School of Computing Science and Engineering
Program name: BSc Computer Science Specialization
Program Structure 2022-23

ASSESSMENT PATTERNS (Common for All Semesters)

COURSES

	CONTINUOUS INTERNAL EXAMINATION (CIE)								Semester End Examination (SEE)
	Rubric and Assessment Tools							**Total CIE Marks**	**Max. Marks**
Course Type	**QUIZ 1/AAT**	**CAT1**	**QUIZ2/AAT**	**CAT2**	**LAB**	**LAB Test**	**Course-based Project**		
Theory	20	30	20	30	0	0	0	100	100
Blended	0	30	0	30	20	20	0	100	100
Comprehensive	0	30	0	30	20	0	20	100	100

Rubric for Course-based Project

S.No.	Type of Assessment Tools	CIE Marks (Rubric)				
		PPP	**TS1**	**TS2**	**Viva**	**Total**
1	Course-based Project Work	5	5	5	5	20

PASS REQUIREMENTS   Condition1-Continuous

Internal Examination (CIE) -Should secure 30% of marks in every individual assessment in the CIE and 40% in total; otherwise not permitted to appear in SEE;
Condition2-Semester End Examination (SEE) or End Term Examination (ETE)-should secure 40% in the SEE/ETE
Condition3- The overall marks both CIE and SEE together should be more than or equal to 40% to declare pass in a Course.

*-: Students have to secure minimum 30% marks in each assessment to eligible for appearing in ETE/SEE.(minimum 3 marks in QUIZ 1/AAT and QUIZ2/AAT individually & minimum 12 marks each in both CAT1 & CAT2). Same rule applies to all assesment tools.

**-: Student need to secure minimum 40 marks separately in ETE/SEE along with above mentioned criterion to pass the respective Course.

PPP(Preliminary Project Plan)	To submit the PPP before the Quiz1 by a group of 4 students; After Quiz-1 the course faculty shuold approve the PPP and permit the student group to commnece the project.	The preliminary project plan (PPP) provides an initial, overview of the project and all of its known parameters. lt outlines the project's objectives, relevance to the program merit, and conformity to current industry/government policy, proposed methodology, and expected outcomes. lt should also include any known constlaints related to the time frame (Gantt Chart).budget, and, etc.
TS1 (Technical Seminar 1)	After Quiz-1	After the second Quiz, the course faculty member should take 1st review of th status byh all the student groups
TS2 (Technical Seminar 2)	After CAT-1	After CAT1 the course faculty member should take trhe 2nd review of the status byh all the student groups
VIVA	After CAT-2	After CAT2 the course faculty member should take trhe 2nd review of the status byh all the student groups

RUBRICS

Lab	Rubrics 1 (..marks)	Rubrics 2 (..marks)	Rubrics 3 (..marks)	Rubrics 4 (..marks)	Rubrics 5 (..marks)	To be defined by the respective faculty handling the course
Project	Rubrics 1 (..marks)	Rubrics 2 (..marks)	Rubrics 3 (..marks)	Rubrics 4 (..marks)	Rubrics 5 (..marks)	To be defined by the respective faculty handling the course

Program Structure 2022-23

First Semester

Sl. No.	Course Code	Course Title	L	T	P	S	Credits	Hours

							Credit Structure	
Sl. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1	**E1UJ104T**	Discrete Mathematics	3	1	0	0	4	4
2		Open Elective-I	3	0	0	0	3	3
3	**E1UJ101B**	Computer System Organization	3	0	1	0	4	5
4		Vocational Elective-I	3	0	1	0	4	5
5	**E1UJ102C**	Programming for Problem Solving	3	0	1	1	5	8
6		Co-Curriculam Elective-I	0	0	0	0	0	2
Total credits							**20**	**27**

Reference table:

Instruction Components	Credits	Contact Hours/week
L	1	1
T	1	1
P	1	2
S	1	3

Second Semester

							Credit Structure	
Sl. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1		Open Elective-II	3	0	0	0	3	3
2	E1UJ201B	Data Structure Using C	3	0	1	0	4	5
3	E1UJ202B	Operating System	3	0	1	0	4	5
4		Vocational Elective-II	3	0	1	0	4	5
5	E1UJ201C	OOPS using Java	3	0	1	1	5	8
6		Co-Curriculam Elective-II	2	0	0	0	0	2
7	E1UJ201R	Industrial Training / Internship / Research Internship-I	0	0	0	0	2	4
Total credits							**22**	**32**

Third Semester

							Credit Structure	
Sl. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1		Open Elective-III	3	0	0	0	3	3
2		Database Management System	3	0	1	0	4	5

Sl. No.	Course Code	Course Title	L	T	P	S	Credits	Hours
3		Design and Analysis of Algorithms	3	0	1	0	4	5
4		Vocational Elective-III	3	0	1	0	4	5
5		Programming in Python	3	0	1	1	5	8
6		Co-Curriculam Elective-III	2	0	0	0	0	2
7		Specialization Elective-I	3	0	1	0	4	5
Total credits							**24**	**33**

Fourth Semester								
			Credit Structure					
Sl. No.	Course Code	Course Title	L	T	P	S	Credits	Hours
1	E1UJ402B	Computer Networks	3	0	1	0	4	5
2	E1UJ401B	Software Engineering	3	0	1	0	4	5
3		Vocational Elective-IV	3	0	1	0	4	5
4	E1UJ401C	Web Technology	3	0	1	1	5	8
5		Co Curriculam Elective-IV	0	0	0	0	0	2
6	E1UJ401R	Industrial Training / Internship / Research Internship-II	0	0	2	0	2	4
7		Specialization Elective-II	3	0	1	0	4	5
Total credits							**23**	**34**

