



Department of Computer Science & Applications

BCA/BSC/MSC/MCA PROGRAMME

CURRICULUM

RELEASE DATE:

July 2026

(Applicable from 2025 admitted batch)

Preamble

We, the members of the Gujarat Institute of Computer Science and Applications (GICSA), are committed to promoting academic excellence, innovation, research, and professional ethics in the fields of Computer Science, Applications, and Information Technology. We strive to create a dynamic and student-centered learning environment where learners are encouraged to think critically, work collaboratively, and develop practical and analytical skills to solve real-world technological challenges. The institute aims to nurture competent professionals, innovators, entrepreneurs, and responsible citizens equipped to contribute effectively to the rapidly evolving digital society.

The curricula for the BCA, MCA, B.Sc. (Computer Science & Applications), and M.Sc. (Computer Science & Applications) programs have been revised in accordance with the guidelines of UGC, AICTE, NCERT, and the New Education Policy (NEP) under Academic Regulation 2022, integrated with modern industry practices and IEEE standards, effective from the academic session 2026–2027. The programs follow an Outcome-Based Curriculum (OBC) with a Choice-Based Credit System (CBCS), emphasizing multidisciplinary learning, skill enhancement, research orientation, and professional competency development aligned with the requirements of industry, higher education, entrepreneurship, and accreditation bodies such as NAAC.

To keep pace with emerging technologies and industry trends, the curricula include modern and application-oriented subjects such as Artificial Intelligence, Machine Learning, Data Science, Cloud Computing, Cyber Security, Internet of Things (IoT), Web and Mobile Application Development, Full Stack Development, Blockchain Technology, Data Analytics, and Design Thinking. The programs also emphasize practical learning through laboratory work, mini and major projects, internships, seminars, industrial training, and research activities, thereby preparing students for successful careers in software industries, research organizations, higher studies, and entrepreneurial ventures.

Students are encouraged to take MOOC courses of their choice to earn honors and gain additional knowledge in advanced technologies.

The course coding system has been updated from the respective academic sessions, as suggested by the Office of the Controller of Examinations. This change helps clearly distinguish the revised curriculum from previous versions.

The curriculum and syllabi are continuously updated through a structured feedback mechanism involving stakeholders such as faculty members, experts, industry experts, alumni and parents. This ensures that the program remains relevant, practical, and future-oriented.

With a focus on continuous learning, innovation, and adaptability, the department aims to develop skilled engineers, researchers, and future leaders who can contribute effectively to society and the rapidly evolving world of electronics, communication, and semiconductor technology.

Table of Contents

1. Institutional Vision & Mission	4
2. Program Objectives (POs)	4
3. Program Educational Objectives (PEOs)	5
4. Program Details.....	5
5. Curriculum Structure	7
6. Teaching Learning and Evaluation.....	11
7. Rules and Regulation	13
8. Student Support... ..	14
9. Program Credibility... ..	16
10. Collaborative Field Work / Experimental Work	18
11. Market Survey... ..	24
12. Review and Revision of Regulation.....	26
Annexure I : Detailed Syllabus.....	27

1. Institutional Vision & Mission

1.1 Vision:

To create a flexible and learner-focused engineering ecosystem that builds strong technical skills, practical knowledge, and innovative thinking, preparing graduates to adapt, perform, and lead in a rapidly evolving technological and societal environment.

1.2 Mission:

To provide a holistic learning environment that develops technical skilled, innovative, and socially responsible engineers capable of addressing industrial, technological, and societal needs.

2. Program Objectives

- Provide students with a strong foundation in computing, information technology, and related disciplines.
- Develop analytical thinking, problem-solving, and decision-making skills to address real-world challenges.
- Equip students with technical knowledge and practical skills required for designing, developing, and managing technology-based solutions.
- Foster innovation, creativity, research aptitude, and entrepreneurial mindset to adapt to emerging technologies.
- Enhance communication, teamwork, leadership, and professional competencies for effective collaboration in diverse environments.
- Instill ethical values, social responsibility, and a commitment to professional standards in the use of technology.

- Prepare graduates for successful careers, higher education, lifelong learning, and continuous professional development in the fields of computing and information technology.

3. Program Educational Objectives (PEOs)

PEO 1: Professional Competence

“Apply fundamental and advanced knowledge of computing, information technology, and related disciplines to develop effective solutions for real-world problems.”

PEO 2: Career Development

“Pursue successful careers in industry, government, academia, entrepreneurship, and other professional domains by utilizing technical, analytical, and managerial skills.”

PEO 3: Lifelong Learning

“Engage in continuous learning, professional development, higher education, research, and adaptation to emerging technologies and evolving industry requirements.”

PEO 4: Innovation and Problem Solving

“Demonstrate creativity, critical thinking, and innovation in designing and implementing technology-driven solutions to address societal and industrial challenges.”

PEO 5: Professional Ethics and Social Responsibility

“Exhibit ethical values, professionalism, leadership, teamwork, and social responsibility while contributing positively to society and the computing profession.”

4. Program Details

4.1 Program Structure & Duration

- Duration & Intake : 4 Years (UG) / 2 Years (PG)
- Semesters: 8 (UG) / 4 (PG)
- Mode: Full Time
- Credit Structure: As per NEP/University norms
- Medium of Instruction: English

4.2 Eligibility Criteria for Admission

Candidates who have obtained a bachelor's degree in any discipline from a recognized University/Institution approved by UGC, with minimum 50% aggregate marks (45% for reserved category candidates as per applicable norms), shall be eligible for admission to the program.

4.3 Admission Procedure

Admission to the program shall be made in accordance with the rules, regulations, and guidelines prescribed by the University and the Government from time to time.

- Candidates seeking admission must submit the prescribed application form along with the required documents within the stipulated time.
- Admissions shall be granted based on the eligibility criteria, merit, and other norms specified by the University.
- The candidate must produce original certificates and testimonials for verification at the time of admission.
- Admission shall be confirmed only after successful document verification and payment of the prescribed fees.
- The University reserves the right to cancel admission if any information provided by the candidate is found to be false, incorrect, or misleading.
- Candidates admitted to the program shall be governed by the academic rules, regulations, ordinances, and policies of the University in force from time to time.

