DEPARTMENT OF COMPUTER SCIENCE

B. Sc (Computer Science)

PROGRAMME OUTCOMES(POs)

PO1. Acquire a comprehensive understanding of domain-specific knowledge and demonstrate their acquired skills effectively during practical transactions within the specific domain.

PO2. Demonstrate proficient analytical and problem-solving skills through the application of critical thinking strategies to address real-world situations effectively.

PO3. Master effective communication, collaborate skilfully with diverse stakeholders, nurture meaningful dialogues, build strong professional bonds in and beyond college.

PO4. Exhibit proficiency in ethically using information from diverse sources, analysing and synthesizing data effectively for real-world research.

PO5. Exemplify ethical standards in personal and professional contexts, appreciate diverse cultures, evaluate social responsibility's impact on well-being, and advocate for women students' betterment.

PO6 . Actively promote social awareness through community service, contributing to a more inclusive and compassionate global community.

PO7. Embrace continuous learning, create professional growth chances, and prioritize personality development and physical well-being for a holistic approach.

PO8. Foster self-confidence, advocate women empowerment, demonstrate expertise for growth in studies, employment, and entrepreneurship, creating a brighter and equitable future.

Programme Specific outcomes(PSOs)

1. Ability to apply Foundations of Mathematics, Principles of Physics and Theory of Computer Science in solving the real-world problems.
2. Ability to choose, create and apply the appropriate techniques, resources and tools to predict and model complex situations within the scope and boundaries of situation.
3. Create, select and apply appropriate techniques, resources and modern IT tools including prediction and modeling to complex activities with an understanding of the limitations.
4. Communicate effectively on various activities and make effective presentations.
5. Exhibit comprehension and understanding of the programmes and apply them in a multidisciplinary environment.

Structure of Computer Science Anformation Technologv (IT)

Programme: B.Sc. with Computer Science as one of the Core Subjects. Discipline: Computer Science

Year	Semester	Paper Code	Subject	Hrs. per Week	Credits	IA	ES	Total
First Year	I	C1	Problem Solving in C	4	3	25	75	100
	I	C1-P	Problem Solving in C Lab	2	2		50	50
	II	C2	Data Structures using C	4	3	25	75	100
	II	C2-P	Data Structures using C Lab	2	2		50	50
Second Year	III	C3	Database Management System	4	3	25	75	100
	III	C3-P	Database Management System Lab	2	2		50	50
	IV	C4	Object Oriented Programming using Java	4	3	25	75	100
	IV	C4-P	Object Oriented Programming using Java Lab	2	2		50	50
	IV V	C5	Operating Systems	4	3	25	75	100
	IV V	C5-P	Operating Systems Lab using C/Java	2	2		50	50

Univ Code	Course Number 6 & 7	Name of Course	Hours/ Week Theo+Prac	Credits Theo+Prac	Marks	
					IA – 20 Filed Work 05	Sem End
	6A	Web Interface Designing Technologies	3 + 3	3+ 2	25	75
	7A	Web Applications Development using PHP& MYSQL	3 + 3	3 + 2	25	75
		OR				
	6B	Internet of Things	3 + 3	3+ 2	25	75
	7B	Application Development using Python	3 + 3	3 + 2	25	75
		OR				
	6C	Data science	3 + 3	3+ 2	25	75
	7C	Python for Data science	3 + 3	3 + 2	25	75

Problem Solving in C

Course Code: CSC1SK

COURSE OUTCOMES

CO-1: Understand the working of a digital computer and Fundamental constructs of Programming

CO-2: Analyze and develop a solution to a given problem with suitable control structures

CO-3: Apply 'C' language constructs to the algorithms to write a C language program and Apply the Dynamic Memory Management for effective memory utilization.

CO-PO Mapping

CO. No.	Upon the successful completion of the course, students will be able to	POs mapped	Cognitive Level
CO-1	Understand the working of a digital computer and Fundamental constructs of Programming.	PO-1,PO-2	L2
CO-2	Analyze and develop a solution to a given problem with suitable control structures	PO-2,PO4	L4,L6
CO-3	Apply 'C' language constructs to the algorithms to write a C language program and Apply the Dynamic Memory Management for effective memory utilization.	PO-4, PO-5, PO-7, PO-8	L3,L6

Mapping Cos to POs: Alignment on a Three-Point Scale from Weak(1) to Strong(3)

CO	PO							
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO-1	3	2						
CO-2		3		2				
CO-3				1	1		3	2

Data Structures Using C

Course Code: CSC2SK

COURSE OUTCOMES

CO-1: Comprehend data structure and their real time applications- Stack, Queue, Linked list, Trees and Graph.

CO-2: Develop ability to implement different sorting and search methods.

CO-3: Have knowledge on data structures basic operations like insert, delete, search, update and traversal.

CO-PO Mapping

CO. No	Upon the successful completion of the course, students will be able to	POs mapped	Cognitive Level
CO-1	Comprehend data structure and their real time applications- Stack, Queue, Linked list,Trees and Graph.	PO-1	L2
CO-2	Develop ability to implement different sorting and search methods.	PO-2	L3
CO-3	Have knowledge on data structures basic operations like insert, delete, search, update and traversal.	PO-1	L2,L3

Mapping Cos to POs: Alignment on a Three-Point Scale from Weak(1) to Strong(3)

CO	PO							
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO-1	3	2					2	
CO-2		3	1				2	1
CO-3	3	2					2	1

Data Base Management System

Course Code: CSC3SK

COURSE OUTCOMES

CO-1: Understand the fundamental concepts of DBMS with special emphasis on relational data model

CO-2: Model database using ER Diagrams and design database schemas based on the model.

