B.Sc. Forensic Science: Semester-I FST107: Computer Science-I	
Teaching Scheme	**Examination Scheme**
Lectures: 3 hrs/Week	Class Test -12 Marks
Tutorials: 1 hr/Week	Teachers Assessment – 6 Marks
Credits: 4	Attendance – 12 Marks
	End Semester Exam – 70 marks

Course outcomes:

- Understand hardware components of computer system such as memory system organization, input/output devices, aware of software components of computer system, and windows operating system concepts.
- Develops basic understanding of computers, the concept of algorithm and algorithmic thinking.
- Develops the ability to analyze a problem, develop an algorithm to solve it.
- Develops the use of the Python programming language to implement various algorithms, and develops the basic concepts and terminology of programming in general.
- Introduces the more advanced features of the Python language

Unit I – Computer Fundamentals
• Introduction to Computers: Characteristics of Computers, Uses of computers, Types and generations of Computers.
Unit II – Basic Computer Organization
• Units of a computer, CPU, • ALU, memory hierarchy, registers, I/O devices. Planning the • Computer Program: Concept of problem solving, Problem definition, Program design, Debugging, Types of errors in programming, Documentation. • Techniques of Problem Solving: Flowcharting, decision table, algorithms, Structured programming concepts, Programming methodologies viz. top-down and bottom-up programming.
Unit III – Overview of Programming
• Structure of a Python Program, Elements of Python, IDEs for python, Python Interpreter, Using Python as calculator, Python shell, Indentation. • Introduction to Python: Atoms, Identifiers and keywords, Literals, Strings, Operators (Arithmetic operator, Relational operator, Logical or Boolean operator, Assignment, Operator, Ternary operator, Bit wise operator, Increment or Decrement operator).
Unit IV – Creating Python Programs
• Input and Output Statements, Control statements (Looping- while Loop, for Loop, Loop Control, Conditional Statement- if...else, Difference between break, continue and pass).
Unit V – Structures
• Numbers, Strings, Lists, Tuples, Dictionary, Date & Time, Modules, Defining Functions, Exit function, default arguments. File handling in python. • Introduction to Advanced Python: Objects and Classes, Inheritance, Regular Expressions, Event Driven Programming, GUI Programming. Basic concepts of concepts of Package and modules.

Head
Department of Biotechnology
Invertis University, Bareilly (U.P.)

Dean
Faculty of Science
Invertis University, Bareilly (U.P.)

Registrar
Invertis University
Bareilly