

Gandhinagar Institute of Computer Science & Applications (GICSA)
Undergraduate Programs in Bachelor of Science
Bachelor of Science (Information Technology)
Bachelor of Science (Computer Science)
Bachelor of Science (Data Science)

Academic Regulations

R.1 ADMISSION:

A candidate for admission to the Under-Graduate programme for B.Sc. (Information Technology/ Computer Science/ Data Science) must have passed the 10+2 Examination in any stream or equivalent from a recognized board or an examination recognized as equivalent thereto.

R.2 PROGRAMME OF STUDY:

A student shall follow at a time any one of the prescribed programmes set out in the programme of study enclosed at Annexure – I.

R.3 EXEMPTIONS:

A candidate shall be eligible for exemption(s) for the subjects studied at the bachelor's degree Examination or at the Post Graduate Degree Examination. Exemptions shall be subject to approval by the Head of the GICSA and Vice Chancellor (Provost) of Gandhinagar University.

R.4 REGISTRATION

To earn subject credits in a semester a student must register for the subjects at the commencement of the semester.

A student shall not be permitted to attend any classes without completing his registration formalities. The registration formalities must be completed by the student in person or on e-Governance software of the Gandhinagar University.

R.5 REQUIREMENTS FOR REGISTRATION

A student can register for a subject provided following conditions are satisfied:

The student has successfully completed the pre-requisites for the subject, and the subject is being offered in the semester.

If a student is required to repeat one or more subjects due to inadequate performance, it is essential that he/she register for these subjects in the earliest following semester in which the courses are offered.

Any registration which violates the above requirements will automatically be canceled and grades obtained, if any, shall be withdrawn.

R.6 ASSESSMENT OF STUDENT PERFORMANCE IN SUBJECTS

Grading in each subject is assigned based on earned marks. The performance of a student in a subject is judged through (i) Continuous Internal Evaluation of theory and (ii) End-Semester Theory Examinations. The minimum passing criteria in the end-semester theory examination (70 marks) in each subject is 40 %.

Continuous internal evaluation component (30 Marks) may be done through written tests (MSE/RMSE) and/or quizzes, Seminar, carry-home exercise etc.

The overall passing criteria in theory is 45% from total marks (100 marks).

External Viva-voce, Project Work and Dissertation will be conducted only at the end of the respective semester by the University and overall passing (out of total marks) will be 50%.

R.7 EXAMINATIONS

The end-semester examinations for all subjects offered in each semester of an academic year will be conducted by the University.

No student shall be permitted for the end semester examination if he/she has not completed the required term work as per the rules and regulations in force.

The ratio between the external and internal theory assessment will be **70:30**.

R.8 LETTER GRADES

The overall performance of a student in a course is represented by a letter grade with equivalent grade points as below:

AA	10	CC	06
AB	09	CD	05
BB	08	DD	04
BC	07	FF	00

A subject is completed successfully, i.e., credit is earned for a subject, when a letter grade **DD** or better is obtained in the subject.

R.9 FAILURE IN A SUBJECT

- A student does not earn any credit for a subject when he/she gets a letter grade FF in the subject.
- The letter grade FF obtained in a subject will be shown in the final transcript issued to the student whether he/she subsequently obtains another letter grade in a repeat attempt.

R.10 PERFORMANCE EVALUATION (SGPA AND CGPA)

The student's performance in a semester will be indicated by the semester grade point average (SGPA). The SGPA and CGPA (Cumulative grade point average) are calculated as below.

$$SGPA = \frac{\sum_{i=1}^n C_i G_i}{\sum_{i=1}^n C_i}$$

Where C_i is the number of credits of the course i ; G_i is the grade point for the course i ; where $i= 1$ to n , n = number of courses in a semester.

Performance at the end of two or more consecutive semesters will be indicated by the CGPA. CGPA is calculated as below.

$$CGPA = \frac{\sum_{i=1}^n C_i G_i}{\sum_{i=1}^n C_i}$$

Where C_i is the number of credits of the course i ; G_i is the grade point for the course i ; where $i= 1$ to n , n = number of courses of all semesters up to which CGPA is computed.

R.11 DISCONTINUATION FROM REGULAR STUDY

- Students who have more than **4 backlog** up to the current semester excluding immediate previous semester are not eligible to continue study till the said criteria is fulfilled.
- In such cases students shall not be permitted for regular study of concerned next semester.

R.12 REPEAT SUBJECTS

- A Subject which usually accounts for a higher rate of failure may be offered again as a repeat subject or subjects as the case may be in the following semester.
- Repeat subjects are not offered to students as a matter of right. These subjects are offered subject to the availability of manpower and other facilities.

R.13 REQUIREMENTS FOR THE AWARD OF DEGREE

To be eligible for award of the degree,

- Total of at least **126** credits for Information Technology, Computer Science and **128** credits for Data Science as prescribed under the programme of studies with **(subject to exemption granted for credits)**.
- A minimum Cumulative Grade Point Average (CGPA) of 4.00.
- No course with letter grade FF.
- A student who for whatever reason is not able to complete the programme within the normal period or the minimum duration prescribed for the programme, may be allowed two years period beyond the normal period to clear the backlogs to be qualified for the degree.

The general formula, therefore, should be as follows:

- a. **Time Span = N + 2years** for the completion of the programme.

Where N stands for the normal minimum duration prescribed for the completion of the programme.