Fifth Semester								
			Credit Structure					
Sl. No.	Course Code	Course Title	L	T	P	S	Credits	Hours
1		Data Warehousing and Data Mining	3	0	1	0	4	5
2		Campus to Corporate	3	0	1	0	4	5
3		Professional Elective-I	3	0	1	0	4	5
4		Android Application Developmet	3	0	1	1	5	8
5		Capstone Project	0	0	5	0	5	10
6		Specialization Elective-III	3	0	1	0	4	5
Total credits							**26**	**38**

			Sixth Semester					
			Credit Structure					
Sl. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1		Software Quality Management	3	0	1	0	4	5
2		Artificial Intelligence and Machine Learning	3	0	1	0	4	5
3		Professional Elective-II	3	0	1	0	4	5
4		Creativity, Innovation & Entre'ship	3	0	0	0	0	3
5		Capstone Project	0	0	5	0	5	10
6		Specialization Elective-IV	3	0	1	0	4	5
		Total credits					21	33

			Professional Elective-I					
			Credit Structure					
Sl. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1		Agile Methodology	3	0	1	0	4	5
2		Big Data Technologies	3	0	1	0	4	5
3		Probability for Data Science	3	0	1	0	4	5
4		Cyber Security and Cyber Laws	3	0	1	0	4	5

			Professional Elective-II					
			Credit Structure					
Sl. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**
1		Data analysis and handling	3	0	1	0	4	5
2		Ad hoc & Sensors Networks	3	0	1	0	4	5
3		Operational Research for Computer Science	3	0	1	0	4	5
4		Soft Computing	3	0	1	0	4	5

			Co-Curriculum Elective-I/II					
			Credit Structure					
Sl. No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**S**	**Credits**	**Hours**

Sl. No.	Course Code	Course Title	L	T	P	S	Credits	Hours
1	C2UF102T/CU2F221T	Food Nutrition and Hygiene/First Aid and Health	0	0	0	0	0	2

Co-Curriculum Elective-I/II								
			Credit Structure					
Sl. No.	Course Code	Course Title	L	T	P	S	Credits	Hours
1		Professional Ethics & Human values/ Environmental Studies	2	0	0	0	2	2

Specialization Elective (I,II,III,IV)-System and Network Administration								
			Credit Structure					
Sl. No.	Course Code	Course Title	L	T	P	S	Credits	Hours
I		IT Infrastructure and Deployment	3	0	1	0	4	5
II		OS Administration	3	0	1	0	4	5
III		Web Server Administration	3	0	1	0	4	5
IV		Database Administration	3	0	1	0	4	5

Specialization Elective(I,II,III,IV)-Data Science								
			Credit Structure					
Sl. No.	Course Code	Course Title	L	T	P	S	Credits	Hours
I		Inferential Statistics	3	0	1	0	4	5
II		Foundations of Data Science	3	0	1	0	4	5
III		Multivariate Data Analysis	3	0	1	0	4	5
IV		Data Visualization Techniques	3	0	1	0	4	5

Specialization Elective(I,II,III,IV)-Cyber Security								
			Credit Structure					
Sl. No.	Course Code	Course Title	L	T	P	S	Credits	Hours
I		Cryptography and Newtwork Security	3	0	1	0	4	5
II		IDS	3	0	1	0	4	5

Sl. No.		Course Title	L	T	P	S	Credits	Hours
III		Cyber Forensics	3	0	1	0	4	5
IV		Ethical Hacking	3	0	1	0	4	5

Specialization Elective(I,II,III,IV)-Cloud Computing								
			Credit Structure					
Sl. No.	Course Code	Course Title	L	T	P	S	Credits	Hours
I		Introduction to Cloud Computing and Virtualization	3	0	1	0	4	5
II		Cloud Infrastructure and Architecture	3	0	1	0	4	5
III		Cloud Deployment Models	3	0	1	0	4	5
IV		Cloud Security and Management	3	0	1	0	4	5

Specialization Elective(I,II,III,IV)-Game Design and Development								
			Credit Structure					
Sl. No.	Course Code	Course Title	L	T	P	S	Credits	Hours
I		Introduction to Computer Graphics and Gaming	3	0	1	0	4	5
II		Multimedia and Animation	3	0	1	0	4	5
III		UX and FX Design	3	0	1	0	4	5
IV		Game Engine	3	0	1	0	4	5

Courses offered under Vocational category for the programmes which follow NEP 2020											
Sem	Course code	course name	L	T	P	S	Credits	Hours		Offered by School	Division
1	E1UA103B	HTML and CSS	3	0	1	0	4	5			
2	E1UJ203B	Javasccript and PHP	3	0	1	0	4	5			
3		User Interface Design	3	0	1	0	4	5		SCSE	Web Desgining (Track-19)
4	E1UA402B	Full Stack Development using React and Node JS	3	0	1	0	4	5			

Sem	Course code	course name	L	T	P	S	Credits	Hours		School	Division
1	D1UA102B	Data Analysis	3	0	1	0	4	5			

2	D1U1220B	AI for Managers	3	0	1	0	4	5		SOB	Management (Track-21)
3		Stock Market Analysis	3	0	1	0	4	5	0		
4		FInTECH	3	0	1	0	4	5	0		

Open Elective-I/II/III								
			Credit Structure					
Semester	Course Code	Course Title	L	T	P	S	Credits	Hours
I	E2UC101T	Decision Making with Spreadsheet	3	0	0	0	3	3
II	K1UC221T/K1UC222T/K1UC223T	Elements of Literature and Creative Communication/Training and Development/ English Language for Competitive Exams	3	0	0	0	3	3
III		To be decided	3	0	0	0	3	3