4.4 Credit Summary for Computer Science & Application Course BCA/BSC/MSC/MCA in with effect from 2026-2027

Sl. No.	Course Type	ECE Credits
1.	Major/Core Courses (Information Technology)	44
2.	Discipline Specific Electives (DSE)	12
3.	Multidisciplinary / Interdisciplinary Courses	08
4.	Skill Enhancement Courses (SEC)	04
5.	Ability Enhancement Courses (AEC)	04
6.	Internship / Field Project	04
7.	Research Project / Dissertation	04
	Total	80
8	Honours Courses	20
	Grand Total	100

Definition of Credit (as per UGC / AICTE):

- 1 Hour Lecture (L) per Week = 1 Credit
- 1 Hour Tutorial (T) per Week = 1 Credit
- 1 Hour Practical (P) per Week = 0.5 Credits
- 2 Hours Practical (Lab) per Week = 1 Credit

5. Curriculum Structure

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT),B.Sc.(IT/CS/DS)(Hons), BCA (Hons) Admission Batch 2025-26													
Semester / Year : Semester I / First Year Batch 2025-26													
Effective From Academic Year: 2025-26													
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
10200101	DSC-I	Problem Solving with C	IEEE	4	3	0	2	5	50	50	25	25	150
10190105	DSC-II	Fundamentals of Data Management	NPTEL	4	3	0	2	5	50	50	25	25	150
10190106	DSC-III	Internet and Web Fundamentals	IEEE	4	3	0	2	5	50	50	25	25	150
10200102	MDC-1	Mathematics for Computer Science	IEEE	4	3	1	0	4	50	50	0	0	100
SEC-001	SEC - I	Animation and Graphic Design		2	0	0	4	4	25	25	0	0	50
AEC-002	AEC - I	Communication and Presentation for Technical Professionals (IEEE)		2	2	0	0	2	25	25	0	0	50
VAC-003	VAC-I	Awareness of Cyber crime and Ethical Hacking		2	2	0	0	2	25	25	0	0	50
		Total :		22	16	1	10	27					700

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT),B.Sc.(IT/CS/DS)(Hons), BCA (Hons) Admission Batch 2025-26													
Semester / Year : Semester II / First Year Batch 2025-26													
Effective From Academic Year: 2025-26													
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
30200201	DSC - I	Digital Electronics	IEEE	4	3	0	2	5	50	50	25	25	150
10200202	DSC - II	Fundamental of Data Structure	IEEE	4	3	0	2	5	50	50	25	25	150
10190205	DSC - III	Introduction to Python Programming	NPTEL	4	3	0	2	5	50	50	25	25	150
10210201	MDC-II	Statistics for Data Analytics		4	3	1	0	4	50	50	0	0	100
SEC019	SEC - II	Social Media and Management		2	0	0	4	4	25	25	0	0	50
AEC015	AEC - II	Personality Development for Effective Leadership		2	2	0	0	2	25	25	0	0	50
VAC021	VAC - II	Stress and Time Management		2	2	0	0	2	25	25	0	0	50
		Total :		22	16	1	10	27					700

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT), B.Sc.(IT /CS/DS)(Hons), BCA (Hons) Admission Batch 2025-26													
Semester / Year : Semeter III / Second Year 2025-26													
Effective From Academic Year: 2026-27													
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
20200301	DSC	Operating System	IEEE	4	3	1	0	4	50	50	0	0	100
20190301	DSC	Advanced Database Management System	NPTEL	4	3	0	2	5	50	50	25	25	150
20190302	DSC	Open Source Technology		4	3	0	2	5	50	50	25	25	150
20190303	Minor	PHP and MySQL	NPTEL	4	3	0	2	5	50	50	25	25	150
10190306	VEC-III	Universal Human Values		2	2	0	0	2	25	25	0	0	50
SEC024	SEC-III	Web Development Framework		2	0	0	4	4	0	25	0	25	50
SEC014		Introduction of Cyber Security							25	25	0	0	
10190308	AEC-III	Corporate Grooming and Business Etiquettes		2	2	0	0	2	25	25	0	0	50
		Total :		22	16	1	10	27					700

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT), B.Sc.(IT /CS/DS)(Hons), BCA (Hons) Admission Batch 2025-26													
Semester / Year : Semester IV / Second Year 2025-26													
Effective From Academic Year: 2026-27													
Subject Code	Course Type	Subject Name	Blended With	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
20200401	DSC	Computer Networks	IEEE	4	3	1	0	4	50	50	0	0	100
10210401	DSC	Python For Data Science	IEEE	4	3	0	2	5	50	50	25	25	150
20190401	DSC	Object Oriented Programming with JAVA	IEEE	4	3	0	2	5	50	50	25	25	150
20190404	Miner	Management Information System		4	3	0	2	5	50	50	25	25	150
10210402		Data Visualization Technology											
20190405		Software Quality Assurance											
IKS0401	IKS-I	Indian Ancient Science and Philosophy		2	2	0	0	2	25	25	0	0	50
AEC015	AEC	Personality Development for Effective		2	2	0	0	2	25	25	0	0	50
SEC018	SEC	Practical Workshop Training		2	0	0	4	4	0	0	25	25	50
		Total :		22	16	1	10	27					700

Gandhinagar Institute of Computer Science and Applications														
Tentative Scheme for M.Sc. (IT), B.Sc.(IT/CS/DS)(Hons), BCA (Hons) Admission Batch 2025-26														
Semester / Year : Semeter V / Third Year 2025-26														
Effective From Academic Year: 2027-28														
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total	
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment		
10190508	DSC	Design and Analysis of Algorithms		4	3	0	1	4	50	50	25	25	150	
10190509	DSC	Advanced Python Programming		4	3	0	1	4	50	50	25	25	150	
10190510	Minor-1	Data Warehousing and Data Mining		4	3	0	2	5	50	50	25	25	150	
10190511		ASP.NET Technology												
10210501		Probability and Statistics												
20190505	Minor-2	Mobile Application Development		4	3	0	2	5	50	50	25	25	150	
10210502		Fundamental of Artificial Intelligence												
10200508		Enterprice Resource Planning												
SEC018	SEC-IV	Practical Workshop Training		2	0	0	2	4	0	0	25	25	50	
IKS501	IKS-III	Vedic Mathematics and Logic		4	0	0	2	4	50	0	0	50	100	
		Total :		22	12	0	10	26					750	

Gandhinagar Institute of Computer Science and Applications														
Tentative Scheme for M.Sc. (IT), B.Sc.(IT /CS/DS)(Hons), BCA (Hons) Admission Batch 2025-26														
Semester / Year : Semester VI / Third Year 2025-26														
Effective From Academic Year: 2027-28														
Subject Code	Course Type	Subject Name	Blended With	Credit	Hours per week				Theory Exam		Practical Exam		Total	
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment		
10200601	DSC	IoT & Big Data		4	3	0	1	4	50	50	25	25	150	
10190511	DSC	Software Engineering		4	3	0	1	4	50	50	25	25	150	
20190501	DSC	Cloud Computing	IEEE	4	4	0	0	4	50	50	25	25	150	
10190512	Minor	Web Development Using Python & Django	IEEE	4	3	0	1	4	50	50	25	25	150	
20190504		Web Development Using PHP and Laravel												
10210601		Statistics and Exploratory Data Analysis												
SEC019	SEC-V	Social Media Management		2	0	0	2	2	25	25	0	0	50	
AEC002	AEC-IV	Communication & Presentation for Technical		2	0	0	2	2	25	25	0	0	50	
10190606	Internship	Internship/ Software Project		4	0	0	8	4	0	0	25	25	50	
		Total :		24	13	0	15	24					750	