CO-3: Understand and Create a small database using SQL

CO-4: Understand and design application development in PL/SQL

CO-PO Mapping

CO. No.	Upon the successful completion of the course, students will be able to	POs mapped	Cognitive Level
CO-1	Understand the fundamental concepts of DBMS with special emphasis on relational data model	PO-1	L2
CO-2	Model database using ER Diagrams and design database schemas based on the model.	PO-1, PO-2	L2,L3,L6
CO-3	Understand and Create a small database using SQL	PO-1, PO-2, PO-7,PO-8	L2,L3,L6
CO-4	Understand and design application development in PL/SQL	PO-1, PO-2, PO-7,PO-8	L2,L3,L6

Mapping Cos to POs: Alignment on a Three-Point Scale from Weak(1) to Strong(3)

CO	PO							
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO-1	3							
CO-2	3	3						
CO-3	3	3		1		1	3	3
CO-4	3	3		1		1	3	3

Object Oriented Programming using Java

Course Code: CSC4SK

COURSE OUTCOMES

CO-1: Understand he principles of the object oriented programming paradigm specifically including abstraction, encapsulation, inheritance and polymorphism using Java.

CO-2: Use an object oriented programming language, and associated class libraries, to develop programs using Java

CO-3: Design, develop, test, and debug programs using object oriented principles

CO-PO Mapping

CO. No.	Upon the successful completion of the course, students will be able to	POs mapped	Cognitive Level
CO-1	Understand the principles of the object oriented programming paradigm specifically including abstraction, encapsulation, inheritance and polymorphism using Java.	PO-1	L2
CO-2	Use an object oriented programming language, and associated class libraries to develop programs using Java.	PO-1,PO-2	L3
CO-3	Design, develop, test, and debug programs using object oriented principles.	PO-7,PO-8	L2, L3, L6

Mapping Cos to POs: Alignment on a Three-Point Scale from Weak(1) to Strong(3)

CO	PO							
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO-1	3							
CO-2	3	3						
CO-3		2					3	3

Operating Systems

Course Code: CSC5SK

COURSE OUTCOMES

CO-1: Understands what is an operating system and its architecture

CO-2: Understand various process management and memory management concepts.

CO-3 : Understand the internal structure of file systems and analyze different allocation methods used in file storage.

CO-PO Mapping

CO. No	Upon the successful completion of the course, students will be able to	POs mapped	Cognitive Level
CO-1	Understands what is an operating system and its architecture	PO-1	L2
CO-2	Understand various process management and memory management concepts.	PO-1	L2,L4,L5
CO-3	Understand the internal structure of file systems and analyze different allocation methods used in file storage.	PO-1,	L2,L4

Mapping Cos to POs: Alignment on a Three-Point Scale from Weak(1) to Strong(3)

CO	PO							
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO-1	3							
CO-2	3	2					1	1
CO-3	3	2					1	1

Data Science

Course Code: CSC6C

COURSE OUTCOMES

CO1: Utilize Python libraries and tools for data manipulation, including strings, lists, dictionaries, and sets.
CO2: Demonstrate proficiency with statistical analysis of data.
CO3: Develop the ability to build and assess data-based models.
CO4: Demonstrate skill in data manipulation.
CO5:
Apply data science concepts and methods to solve problems in real-world contexts.

CO-PO Mapping

CO. No.	Upon the successful completion of the course, students will be able to	POs mapped	Cognitive Level
CO-1	Utilize Python libraries and tools for data manipulation, including strings, lists, dictionaries, and sets.	PO-1, PO-2	L2,L3
CO-2	Demonstrate proficiency with statistical analysis of data	PO-1, PO-2	L3
CO-3	Develop the ability to build and assess data-based models.	PO-1, PO-2,PO-3	L3,L4
CO-4	Demonstrate skill in data manipulation	PO-1, PO-2	L3
CO-5	Apply data science concepts and methods to solve problems in real-world contexts.	PO2,PO-8	L3,L6

Mapping Cos to POs: Alignment on a Three-Point Scale from Weak(1) to Strong(3)

CO	PO							
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO-1	3	3						
CO-2	3	3						
CO-3	3	3	3	1				
CO-4	3	3		1				
CO-5		3					2	3

Python for Data Science

Course Code: CSC7C

COURSE OUTCOMES

CO1: Identify the need for data science and solve basic problems using python .
CO2: Use standard python programming constructs.
CO3: Employ efficient storage and data operations using NumPy arrays.
CO4: Apply powerful data manipulations and data processing using Pandas.

CO. No.	Upon the successful completion of the course, students will be able to	POs mapped	Cognitive Level
CO-1	Identify the need for data science and solve basic problems using python	PO-1	L2
CO-2	Understand python programming constructs.	PO-1	L2,L3
CO-3	Employ efficient storage and data operations using NumPy arrays	PO-7	L2 , L3,L6
CO-4	Apply powerful data manipulations and data processing using Pandas.	PO-7	L2,L3,L6

Mapping Cos to POs: Alignment on a Three-Point Scale from Weak(1) to Strong(3)

CO	PO							
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO-1	3							
CO-2	3						2	2
CO-3	2	1					3	2
CO-3	2	1					3	2