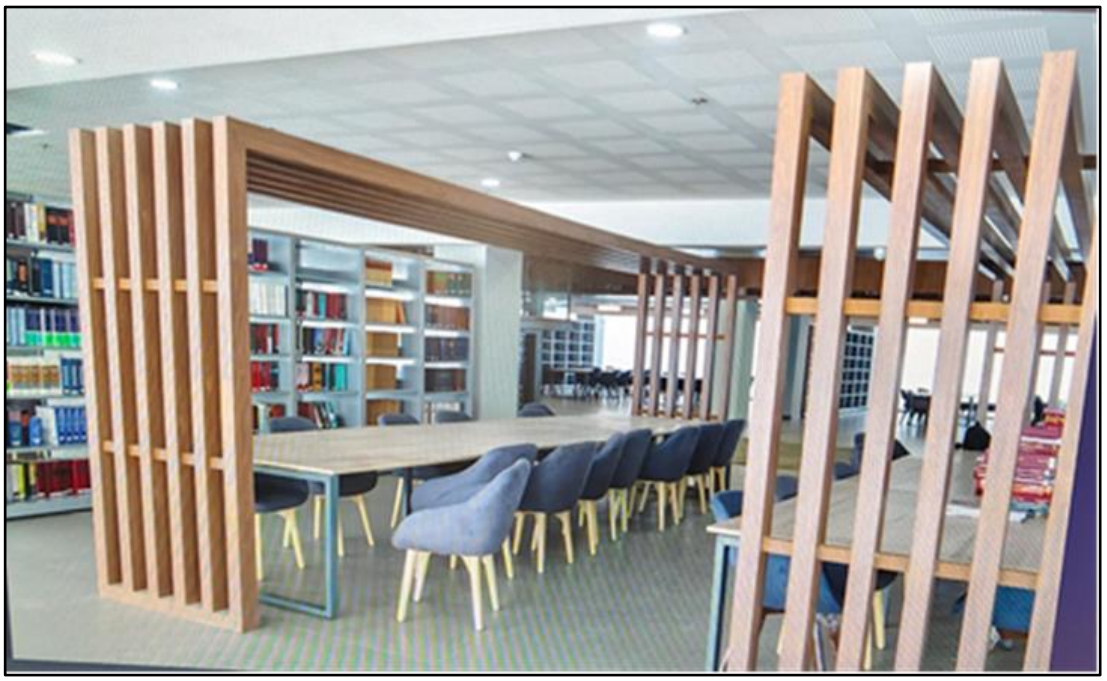


Fig. 9.17 Central Library

Table 9.22 : Books and Journal at Central Library

Resource Type	Details
Total number of book volumes	4672
Total number of book titles	1751
Reference books	1004
Print journals and magazines	13 magazines (National/International)

The library provides extensive digital learning resources accessible through the portal and institutional network to support teaching, research, and self-learning.

9.23 Usage and Accessibility Statistics

Resource Type	Details
Number of subscribed databases	17
Total e-journals available	49,677
Total e-books available	981,672
Consortium membership	DELNET
Remote/off-campus access	Available
Institutional digital repository	Available
Open access resources	Facilitated by the library

Library Working Hours: Monday–Friday 09:00 AM – 09:00 PM. During examinations: Monday–Saturday 09:00 AM – 09:00 PM.

9.24. Usage and Accessibility Statistics

Category	Average Daily Footfall
Students	1500–1600
Faculty	10–15

9.25. Library Infrastructure and Facilities

Facility	Details
Seating capacity	350–400
Reading / discussion rooms	4 rooms
Computer systems for users	19
Internet connectivity	Wi-Fi and LAN available
Library automation software	KOHA
RFID / Barcode system	Implemented
OPAC / Web-OPAC	Available