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT), B.Sc.(IT /CS/DS)(Hons), BCA (Hons) Admission Batch 2025-26													
Semester / Year : Semester VII / Fourth Year 2025-2026													
Effective From Academic Year: 2028-29													
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
10370701	DSC	AI & ML	IEEE	4	3	0	2	5	50	50	25	25	150
10370702	DSC	Cyber Crime and Security		4	3	1	0	4	50	50	0	0	100
10370703	DSC	Advance Operating System		4	3	1	0	4	50	50	0	0	100
10200701	Minor	E-Commerce	IT/BCA	4	3	0	2	5	50	50	25	25	150
10210701		Data Analysis with Python	DS										
10190701		VB.NET Technology	CS/BCA										
10370704	Major Project	Project/Internship		4	0	0	8	8	0	0	200	100	300
		Total :		20	12	2	12	26					800

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT), B.Sc.(IT /CS/DS)(Hons), BCA (Hons) Admission Batch 2025-26													
Semester / Year : Semester VIII / Fourth Year 2025-26													
Effective From Academic Year: 2028-29													
Subject Code	Course Type	Subject Name	Blended With	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
10370705	Major Project	Project/Summer Internship		12	0	0	30	30	0	0	500	200	700
		Total :		12	0	0	30	30					700

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for Master of Computer Application (MCA)/MSC(IT) Admission Batch 2025-26													
Semester / Year : Semester I / First Year Batch 2025-26													
Effective From Academic Year: 2025-26													
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
11720101	DSC-I	Object Oriented Programming Using Java	IEEE	4	3	0	2	5	50	50	25	25	150
11720102	DSC-II	Advanced Database Management System	NPTEL	4	3	0	2	5	50	50	25	25	150
11490101	DSC-III	Advanced Data Structure	IEEE	4	3	0	2	5	50	50	25	25	150
11490102	MDC-1	Discrete Mathematic	IEEE	4	3	1	0	4	50	50	0	0	100
IKS0201	IKS	Indian Ancient History and Cultural Heritage		2	2	0	0	2	25	0	0	25	50
SEC006	SEC	Data Analysis using Spreadsheet		2	0	0	4	4	25	25	0	0	50
11720103	Project	Web Development Project		2	0	0	4	4	0	0	50	50	100
		Total :		22	14	1	14	29					750

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for Master of Computer Application (MCA)/MSC(IT) Admission Batch 2025-26													
Semester / Year : Semester II / First Year Batch 2025-26													
Effective From Academic Year: 2025-26													
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
11490201	DSC - IV	Advanced Python Programming	IEEE	4	3	0	2	5	50	50	25	25	150
11490202	DSC - V	Analysis & Design of Algorithm	NPTEL	4	3	0	2	5	50	50	25	25	150
11720201	DSC - VI	Advanced Web Application & Development	NPTEL	4	3	0	2	4	50	50	25	25	150
11720202	Minor -I	Software Engineering Methodologies		4	3	0	2	5	50	50	25	25	150
11720203		Software Testing											
11490203	MDC-3	Statistical Methods for Data Science		4	3	1	0	4	50	50	0	0	100
VAC003	VEC	Awareness of Cyber Crime and Ethical Hacking		2	2	0	0	2	25	25	0	0	50
		Total :		22	17	1	8	25					750

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for Master of Computer Application (MCA)/MSC(IT) Admission Batch 2025-26													
Semester / Year : Semeter III / Second Year Batch 2025-26													
Effective From Academic Year: 2026-27													
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
11720301	DSC-VII	Advanced Operating System	IEEE	4	3	0	2	5	50	50	0	0	100
11490301	DSC-VIII	.Net Technology	IEEE	4	3	0	2	5	50	50	25	25	150
11720302	DSC-IX	Network Security and Cryptography	IEEE	4	4	0	0	4	50	50	0	0	100
11490302	Minor-II	Applied Machine Learning	IEEE	4	3	1	0	4	50	50	25	25	150
11720303		Big Data Analytics											
11720304	Minor -III	Android Application & Development	IEEE	4	3	0	2	5	50	50	25	25	150
11490303		Internet Of Things											
11490304	Minor-IV	Data Visualization Using Python	NPTEL	4	3	0	2	5	50	50	25	25	150
Total :				24	19	1	8	28					800

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for Master of Computer Application (MCA)/MSC(IT) Admission Batch 2025-26													
Semester / Year : Semeter IV / Second Year Batch 2025-26													
Effective From Academic Year: 2026-27													
Subject Code	Course Type	Subject Name	Blended With	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
11490401	DSC-X	Cloud Computing Technology	IEEE	4	4	0	0	4	50	50	0	0	100
11720405	Project	Major Project		12	0	0	24	24	0	0	300	200	500
AEC016	AEC	Practical English		2	2	0	0	2	25	25	0	0	50
IKS-401	IKS-II	Indian Ancient Science and Philosophy		2	2	0	0	2	0	25	0	25	50
Total :				20	4	0	24	32	0	0	0	0	700

Gandhinagar Institute of Computer Science and Applications
Tentative Scheme for M.Sc. (IT),B.Sc.(IT/CS/DS)(Hons), BCA (Hons) Admission Batch 2026-27
Semester / Year : Semester I / First Year Batch 2026-27

Effective From Academic Year: 2026-27

Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
10200101	DSC-I	Problem Solving with C	IEEE	4	3	0	2	5	50	50	25	25	150
10190105	DSC-II	Fundamentals of Data Management	NPTEL	4	3	0	2	5	50	50	25	25	150
10190106	DSC-III	Internet and Web Fundamentals	IEEE	4	3	0	2	5	50	50	25	25	150
10200102	MDC-1	Mathematics for Computer Science	IEEE	4	3	1	0	4	50	50	0	0	100
SEC-001	SEC - I	Animation and Graphic Design		2	0	0	4	4	25	25	0	0	50
AEC-002	AEC - I	Communication and Presentation for Technical Professionals (IEEE)		2	2	0	0	2	25	25	0	0	50
VAC-003	VAC-I	Awareness of Cyber crime and Ethical Hacking		2	2	0	0	2	25	25	0	0	50
Total :				22	16	1	10	27					700

Gandhinagar Institute of Computer Science and Applications

Tentative Scheme for M.Sc. (IT),B.Sc.(IT/CS/DS)(Hons), BCA (Hons) Admission Batch 2026-27

