



**Annexure – I**

**Program Structure of Master of Science in Information Technology**

<b>Institution</b>	:	Department of Information Technology	
<b>Programme Title</b>	:	M.Sc. – Information Technology	
<b>Batch</b>	:	2025-27	
<b>Duration of the program (in Yrs):</b>		2	<b>Level – PG</b>
<b>Semesters:</b>		4	

**Programme : M.Sc. (Information Technology)  
Batch : 2025-27**

**1. Program Mission**

To provide high-quality education in computer science and applications, with a strong emphasis on emerging technologies and practical skills. It aims to develop students into competent IT professionals who are not only technically proficient but also ethically grounded, culturally aware, and committed to human values. The program fosters holistic growth by encouraging innovation, critical thinking, and a sense of social responsibility, aligning with Amity’s vision of nurturing future-ready leaders who contribute meaningfully to society and the nation..

**2. Programme Educational Objectives/Goals(PEOs)**

- i. Equip graduates with strong theoretical and practical knowledge in areas such as software engineering, data analytics, cybersecurity, and emerging technologies.
- ii. Prepare students for successful careers in the IT industry, research, academia, and entrepreneurship by developing relevant technical and problem-solving skills.
- iii. Instil professional ethics, values, and a strong sense of social responsibility in students to guide them in their professional conduct.
- iv. Develop communication, teamwork, and leadership skills for effective collaboration in multidisciplinary and multicultural environments.
- v. Encourage graduates to pursue continuous learning, professional development, and advanced studies to keep pace with technological advancements.
- vi. Promote a spirit of innovation, critical thinking, and research for addressing real-world challenges through IT solutions.

**3. Programme Operational Objective(POOs)**

- i. The M.Sc.(IT) programme intends to establish robust teaching and learning resources and infrastructure to foster excellence in education and research.
- ii. The M.Sc.(IT) programme will offer continuous professional development opportunities for faculty and staff to enhance their knowledge and teaching capabilities.
- iii. The M.Sc.(IT) programme will provide comprehensive support systems to facilitate student success in campus placements, higher education pursuits, or entrepreneurial ventures.
- iv. The M.Sc.(IT) programme will ensure transparency and good governance in all institutional responsibilities and policy implementations.

- v. The M.Sc.(IT) programme will create opportunities for international exposure for both students and faculty to broaden their academic and cultural perspectives.

### Semester 1

S.No	Course Name	Credits
1	Advanced Artificial Intelligence and Machine Learning	6
2	Advanced Data Communication and Computer Networks	6
3	Cloud Computing and Virtualization	6
4	Quantitative Techniques	6

### Semester 2

S.No	Course Name	Credits
1	Cloud Infrastructure and Services	6
2	Data Science and Big Data Analytics	6
3	Network Security and Cryptography	6
	Pattern Recognition Techniques	6

### Semester 3

S.No	Course Name	Credits
1	Artificial Intelligence and Robotics	6
2	Internet of Everything	6
3	Research Methodologies	6
4	Business Intelligence and Analytics	6
5	Minor Project	4

### Semester 4

S.No	Course Name	Credits
1	Major Project	20

#### 4. Education Outcome Assessment Plan:(as per the University format)

Type	Assessment/PLO
Direct	Comprehensive examinations
	End Semester Examinations
	Viva Voce
Indirect	Exit interviews
	External Reviewers

#### 5. Programme Learning Outcomes(PLOs)

- i. To apply the knowledge of mathematics, science, computer science fundamentals, computational techniques, and computer science applications specialization to solve the problems.
- ii. To choose self-directed and active learning through strong intellectual engagement in independent work relevant to computer science & Technology stream maximizing their potential by utilizing abilities and academic excellence. -To think independently, analytically and creatively through self-directed learning
- iii. To use research-based knowledge and methods including design of experiments, analysis and interpretation of data, and synthesis of the information to arrive at valid conclusions. -To exercise critical judgment and thinking to create new systems / products / services etc.
- iv. To create, select, and apply modern computer science and applications techniques, resources, and IT tools for modelling and simulation of computer science and IT problems. -To develop self-paced learning through various tools and techniques of ICT
- v. To apply critical, creative and evidence-based thinking for creating solutions of computer science problems and to design system components or processes that meet the specified needs with appropriate consideration for the public health, safety, cultural, societal, and environmental considerations
- vi. To communicate effectively on engineering activities with the engineering professionals and society at large, such as, being able to comprehend and write effective reports, make effective presentations, give & receive clear instructions by utilizing various Information Technology tools and skills.
- vii. To demonstrate scientific creativity and reflective thinking to critically
- viii. To demonstrate analytical and decision-making skills to identify, formulate, and analyse complex computer science applications problems reaching substantiated conclusions using concepts of mathematics, science & information technology.
- ix. To function effectively as an individual, and as a member or leader in diverse teams, VUCA world and multidisciplinary settings for making the organization resourceful and achieving organisation goals.
- x. To apply contextual knowledge to assess societal, health, safety, legal, cultural issues and the consequent responsibilities relevant to the professional engineering practice -To appreciate diversity (caste, ethnicity, gender and marginalization), values and beliefs of multiple cultures in a global perspective.