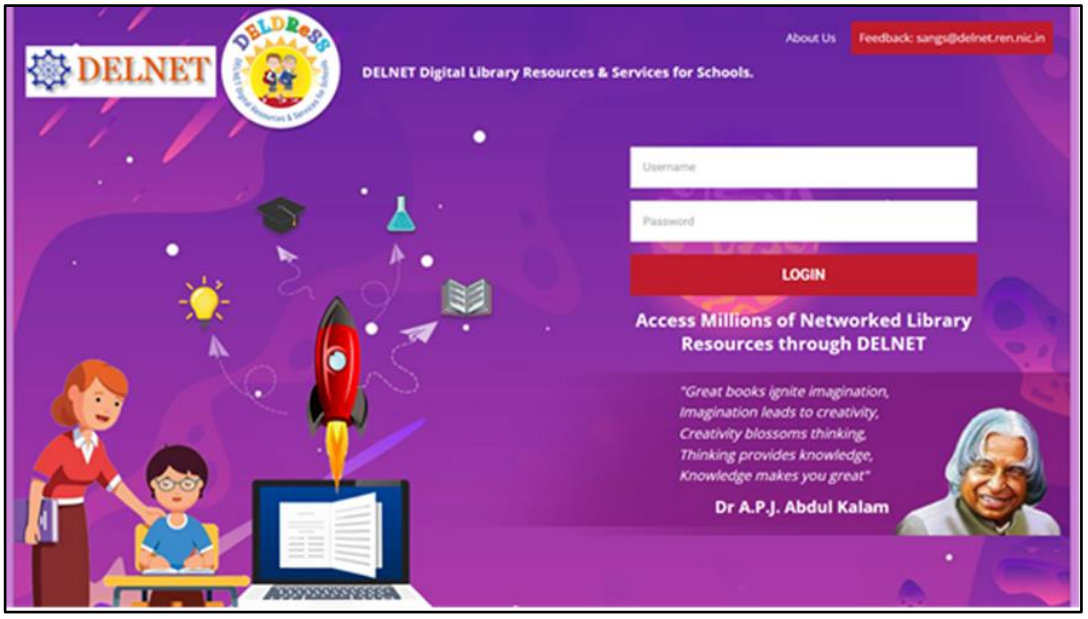


Fig. 9.18 Delnet Access Page

9.3.2 Internet (10)

The MCA department at Amity University Mumbai is well-supported with robust Internet facilities provided through the Central IT Department, ensuring seamless digital access for academic and research activities. High-speed internet connectivity is made available across computer laboratories, classrooms, faculty cabins, and common areas through a centrally managed network infrastructure.

The campus is equipped with multiple Wi-Fi access points strategically installed to provide uninterrupted wireless connectivity. MCA students can easily access the Internet using their digital devices such as laptops, tablets, and smartphones, enabling them to engage in online learning, coding practices, research work, and use of Cloud-based platforms. The Wi-Fi facility extends beyond academic blocks to hostel premises, ensuring that students residing on campus have round-the-clock Internet access for study and communication purposes.

To maintain data security and controlled usage, the network is protected through secure login credentials, firewalls, and network monitoring systems implemented by the Central IT Department. Access is provided through authenticated user IDs and passwords, ensuring that only authorized users can utilize the network. Content filtering and cybersecurity measures are also in place to prevent misuse and ensure safe browsing.

Table: 9.23 Internet Service and Availability

Sr. No.	Facility	Details
1	Name of the Internet Provider	Sify and one broadband.
2	Available Bandwidth	2 GBPS
3	Wi-Fi Facility availability with Bandwidth	WIFI Facility available.
4	Internet access in labs, classrooms, library and other offices.	Internet services available
5	Security arrangements (related to Wifi & Internet, Firewalls)	AUM campus has High Tech Security System
6	Justification of the bandwidth for support to digitization process adopted like LMS, video-based learning etc	Bandwidth is equally distributed between all users

Declaration

The head of the institution needs to make a declaration as per the format given below:

I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines in force as on date and the institute shall fully abide by them.

It is submitted that information provided in this Self-Assessment Report is factually correct. I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA in case any false statement/ information is observed during pre-visit, visit, post-visit and subsequent to grant of accreditation.

Date: 27/04/2026
Place: Panvel

AMITY UNIVERSITY MUMBAI

Signature, Name and Designation of the Head of the Institution with Seal

Prof. Dr. A.W.Santhosh Kumar
Ph.D PDF (UC-Davis NIH-USA), FAMPV, FNAAS, FNAVS
Vice Chancellor
Amity University, Mumbai.
Maharashtra - 410206.

ANNEXURE I: PROGRAM OUTCOMES

1. **PO1 (Foundation Knowledge)**: Apply knowledge of mathematics, programming logic and coding fundamentals for solution architecture and problem solving.

2. **PO2 (Problem Analysis)**: Identify, review, formulate and analyse problems ~~for~~ primarily focussing on customer requirements using critical thinking frameworks.

3. **PO3 (Development of Solutions)**: Design, develop and investigate problems with ~~as~~ an innovative approach for solutions incorporating ESG/SDG goals.

4. **PO4 (Modern Tool Usage):** Select, adapt and apply modern computational tools such as development of algorithms with an understanding of the limitations including human biases.

5. **PO5 (Individual and Teamwork)**: Function and communicate effectively as an individual or a team leader in diverse and multidisciplinary groups. Use methodologies such as agile.

6. **PO6 (Project Management and Finance):** Use the principles of project management such as scheduling, work breakdown structure and be conversant with the principles of Finance for profitable project management.

7. **PO7 (Ethics):** Commit to professional ethics in managing software projects with financial aspects. Learn to use new technologies for cyber security and insulate customers from malware

8. **PO8 (Life-long learning):** Change management skills and the ability to learn, keep up with contemporary technologies and ways of working.