Semester / Year : Semester II / First Year Batch 2026-27

Effective From Academic Year: 2026-27

Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
30200201	DSC - I	Digital Electronics	IEEE	4	3	0	2	5	50	50	25	25	150
10200202	DSC - II	Fundamental of Data Structure	IEEE	4	3	0	2	5	50	50	25	25	150
10190205	DSC - III	Introduction to Python Programming	NPTEL	4	3	0	2	5	50	50	25	25	150
10210201	MDC-II	Statistics for Data Analytics		4	3	1	0	4	50	50	0	0	100
SEC019	SEC - II	Social Media and Management		2	0	0	4	4	25	25	0	0	50
AEC015	AEC - II	Personality Development for Effective Leadership		2	2	0	0	2	25	25	0	0	50
VAC021	VAC - II	Stress and Time Management		2	2	0	0	2	25	25	0	0	50
Total :				22	16	1	10	27					700

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT), B.Sc.(IT/CS/DS)(Hons), BCA (Hons) Admission Batch 2026-27													
Semester / Year : Semeter III / Second Year 2026-27													
Effective From Academic Year: 2027-28													
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
20200301	DSC	Operating System	IEEE	4	3	1	0	4	50	50	0	0	100
20190301	DSC	Advanced Database Management System	NPTEL	4	3	0	2	5	50	50	25	25	150
20190302	DSC	Open Source Technology		4	3	0	2	5	50	50	25	25	150
20190303	Minor	PHP and MySQL	NPTEL	4	3	0	2	5	50	50	25	25	150
10190306	VEC-III	Universal Human Values		2	2	0	0	2	25	25	0	0	50
SEC024	SEC-III	Web Development Framework		2	0	0	4	4	0	25	0	25	50
SEC014		Introduction of Cyber Security							25	25	0	0	
10190308	AEC-III	Corporate Grooming and Business Etiquettes		2	2	0	0	2	25	25	0	0	50
		Total :		22	16	1	10	27					700

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT), B.Sc.(IT /CS/DS)(Hons), BCA (Hons) Admission Batch 2026-27													
Semester / Year : Semester IV / Second Year 2026-27													
Effective From Academic Year: 2027-28													
Subject Code	Course Type	Subject Name	Blended With	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
20200401	DSC	Computer Networks	IEEE	4	3	1	0	4	50	50	0	0	100
10210401	DSC	Python For Data Science	IEEE	4	3	0	2	5	50	50	25	25	150
20190401	DSC	Object Oriented Programming with JAVA	IEEE	4	3	0	2	5	50	50	25	25	150
20190404	Miner	Management Information System		4	3	0	2	5	50	50	25	25	150
10210402		Data Visualization Technology											
20190405		Software Quality Assurance											
IKS0401	IKS-I	Indian Ancient Science and Philosophy		2	2	0	0	2	25	25	0	0	50
AEC015	AEC	Personality Development for Effective		2	2	0	0	2	25	25	0	0	50
SEC018	SEC	Practical Workshop Training		2	0	0	4	4	0	0	25	25	50
		Total :		22	16	1	10	27					700

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT), B.Sc.(IT/CS/DS)(Hons), BCA (Hons) Admission Batch 2026-27													
Semester / Year : Semeter V / Third Year 2026-27													
Effective From Academic Year: 2028-29													
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
10190508	DSC	Design and Analysis of Algorithms		4	3	0	1	4	50	50	25	25	150
10190509	DSC	Advanced Python Programming		4	3	0	1	4	50	50	25	25	150
10190510	Minor-1	Data Warehousing and Data Mining		4	3	0	2	5	50	50	25	25	150
10190511		ASP.NET Technology											
10210501		Probability and Statistics											
20190505	Minor-2	Mobile Application Development		4	3	0	2	5	50	50	25	25	150
10210502		Fundamental of Artificial Intelligence											
10200508		Enterprise Resource Planning											
SEC018	SEC-IV	Practical Workshop Training		2	0	0	2	4	0	0	25	25	50
IKS501	IKS-III	Vedic Mathematics and Logic		4	0	0	2	4	50	0	0	50	100
		Total :		22	12	0	10	26					750

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT), B.Sc.(IT /CS/DS)(Hons), BCA (Hons) Admission Batch 2026-27													
Semester / Year : Semester VI / Third Year 2026-27													
Effective From Academic Year: 2028-29													
Subject Code	Course Type	Subject Name	Blended With	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
10200601	DSC	IoT & Big Data		4	3	0	1	4	50	50	25	25	150
10190511	DSC	Software Engineering		4	3	0	1	4	50	50	25	25	150
20190501	DSC	Cloud Computing	IEEE	4	4	0	0	4	50	50	25	25	150
10190512	Minor	Web Development Using Python & Django	IEEE	4	3	0	1	4	50	50	25	25	150
20190504		Web Development Using PHP and Laravel											
10210601		Statistics and Exploratory Data Analysis											
SEC019	SEC-V	Social Media Management		2	0	0	2	2	25	25	0	0	50
AEC002	AEC-IV	Communication & Presentation for Technical		2	0	0	2	2	25	25	0	0	50
10190606	Internship	Internship/ Software Project		4	0	0	8	4	0	0	25	25	50
		Total :		24	13	0	15	24					750

Gandhinagar Institute of Computer Science and Applications														
Tentative Scheme for M.Sc. (IT), B.Sc.(IT /CS/DS)(Hons), BCA (Hons) Admission Batch 2026-27														
Semester / Year : Semeter VII / Fourth Year Batch 2026-27														
Effective From Academic Year: 2029-30														
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total	
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment		
10370701	DSC	AI & ML	IEEE	4	3	0	2	5	50	50	25	25	150	
10370702	DSC	Cyber Crime and Security		4	3	1	0	4	50	50	0	0	100	
10370703	DSC	Advance Operating System		4	3	1	0	4	50	50	0	0	100	
10200701	Minor	E-Commerce	IT/BCA	4	3	0	2	5	50	50	25	25	150	
10210701		Data Analysis with Python	DS											
10190701		VB.NET Technology	CS/BCA											
10370704	Major Project	Project/Internship		4	0	0	8	8	0	0	200	100	300	
		Total :		20	12	2	12	26					800	

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT), B.Sc.(IT /CS/DS)(Hons), BCA (Hons) Admission Batch 2026-27													
Semester / Year : Semester VIII / Fourth Year Batch 2026-27													
Effective From Academic Year: 2029-30													
Subject Code	Course Type	Subject Name	Blended With	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
10370705	Major Project	Project/Summer Internship		12	0	0	30	30	0	0	500	200	700
		Total :		12	0	0	30	30					700

