



BON SECOURS COLLEGE FOR WOMEN (AUTONOMOUS)

Accredited with 'A++' Grade by NAAC in Cycle II

Affiliated to Bharathidasan University, Tiruchirappalli

UGC Recognized 2(f) and 12(B) Institution

Vilar Bypass, Thanjavur – 613 006

DEPARTMENT OF COMPUTER SCIENCE

B. Sc Chemistry

SEMESTER-I

Allied Course

24UCS301: C Programming

Credits: 3

Contact Hours: 3

Internal Marks: 25

External Marks: 75

Course Objectives:

The course aims to equip students with the fundamentals of C programming, including syntax, data types, and control structures. Upon completion, students will be able to write efficient C programs and apply programming skills to solve real-world problems.

Course Prerequisites

- Basic computer skills and mathematical foundation are required.
- Familiarity with logical thinking and problem-solving is also recommended.

Syllabus

UNIT - I:

Algorithms – Flow charts – Developing algorithms and flowcharts for solving simple problems using sequential, selection and iterative programming Structures.

UNIT - II:

History of C and its importance – Structure of a C program – Data Types – Constants and Variables – Operators and Expressions – Control structures – Looping structures.

UNIT - III:

Arrays – Character Arrays and Strings – User defined functions.

UNIT - IV:

Pointers: Introduction – Pointer Expressions – Chain of Pointers – Pointers and Arrays – Array of Pointers – Pointers as function arguments – Functions returning Pointers – Pointers to Functions – Function pointer – