Program Structure of Bachelor of Science in Information Technology

Level – UG
Duration: 3 Years

1. Program Mission

To equip and build competency necessary to work as software professionals in the field related to computing and/or computing applications and to develop strong foundation in mathematical , computing fundamentals, programming, management and problem solving Skills, with ability to communicate effectively with the various stakeholders, have pleasing personality and practice their profession with high regards to ethics, societal needs, diversity, constraints in the workplace, yearning of perfection and imbibe attributes of courage of conviction and action. Our aim is to serve the student by imparting computer education and generating innovative knowledge and skills required to sustain in disruptive technological environment.

2. Programme Educational Objectives/Goals(PEOs)

  i. The students shall have the ability to apply knowledge of mathematics, science, computing and technology for research, design and development of novel products and solutions as an individual / member of a team/ leader in diverse teams and as an entrepreneur.
 ii. The students shall have the ability to examine the impact of computer science and application solutions in societal, health, safety, legal, cultural, and environmental contexts.
iii. The student will have the ability to support and practice independent and life-long learning for professional development.
 iv. The students will be able to demonstrate professional attitudes, effective communication, and behavioural skills and sustain effective performance in professional/entrepreneurial careers
  v. The students will be able to practice professional ethics and academic integrity and demonstrate these as an individual / team member / leader in diverse teams.

3. Programme Operational Objective(POOs)

  i. The B.Sc.(IT) programme intends to facilitate an academically conducive environment and infrastructure to achieve excellence in teaching, learning and research.
 ii. The B.Sc.(IT) programme will provide ample opportunities to its students to participate in curricular, co-curricular and extra-curricular activities for their holistic development.
iii. The B.Sc.(IT) programme will provide ample opportunities to its students to participate in curricular, co-curricular and extra-curricular activities for their holistic development.
 iv. The B.Sc.(IT) programme will inculcate core values and ethical conduct amongst students, faculty, and staff members.
  v. The B.Sc.(IT) programme will encourage cultural diversity and a sense of social and environmental responsibility.
 vi. The B.Sc.(IT) programme will provide ample opportunities for international exposure to faculty members and students

Semester 1

S. No.	Course Code	Course Name	Course Type	Total Credits	L	T	P	FW	SW	Arch/Des Studio
1	MATH144	Applied Mathematics	Allied Courses	4	3	0	0	0	2	0
2	CSE207	Digital Electronics and Computer Organization	Allied Courses	5	3	0	2	0	2	0
3	BC109	Communication Skills - I	Communication Skills	3	2	0	0	0	2	0
4	CSIT140	Programming in C	Core Courses	5	3	0	2	0	2	0
5	CSIT147	Web Designing Practices	Core Courses	4	2	0	2	0	2	0
6	ARAB116	Introduction to Arabic Culture & Language	Foreign Business Language	2	2	0	0	0	0	0
	GRMN136	Introduction to German Culture & Language			2	0	0	0	0	0
	SPAN144	Introduction to Hispanic Culture & Language			2	0	0	0	0	0
			Total	23						

Semester 2

S. No.	Course Code	Course Name	Course Type	Total Credits	L	T	P	FW	SW	Arch/Des Studio
1	IT425	Cyber and Information Security	Allied Courses	3	2	0	0	0	2	0

2	STAT233	Probability and Statistics	Allied Courses	3	3	0	0	0	0	0
3	BC206	Communication Skills - II	Communication Skills	3	2	0	0	0	2	0
4	CSIT124	Data Structures Using C	Core Courses	4	2	0	4	0	0	0
5	IT201	Java Programming	Core Courses	4	3	0	2	0	0	0
6	ACCT102	Accounting Fundamentals	Human Social Sciences & Management Courses	5	3	1	0	0	2	0
7	ARAB116	Introduction to Arabic Culture & Language	Foreign Business Language	2	2	0	0	0	0	0
	GRMN136	Introduction to German Culture & Language			2	0	0	0	0	0
	SPAN144	Introduction to Hispanic Culture & Language			2	0	0	0	0	0
			Total	24						

Semester 3

S. No.	Course Code	Course Name	Course Type	Total Credits	L	T	P	FW	SW	Arch/Des Studio
1	IT423	Introduction to Cloud Computing	Allied Courses	3	2	0	0	0	2	0
2	BS105	Individual Excellence & Social Dynamics	Behavioural Science	3	2	0	0	0	2	0
3	CSE201	Database Management Systems	Core Courses	5	3	0	2	0	2	0
4	CSE205	Programming in Python	Core Courses	5	3	0	2	0	2	0
5	CSE206	Fundamental of Machine Learning	Core Courses	4	2	0	2	0	2	0
6	ARAB116	Introduction to Arabic Culture & Language	Foreign Business Language	2	2	0	0	0	0	0
	GRMN136	Introduction to German Culture & Language			2	0	0	0	0	0
	SPAN144	Introduction to Hispanic Culture & Language			2	0	0	0	0	0
7	ETTP101	Term Paper - I	Non Teaching Credit Course	3	0	0	0	0	0	0
			Total	25						

Semester 4

S. No.	Course Code	Course Name	Course Type	Total Credits	L	T	P	FW	SW	Arch/Des Studio
1	BS208	Creativity for Team Excellence	Behavioural Science	3	2	0	0	0	2	0
2	CSE202	Operating System	Core Courses	4	2	0	2	0	2	0
3	CSE302	Data Communication and Computer Networks	Core Courses	4	2	0	2	0	2	0
4	CSIT142	Software Engineering and Modeling	Core Courses	3	2	0	2	0	0	0
5	CSIT139	Computational Statistics	Specialisation Elective Courses	9	2	0	0	0	0	0
6	CSIT137	Fundamentals of Digital Marketing	Specialisation Elective Courses		3	0	0	0	0	0
7	CSIT325	Human Computer Interaction	Specialisation Elective Courses		3	0	0	0	0	0
8	CSIT362	Principles of Computer Graphics	Specialisation Elective Courses		3	0	2	0	0	0
9	IT432	Full Stack Development	Specialisation Elective Courses		3	0	2	0	4	0
10	ARAB116	Introduction to Arabic Culture & Language	Foreign Business Language	2	2	0	0	0	0	0
	GRMN136	Introduction to German Culture & Language			2	0	0	0	0	0
	SPAN144	Introduction to Hispanic Culture & Language			2	0	0	0	0	0
			Total	25						

Semester 5

S. No.	Course Code	Course Name	Course Type	Total Credits	L	T	P	FW	SW	Arch/Des Studio
1	CSIT311	Unix Operating System and Shell Programming	Core Courses	5	3	0	2	0	2	0
2	CSIT342	Software Testing Techniques	Core Courses	4	2	1	0	0	2	0
3	CSIT136	Internet of Things	Domain Elective Courses	3	2	0	0	0	2	0
4	CSIT322	Image Processing	Domain Elective Courses	3	2	0	0	0	2	0
5	PFE301	Professional Ethics and Social Responsibility	Professional Ethics	2	0	1	0	0	2	0
6	CSIT312	Introduction to Enterprise Resource Planning	Specialisation Elective Courses	3	3	0	0	0	0	0
7	IT305	Mobile Application Development	Specialisation Elective Courses		2	0	2	0	0	0
8	ETMN100	Minor Project	Non Teaching Credit Course	2				0		0
9	ARAB116	Introduction to Arabic Culture & Language	Foreign Business Language	2	2	0	0	0	0	0
	GRMN136	Introduction to German Culture & Language			2	0	0	0	0	0
	SPAN144	Introduction to Hispanic Culture & Language			2	0	0	0	0	0
			Total	24						

Semester 6

S. No.	Course Code	Course Name	Course Type	Total Credits	L	T	P	F W	S W	Arch/Des Studio
1	CSE401	Artificial Intelligence	Specialisation Elective Courses	12	3	0	2	0	0	0
2	CSE447	Introduction to Natural Language Processing	Specialisation Elective Courses		3	0	0	0	2	0
3	CSIT335	Fundamentals of Network Security	Specialisation Elective Courses		2	1	0	0	2	0
4	CSIT341	Data Warehousing and Mining	Specialisation Elective Courses		2	1	0	0	0	0
5	CSIT358	Blockchain Technologies	Specialisation Elective Courses		3	0	0	0	2	0
6	CSIT359	Introductions to Data Science	Specialisation Elective Courses		3	0	0	0	2	0
7	ETMJ100	Major Project	Non Teaching Credit Course	6				0		0
9	ARAB116	Introduction to Arabic Culture & Language	Foreign Business Language	2	2	0	0	0	0	0
	GRMN136	Introduction to German Culture & Language			2	0	0	0	0	0
	SPAN144	Introduction to Hispanic Culture & Language			2	0	0	0	0	0
			Total	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.