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT) Integrated Admission Batch 2026-27													
Semester / Year : Semeter I / First Year Batch 2026-27													
Effective From Academic Year: 2026-27													
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
10200101	DSC-I	Problem Solving with C	IEEE	4	3	0	2	5	50	50	25	25	150
10190105	DSC-II	Fundamentals of Data Management	NPTEL	4	3	0	2	5	50	50	25	25	150
10190106	DSC-III	Internet and Web Fundamentals	IEEE	4	3	0	2	5	50	50	25	25	150
10200102	MDC-1	Mathematics for Computer Science	IEEE	4	3	1	0	4	50	50	0	0	100
SEC-001	SEC - I	Animation and Graphic Design		2	0	0	4	4	25	25	0	0	50
AEC-002	AEC - I	Communication and Presentation for Technical Professionals (IEEE)		2	2	0	0	2	25	25	0	0	50
VAC-003	VAC-I	Awareness of Cyber crime and Ethical Hacking		2	2	0	0	2	25	25	0	0	50
		Total :		22	16	1	10	27					700

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT) Integrated Admission Batch 2026-27													
Semester / Year : Semeter II / First Year Batch 2026-27													
Effective From Academic Year: 2026-27													
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
30200201	DSC - I	Digital Electronics	IEEE	4	3	0	2	5	50	50	25	25	150
10200202	DSC - II	Fundamental of Data Structure	IEEE	4	3	0	2	5	50	50	25	25	150
10190205	DSC - III	Introduction to Python Programming	NPTEL	4	3	0	2	5	50	50	25	25	150
10210201	MDC-II	Statistics for Data Analytics		4	3	1	0	4	50	50	0	0	100
SEC019	SEC - II	Social Media and Management		2	0	0	4	4	25	25	0	0	50
AEC015	AEC - II	Personality Development for Effective Leadership		2	2	0	0	2	25	25	0	0	50
VAC021	VAC - II	Stress and Time Management		2	2	0	0	2	25	25	0	0	50
		Total :		22	16	1	10	27					700

Gandhinagar Institute of Computer Science and Applications														
Tentative Scheme for M.Sc. (IT) Integrated Admission Batch 2026-27														
Semester / Year : Semeter III / Second Year 2026-27														
Effective From Academic Year: 2027-28														
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total	
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment		
20200301	DSC	Operating System	IEEE	4	3	1	0	4	50	50	0	0	100	
20190301	DSC	Advanced Database Management System	NPTEL	4	3	0	2	5	50	50	25	25	150	
20190302	DSC	Open Source Technology		4	3	0	2	5	50	50	25	25	150	
20190303	Minor	PHP and MySQL	NPTEL	4	3	0	2	5	50	50	25	25	150	
10190306	VEC-III	Universal Human Values		2	2	0	0	2	25	25	0	0	50	
SEC024	SEC-III	Web Development Framework		2	0	0	4	4	0	25	0	25	50	
SEC014		Introduction of Cyber Security							25	25	0	0		
10190308	AEC-III	Corporate Grooming and Business Etquites		2	2	0	0	2	25	25	0	0	50	
		Total :		22	16	1	10	27					700	

Gandhinagar Institute of Computer Science and Applications														
Tentative Scheme for M.Sc. (IT) Integrated Admission Batch 2026-27														
Semester / Year : Semester IV / Second Year 2026-27														
Effective From Academic Year: 2027-28														
Subject Code	Course Type	Subject Name	Blended With	Credit	Hours per week				Theory Exam		Practical Exam		Total	
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment		
20200401	DSC	Computer Networks	IEEE	4	3	1	0	4	50	50	0	0	100	
10210401	DSC	Python For Data Science	IEEE	4	3	0	2	5	50	50	25	25	150	
20190401	DSC	Object Oriented Programming with JAVA	IEEE	4	3	0	2	5	50	50	25	25	150	
20190404	Miner	Management Information System		4	3	0	2	5	50	50	25	25	150	
10210402		Data Visualization Technology												
20190405		Software Quality Assurance												
IKS0401	IKS-I	Indian Ancient Science and Philosophy		2	2	0	0	2	25	25	0	0	50	
AEC015	AEC	Personality Development for Effective		2	2	0	0	2	25	25	0	0	50	
SEC018	SEC	Practical Workshop Training		2	0	0	4	4	0	0	25	25	50	
		Total :		22	16	1	10	27					700	

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT) Integrated Admission Batch 2026-27													
Semester / Year : Semeter V / Third Year 2026-27													
Effective From Academic Year: 2028-29													
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
10190508	DSC	Design and Analysis of Algorithms		4	3	0	1	4	50	50	25	25	150
10190509	DSC	Advanced Python Programming		4	3	0	1	4	50	50	25	25	150
10190510	Minor-1	Data Warehousing and Data Mining		4	3	0	2	5	50	50	25	25	150
10190511		ASP.NET Technology											
10210501		Probability and Statistics											
20190505	Minor-2	Mobile Application Development		4	3	0	2	5	50	50	25	25	150
10210502		Fundamental of Artificial Intelligence											
10200508		Enterprise Resource Planning											
SEC018	SEC-IV	Practical Workshop Training		2	0	0	2	4	0	0	25	25	50
IKS501	IKS-III	Vedic Mathematics and Logic		4	0	0	2	4	50	0	0	50	100
Total :				22	12	0	10	26					750

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT) Integrated Admission Batch 2026-27													
Semester / Year : Semester VI / Third Year 2026-27													
Effective From Academic Year: 2028-29													
Subject Code	Course Type	Subject Name	Blended With	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
10200601	DSC	IoT & Big Data		4	3	0	1	4	50	50	25	25	150
10190511	DSC	Software Engineering		4	3	0	1	4	50	50	25	25	150
20190501	DSC	Cloud Computing	IEEE	4	4	0	0	4	50	50	25	25	150
10190512	Minor	Web Development Using Python & Django	IEEE	4	3	0	1	4	50	50	25	25	150
20190504		Web Development Using PHP and Laravel											
10210601		Statistics and Exploratory Data Analysis											
SEC019	SEC-V	Social Media Management		2	0	0	2	2	25	25	0	0	50
AEC002	AEC-IV	Communication & Presentation for Technical		2	0	0	2	2	25	25	0	0	50
10190606	Internship	Internship/ Software Project		4	0	0	8	4	0	0	25	25	50
Total :				24	13	0	15	24					750

