Name of Faculty	:	Faculty of Computer Science & Applications
Name of Program	:	Bachelor of Computer Applications in Data Science
Course Code	:	1BCA01
Course Title	:	Computer Fundamentals
Type of Course	:	Professional Core
Year of Introduction	:	2023-24

Prerequisite	:	-	
Course Objective	:	Understanding Computer Characteristics, Hardware, Software, and Generations of computer, Types of computers and its applications of various Fields. Understanding working of Computer Functional Block and Structure of Digital Computer. Input/Output Devices and usages, Computer Memory, Computer Language, the various Compute Operating System & it's functions, the concept of Networking and its types.	
Course Outcomes	:	At the end of this course, students will be able to:	
	CO 1	Understanding Computer Characteristics, Hardware, Software, Evolution of computer and Generations, and different Types of Computers and its Applications of Computer in Various Fields.	
	CO 2	Understanding working of Computer Functional Block and Structure of Digital Computer.	
	CO 3	Learn Input/Output Devices and usages	
	CO 4	Grasp the Concept of Computer Memory- types, Devices, and usages	
	CO 5	Understand the various Computer Language and Software	
	CO 6	Understand the various Compute Operating System Functions and various type of OS.	
	CO 7	Understand the concept of Networking and its types	

Teaching and Examination Scheme

Teaching Scheme (Contact Hours)			Credits	Examination Marks				
				Theory Marks		Practical Marks		Total Marks
L	T	P	C	SEE	CIA	SEE	CIA	
4	0	0	4	100	50	0	0	150

Legends: L-Lecture; T–Tutorial/Teacher Guided Theory Practice; P – Practical, C – Credit, SEE – Semester End Examination, CIA - Continuous Internal Assessment (It consists of Assignments/Seminars /Presentations/MCQ Tests, etc.)

Course Content

Unit no.	Topics	Hrs.	Weightage	Mapping with CO
1	**Introduction to Computer:** Computer Characteristics, Concept of Hardware, Software, Evolution of computer and Generations, Types of Computers – Analog and Digital computers, Hybrid Computers, General Purpose and Special Purpose Computer, Limitations of Computer Applications of Computer in Various Fields.	8	15%	CO 1
2	**Structure and Working of Computer:** Functional Block Diagram of Computer. CPU, ALU, Memory Unit, Bus Structure of Digital Computer – Address, Data and Control Bus.	8	15%	CO 2
3	**Input/Output Devices:** Input Device – Keyboard, Mouse, Scanner, MICR, OMR. Output Devices – VDU, Printers – Dot Matrix, Daisy-wheel, Inkjet, Laser, Line Printers and Plotters.	8	15%	CO 3
4	**Computer Memory:** Memory Concept, Memory Cell, Memory Organization, Semiconductor Memory – RAM, ROM, PROM, EPROM, Secondary Storage Devices – Magnetic Tape, Magnetic Disk (Floppy Disk and Hard Disk.), Compact Disk.	7	10%	CO 4
5	**Computer Language and Software:** Algorithm, Flowcharts, Machine Language, Assembly Language, High Level Language, Assembler, Compiler, Interpreter. Characteristics of Good Language. Software – System and Application Software.	9	15%	CO 5
6	**Operating System:** Operating System, Evolution of Operating System. Functions of Operating System. Types of Operating Systems. Detailed Study of Windows Operating System. Introduction and Features of LINUX OS.	10	20%	CO 6
7	**Networking:** Concept, Basic Elements of a Communication System, Data Transmission Media, Topologies, LAN, MAN, WAN, Internet	10	20%	CO 7

Suggested Distribution of Theory Marks Using Bloom's Taxonomy						
Level	Remembrance	Understanding	Application	Analyse	Evaluate	Create
Weightage	40	40	20	-	-	-

NOTE: This specification table shall be treated as a general guideline for the students and the teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Suggested List of Experiments/Tutorials

Sr. No.	Name of Experiment/Tutorial	Teaching Hours
1	Dismantling the system unit, , describe function of each component and define the relationship of internal components.	04
2	Recognize all major components inside a PC	04
3	Describe function of each component and define the relationship of internal components	04
4	Introduce input and out device	04
5	To Familiarize with different computer language.	04
6	To Familiarize with different operating system concepts.	04
7	To familiarize with different networks.	04

Major Equipment/ Instruments and Software Required

Sr. No.	Name of Major Equipment/ Instruments and Software
1	Computer System with latest configuration along with Windows Operating System
2	MS-Office 2007

Suggested Learning Websites

Sr. No.	Name of Website
1	https:// www.tutorialspoint.com/computer_fundamentals/index.htm
2	https:// www.tutorialsmate.com/2020/04/computer-fundamentals-tutorial.html

Reference Books

Sr. No.	Name of Reference Books
1	Computer Fundamentals, Pradeep Sinha &Priti Sinha, BPB Publications
2	Fundamentals of Computers By V. Rajaraman, Neeharika Adabala, PHI Press