- b. In exceptional circumstances a further extension of one more year may be granted upon the representation to Honorable Vice Chancellor (Provost) stating the reason for extension request with supporting documents.
- c. During the extended period student shall be considered as private candidate and also not eligible for ranking.

R.14 AWARD OF CLASS

The class awarded to a student with his/her Bachelor of Science degree is decided by final **CGPA** as under.

DISTINCTION - CGPA \geq 7.5

FIRST CLASS - CGPA \geq 6.0

SECOND CLASS - CGPA \geq 5.0

PASS CLASS - CGPA $<$ 5.0

R.15 TRANSCRIPT:

The Transcript issued to the student at the time of leaving the University will contain a consolidated record of all the courses taken by him, grades obtained, **SGPA, CGPA** etc.

R.16 ATTENDANCE:

A Student will be required to attend at least 75% of the total theory lectures organized in each subject during the semester.

The subjects to be covered in the syllabi of B.Sc. (Information Technology/ Computer Science/ Data Science) are given at Annexure 1.

Annexure 1:

B.Sc. (Information Technology)	Credit	B.Sc. (Information Technology)	Credit
Subjects		Subjects	
First Semester	23	Fourth Semester	23
Communication Skills in English	3	Indian Constitution	2
Basic Mathematics	6	Fundamentals of Operating System	4
Principles of Management	3	Web Programming with PHP and LARAVEL	5
Computer Fundamentals	3	Python Programming	5
Fundamentals of C	4	Computer Networks	3
Web Fundamentals	4	(Elective 1) Management Information System	4
Second Semester	22	(Elective 1) Software Quality Assurance	
Environmental Studies	2	(Elective 1) SEO & Digital Media Marketing	
Basic Statistics and Discrete Mathematics	6	Fifth Semester	21
Digital Electronics	4	Mobile Application Development	4
Fundamentals of DBMS	5	Web Development for E-commerce	4
Advanced Programming in C	4	Cyber Security	4
Seminar	1	Project II	2
Third Semester	22	(Elective 2) Web Development Using Python and DJANGO	4
Universal Human values	2	(Elective 2) Advance Java	
Data structures	4	(Elective 2) Web Development using ASP.Net	
Advanced Database Management System	4	(Elective 3) Machine Learning	3
Object Oriented Programming with JAVA	5	(Elective 3) Introduction to Cloud Computing	
PHP and MySQL	5	(Elective 3) Introduction to IoT and Big Data	
Project I	2	Sixth Semester	15
		Internship / Software Project Development	15
Total Credits			126

B.Sc. (Computer Science)	Credit	B.Sc. (Computer Science)	Credit
Subjects		Subjects	
First Semester	23	Fourth Semester	23
Communication Skills in English	3	Indian Constitution	2
Basic Mathematics	6	Fundamentals of Operating System	4
Principles of Management	3	Computer Networks	3
Computer Fundamentals	3	Building Web Services	5
Fundamentals of C	4	Mobile Application Development	5
Web Fundamentals	4	(Elective 1) Management Information System	4
Second Semester	22	(Elective 1) Software Quality Assurance	
Environmental Studies	2	(Elective 1) SEO & Digital Media Marketing	
Basic Statistics and Discrete Mathematics	6	Fifth Semester	21
Digital Electronics	4	Advance Mobile Application Development	4
Fundamentals of DBMS	5	Web Development for E-commerce	4
Advanced Programming in C	4	Cyber Security	4
Seminar	1	Project II	2
Third Semester	22	(Elective 2) Programming with Python	4
Universal Human values	2	(Elective 2) Advance Java	
Data structures	4	(Elective 2) Web Development using ASP.Net	
Advanced Database Management System	4	(Elective 3) Introduction to IoT and Big Data	3
Object Oriented Programming with JAVA	5	(Elective 3) Machine Learning	
PHP and MySQL	5	(Elective 3) Introduction to Cloud Computing	
Project I	2	Sixth Semester	15
		Internship / Software Project Development	15
Total Credits			126

B.Sc. (Data Science)	Credit	B.Sc. (Data Science)	Credit
Subjects		Subjects	
First Semester	23	Fourth Semester	24
Communication Skills in English	3	Calculus and Linear Algebra	6
Basic Mathematics	6	Basics of Data Science	3
Principles of Management	3	Computer Networks	3
Computer Fundamentals	3	Data Analysis with Python	4
Fundamentals of C	4	Machine Learning	5
Web Fundamentals	4	(Elective 1) Data Mining	3
Second Semester	22	(Elective 1) R Programming	
Environmental Studies	2	(Elective 1) Data Visualization	
Basic Statistics and Discrete Mathematics	6		
Digital Electronics	4	Fifth Semester	22
Fundamentals of DBMS	5	Indian Constitution	2
Advanced Programming in C	4	Deep Learning with Artificial Neural Networks	6
Seminar	1	Introduction to IoT and Big Data	4
Third Semester	22	Cyber Security	4
Universal Human values	2	Project II	2
Data structures	4	(Elective 1) Big Data Analytics with Hadoop	4
Data Analysis using Spreadsheets	3	(Elective 1) Basics of NoSQL & MONGO DB	4
Fundamental Programming with Python	5	(Elective 1) Introduction to Cloud Computing	
Advanced Statistics and Discrete mathematics	6	Sixth Semester	15
Project I	2	Internship / Software Project Development	15
Total Credits			128