Gandhinagar Institute of Computer Science and Applications														
Tentative Scheme for M.Sc. (IT) Integrated Admission Batch 2026-27														
Semester / Year : Semeter VII / Fourth Year Batch 2026-27														
Effective From Academic Year: 2029-30														
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total	
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment		
11720101	DSC-I	Object Oriebted Programming Using Java	IEEE	4	3	0	2	5	50	50	25	25	150	
11720102	DSC-II	Advanced Database Management System	NPTEL	4	3	0	2	5	50	50	25	25	150	
11490101	DSC-III	Advanced Data Structure	IEEE	4	3	0	2	5	50	50	25	25	150	
11490102	MDC-1	Discrete Mathematic	IEEE	4	3	1	0	4	50	50	0	0	100	
IKS0201	IKS	Indian Ancient History and Cultural Heritage		2	2	0	0	2	25	0	0	25	50	
SEC006	SEC	Data Analysis using Spreadsheet		2	0	0	4	4	25	25	0	0	50	
11720103	Poject	Web Development Project		2	0	0	4	4	0	0	50	50	100	
		Total :		22	14	1	14	29					750	

Gandhinagar Institute of Computer Science and Applications														
Tentative Scheme for M.Sc. (IT) Integrated Admission Batch 2026-27														
Semester / Year : Semester VIII / Fourth Year Batch 2026-27														
Effective From Academic Year: 2029-30														
Subject Code	Course Type	Subject Name	Blended With	Credit	Hours per week				Theory Exam		Practical Exam		Total	
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment		
11490201	DSC - IV	Advanced Python Programming	IEEE	4	3	0	2	5	50	50	25	25	150	
11490202	DSC - V	Analysis & Design of Algorithm	NPTEL	4	3	0	2	5	50	50	25	25	150	
11720201	DSC - VI	Advanced Web Application & Development	NPTEL	4	3	0	2	4	50	50	25	25	150	
11720202	Minor -I	Software Engineering Methodologies		4	3	0	2	5	50	50	25	25	150	
11720203		Software Testing												
11490203	MDC-3	Statistical Methods for Data Science		4	3	1	0	4	50	50	0	0	100	
VAC003	VEC	Awareness of Cyber Crime and Ethical		2	2	0	0	2	25	25	0	0	50	
		Total :		22	17	1	8	25					750	

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT) Integrated Admission Batch 2025-26													
Semester / Year : Semeter IX / Fifth Year Batch 2025-26													
Effective From Academic Year: 2030-31													
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	Assessme	Assessmen	Assessment	Assessmen	
11720301	DSC-VII	Advanced Operating System	IEEE	4	3	0	2	5	50	50	0	0	100
11490301	DSC-VIII	.Net Technology	IEEE	4	3	0	2	5	50	50	25	25	150
11720302	DSC-IX	Network Security and Cryptography	IEEE	4	4	0	0	4	50	50	0	0	100
11490302	Minor-II	Applied Machine Learning	IEEE	4	3	1	0	4	50	50	25	25	150
11720303		Big Data Analytics											
11720304	Minor -III	Android Application & Development	IEEE	4	3	0	2	5	50	50	25	25	150
11490303		Internet Of Things											
11490304	Minor-IV	Data Visualization Using Python	NPTEL	4	3	0	2	5	50	50	25	25	150
		Total :		24	19	1	8	28					800
Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for M.Sc. (IT) Integrated Admission Batch 2025-26													
Semester / Year : Semeter X / Fifth Year Batch 2025-26													
Effective From Academic Year: 2030-31													
Subject Code	Course Type	Subject Name	Blended With	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	Assessme	Assessmen	Assessment	Assessmen	
11490401	DSC-X	Cloud Computing Technology	IEEE	4	4	0	0	4	50	50	0	0	100
11720405	Project	Major Project		12	0	0	24	24	0	0	300	200	500
AEC016	AEC	Practical English		2	2	0	0	2	25	25	0	0	50
IKS-401	IKS-II	Indian Ancient Science and Philosophy		2	2	0	0	2	0	25	0	25	50
		Total :		20	4	0	24	32	0	0	0	0	700

Gandhinagar Institute of Computer Science and Applications														
Tentative Scheme for Master of Computer Application (MCA)/MSC(IT) Admission Batch 2026-27														
Semester / Year : Semester I/ First Year Batch 2026-27														
Effective From Academic Year: 2026-27														
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total	
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment		
11720101	DSC-I	Object Oriebted Programming Using Java	IEEE	4	3	0	2	5	50	50	25	25	150	
11720102	DSC-II	Advaced Database Management System	NPTEL	4	3	0	2	5	50	50	25	25	150	
11490101	DSC-III	Advanced Data Structure	IEEE	4	3	0	2	5	50	50	25	25	150	
11490102	MDC-1	Discrete Mathematic	IEEE	4	3	1	0	4	50	50	0	0	100	
IKS0201	IKS	Indian Ancient History and Cultural Heritage		2	2	0	0	2	25	0	0	25	50	
SEC006	SEC	Data Analysis using Spreadsheet		2	0	0	4	4	25	25	0	0	50	
11720103	Project	Web Development Project		2	0	0	4	4	0	0	50	50	100	
		Total :		22	14	1	14	29					750	

Gandhinagar Institute of Computer Science and Applications														
Tentative Scheme for Master of Computer Application (MCA)/MSC(IT) Admission Batch 2026-27														
Semester / Year : Semester II / First Year Batch 2026-27														
Effective From Academic Year: 2026-27														
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total	
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment		
11490201	DSC - IV	Advanced Python Programming	IEEE	4	3	0	2	5	50	50	25	25	150	
11490202	DSC - V	Analysis & Design of Algorithm	NPTEL	4	3	0	2	5	50	50	25	25	150	
11720201	DSC - VI	Advanced Web Application & Development	NPTEL	4	3	0	2	4	50	50	25	25	150	
11720202	Minor -I	Software Engineering Methodologies		4	3	0	2	5	50	50	25	25	150	
11720203		Software Testing												
11490203	MDC-3	Statistical Methods for Data Science		4	3	1	0	4	50	50	0	0	100	
VAC003	VEC	Awareness of Cyber Crime and Ethical Hacking		2	2	0	0	2	25	25	0	0	50	
Total :				22	17	1	8	25					750	

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for Master of Computer Application (MCA)/MSC(IT) Admission Batch 2026-27													
Semester / Year : Semeter III / Second Year Batch 2026-27													
Effective From Academic Year: 2027-28													
Subject Code	Course Type	Subject Name	Blended with	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
11720301	DSC-VII	Advanced Operating System	IEEE	4	3	0	2	5	50	50	0	0	100
11490301	DSC-VIII	.Net Technology	IEEE	4	3	0	2	5	50	50	25	25	150
11720302	DSC-IX	Network Security and Cryptography	IEEE	4	4	0	0	4	50	50	0	0	100
11490302	Minor-II	Applied Machine Learning	IEEE	4	3	1	0	4	50	50	25	25	150
11720303		Big Data Analytics											
11720304	Minor -III	Mobile Application & Development	IEEE	4	3	0	2	5	50	50	25	25	150
11490303		Internet Of Things											
11490304	Minor-IV	Data Visualization Using Python	NPTEL	4	3	0	2	5	50	50	25	25	150
Total :				24	19	1	8	28					800

Gandhinagar Institute of Computer Science and Applications													
Tentative Scheme for Master of Computer Application (MCA)/MSC(IT) Admission Batch 2026-27													
Semester / Year : Semeter IV / Second Year Batch 2026-27													
Effective From Academic Year: 2027-28													
Subject Code	Course Type	Subject Name	Blended With	Credit	Hours per week				Theory Exam		Practical Exam		Total
					L	T	P	Total	University Assessment	Continues Assessment	University Assessment	Continues Assessment	
11490401	DSC-X	Cloud Computing	IEEE	4	4	0	0	4	50	50	0	0	100
11720405	Project	Major Project		12	0	0	24	24	0	0	300	200	500
AEC016	AEC	Practical English		2	2	0	0	2	25	25	0	0	50
IKS-401	IKS-II	Indian Ancient Science and Philosophy		2	2	0	0	2	0	25	0	25	50
Total :				20	4	0	24	32	0	0	0	0	700

6. Teaching, Learning & Evaluation

6.1 Teaching Methodology

The program shall adopt:

- Classroom Teaching
- Case Studies
- Industry Interaction
- Site Visits
- Workshops
- GIS/Software Training
- Field Surveys
- Research Projects
- Internships
- AI-based Learning Tools
- Blended and Digital Learning

6.2 Attendance Rules

- Minimum 75% attendance shall be mandatory in each course.
- Students below prescribed attendance may not be permitted to appear in examination.
- Additional attendance requirements may apply for practicals, internships, and field work.

6.3 Examination and Evaluation System

6.3.1 Evaluation Components

The evaluation may consist of Continuous Internal Evaluation (CIE) and End Semester Examination (ESE)

- Continuous Internal Evaluation (CIE) may include:
- Mid-Semester Examination
- Assignments
- Presentations
- Field work
- Class Test
- AI Quiz & Viva Voce
- Dissertation

- Project work

6.1 Suggested Weightage

- Continuous Internal Evaluation: 40%
- End Semester Examination: 50%

6.2 Passing Standards

- Minimum 50% marks in each component where applicable.
- Minimum 50% aggregate for passing the course/program.
- Separate passing may be required in theory and practical examinations.

6.3 Grading System

The program shall follow Gandhinagar University grading norms.

6.6.1 Grade Table

Grade	Grade Points	From Marks	To Marks
AA	10	80	100
AB	9	75	79
BB	8	70	76
BC	7	65	69
CC	6	60	64
CD	5	55	59
DD	4	50	54
DF	0	0	49

6.4 Project Work

Students shall undertake Research Project OR Industry-Based Dissertation.
Requirements may include:

- Proposal Presentation
- Periodic Review
- Final Report Submission
- Viva Voce Examination

The dissertation shall be evaluated by internal and external examiners.

7. Rules and Regulations

7.1 Rules for Promotion

A student shall be promoted to the next semester as per Gandhinagar University rules subject to fulfilment of academic requirements, minimum attendance and Completion of required credits.

7.2 Maximum Duration for Completion

The maximum duration for completing the program shall be 4 years from the date of admission (or as prescribed by the University.)

7.3 Internship Guidelines

7.3.1 Students shall undergo mandatory internship/field training in:

- Software Development and Programming
- Web and Mobile Application Development
- Database Management and Information Systems
- Data Analytics, Data Science, and Artificial Intelligence Applications
- Cyber Security, Networking, and Cloud Computing
- Software Testing, System Administration, and IT Support Services
- Industry-Oriented Projects, Research Activities, and Emerging Technologies

7.3.2 Students must submit:

- Internship Report
- Work Diary/Logbook
- Completion Certificate
- Presentation

7.4 Discipline Rules

Students shall maintain discipline, professional ethics, and proper conduct within the institution, during field visits, internships, industry interactions, examinations, and all academic activities. Students are expected to attend classes regularly, follow institutional rules and regulations, respect faculty members, staff, fellow students, and institutional property, and maintain academic integrity in assignments, projects, and examinations. Any form of misconduct, ragging, indiscipline, use of unfair means in examinations, damage to institutional property, harassment, or behaviour affecting the academic environment shall be treated seriously and may result in disciplinary action including warning, suspension, cancellation of examination, withholding of results, or expulsion from the program as per University rules and UGC regulations. Students shall also comply with all safety, ethical, and professional standards prescribed by the institution from time to time.

7.5 Anti-Ragging Policy

The program shall strictly follow:

- UGC Anti-Ragging Regulations
- Anti-Ragging Affidavit requirements
- Institutional disciplinary procedures
- Ragging in any form is strictly prohibited.

7.6 Ethical use of Technology and AI Tools

Students are encouraged to use:

- Various Software and AI Tools
- Data Analytics Tools
- AI-based Learning Platforms
- Valuation Software
- Digital Survey Tools

Use of AI tools shall be ethical, and academic integrity must be maintained.

8. Student Support

8.1 Industry Collaboration

The program promotes active collaboration with industries and professional organizations to bridge the gap between academic learning and industry requirements. Major activities under industry collaboration include:

- Industry internships and field training opportunities.
- Expert lectures, workshops, and seminars by industry professionals.
- Industry-sponsored projects and case studies.
- Industrial visits and exposure to real-world work environments.
- Skill development, certification, and training programs.
- Collaborative research, innovation, and consultancy activities.
- Placement assistance and career development initiatives.

These collaborations help students gain practical knowledge, enhance employability skills, and stay updated with emerging technologies and industry trends.

8.2 Research and Consultancy

The program encourages research, innovation, and consultancy activities to promote academic excellence and industry engagement. Major activities include:

- Undertaking research projects in emerging areas of computing and information technology.
- Promoting innovation, problem-solving, and technology-driven solutions.
- Encouraging publication of research papers in reputed journals and conferences.
- Facilitating collaborative research with industries, academic institutions, and research organizations.
- Providing consultancy services to industry, government, and society in relevant domains.
- Supporting student participation in research, project development, and innovation activities.
- Fostering an environment of continuous learning, knowledge creation, and professional development.

These initiatives contribute to the advancement of knowledge, technological development, and societal impact.

8.3 Library and Laboratory Facilities

Adequate library, laboratory, and digital learning facilities shall be made available to support effective teaching, practical training, research, and skill development under the BSC/MSC/BCA Program. The department shall facilitate access to relevant books, journals, research publications, e-resources, valuation manuals, urban planning documents, GIS databases, and digital learning platforms related to real estate, infrastructure, urban development, sustainability, and emerging technologies. Necessary computing facilities, GIS and mapping software, data analytics tools, internet access, and other technical resources required for practical and project-based learning shall also be provided to enhance industry-oriented education, research capability, and professional competency among students.

8.4 Student Support and Mentoring

A structured system for student support, academic mentoring, and professional guidance shall be implemented for students enrolled in the BSC/MS/BCA Program. The department shall facilitate academic counselling, mentoring, career guidance, research support, and skill development activities to assist students in their academic progression and professional growth. Students may also be provided opportunities for interaction with industry experts, participation in workshops, seminars, field visits, training programs, and extracurricular activities aimed at enhancing employability, leadership qualities, communication skills, and overall personality development. Necessary support mechanisms for addressing academic and personal concerns shall also be made available as per institutional policies.

8.5 Placement and Career Development

The department shall promote placement assistance and career development activities for students through industry interaction, professional networking, training programs, internships, and campus engagement initiatives. Efforts shall be made to establish linkages with Career guidance and counselling sessions. Placement training covering aptitude, technical, communication, and soft skills. Resume writing, group discussions, and mock interview practices. Industry interactions through expert talks, workshops, and seminars. Internship and industry project opportunities. Campus recruitment drives and placement assistance. Career development activities such as aptitude training, resume preparation, soft skill development, entrepreneurship guidance, certification programs, expert sessions, and placement-oriented workshops may also be organized to enhance professional competency and employability of students.

9. Program Credibility

9.1 Executive Summary

The program is designed to provide students with a strong foundation in computing, information technology, and related disciplines through a balanced blend of theoretical knowledge and practical learning. The curriculum emphasizes technical proficiency, analytical thinking, problem-solving abilities, innovation, and professional ethics to meet the evolving demands of industry and society.

The program offers opportunities for hands-on learning through laboratory work, projects, internships, industry interactions, research activities, and skill development initiatives. It incorporates emerging technologies and contemporary practices to ensure that students remain competitive in a rapidly changing technological landscape.

Graduates of the program are prepared for successful careers in industry, entrepreneurship, research, and higher education. The program promotes lifelong learning, professional growth, and social responsibility, enabling students to contribute effectively to technological advancement and sustainable development.

9.2 Scope and Career Opportunities

Graduates of the program may work in:

- Software Developer / Software Engineer
- Web and Mobile Application Developer
- Data Analyst / Data Scientist
- Database Administrator
- System Administrator and Network Administrator
- Cyber Security Analyst
- Cloud Computing Professional
- IT Support and Technical Consultant
- Business Analyst
- Quality Assurance and Software Tester
- Research Associate
- Entrepreneur / Startup Founder

9.3 Potential Job Roles

- Software Developer / Software Engineer
- Web Developer
- Mobile Application Developer
- Full Stack Developer
- Data Analyst
- Data Scientist
- Machine Learning Engineer
- Database Administrator (DBA)
- System Administrator
- Network Administrator
- Cyber Security Analyst
- Cloud Computing Engineer
- DevOps Engineer
- Business Analyst
- Software Tester / Quality Assurance Engineer
- IT Support Specialist
- Technical Consultant
- Research Associate
- Project Coordinator
- Entrepreneur / Startup Founder

9.4 Higher Study & Professional Opportunities

Students may pursue:

- higher education such as **M.Sc., MCA, M.Tech., MBA, and Ph.D.**
- Obtain professional certifications in **Data Science, AI, Cyber Security, Cloud Computing, Networking, and Software Development.**
- Prepare for **competitive examinations** and government sector opportunities.
- Participate in **research, innovation, and entrepreneurship** activities.
- Engage in **lifelong learning and continuous professional development** to keep pace with emerging technologies and industry trends.

10. Collaborative Field Work / Experimental Work

- **Industry-Oriented Projects**
Students undertake projects in collaboration with industries, startups, or organizations to solve real-world problems and gain practical experience in software development, data analysis, system design, and emerging technologies.
- **Internship and Field Training**
Students participate in internships and field training programs to understand industry practices, work culture, professional ethics, and the application of theoretical concepts in real-life scenarios.
- **Laboratory Experiments and Practical Work**
The program includes extensive laboratory sessions and practical assignments to provide hands-on experience in programming, databases, networking, web technologies, data science, cybersecurity, and other relevant areas.
- **Collaborative Research Activities**
Students are encouraged to participate in research projects with faculty members, research institutions, and industries to develop analytical, investigative, and innovation skills.
- **Team-Based Projects and Case Studies**
Students work in teams on software development projects, case studies, and problem-solving activities, which help develop teamwork, leadership, communication, and project management skills.
- **Industrial Visits and Expert Interactions**
The program organizes industrial visits, workshops, seminars, and guest lectures by industry experts to expose students to current technologies, industry trends, and professional practices.
- **Innovation and Experimental Learning**
Students are encouraged to design prototypes, develop innovative applications, and experiment with emerging technologies such as Artificial Intelligence, Data Science, Cloud Computing, Internet of Things (IoT), and Cyber Security to enhance creativity and technical competence.

11. Market Survey

- **Industry Demand Analysis**
Regular assessment of current and emerging trends in the IT and computing industry to identify the skills and competencies required by employers.
- **Employment Opportunities Assessment**
Evaluation of career opportunities available in sectors such as Software Development, Data Science, Artificial Intelligence, Cyber Security, Cloud Computing, and IT Services.
- **Curriculum Relevance and Upgradation**
Collection of feedback from industry experts, alumni, employers, and academic professionals to ensure that the curriculum remains relevant and aligned with market needs.
- **Emerging Technology Trends**
Monitoring advancements in technologies such as Artificial Intelligence, Machine Learning, Big Data, Internet of Things (IoT), Blockchain, and Cloud Computing for curriculum enhancement and skill development.
- **Skill Gap Identification**
Identification of gaps between academic learning and industry expectations to introduce appropriate training, certification programs, and value-added courses.
- **Entrepreneurship and Startup Opportunities**
Assessment of opportunities for innovation, entrepreneurship, and technology-based startups to encourage self-employment and job creation.
- **Industry-Academia Interaction**
Continuous engagement with industries through internships, projects, workshops, seminars, and placement activities to understand evolving market requirements and enhance student employability.

12. Review and Revision of Regulation

The University reserves the right to interpret, modify, revise, amend, or update any provision, rule, regulation, curriculum structure, evaluation pattern, academic requirement, or operational guideline related to the program from time to time in accordance with university regulations, statutory requirements, industry developments, and academic needs.

In case of any ambiguity or dispute regarding interpretation of any provision of this manual, the decision of the University/Competent Authority shall be final and binding on all stakeholders. Any amendments, additions, or revisions approved by the appropriate academic or statutory bodies of the University shall automatically become applicable to the program.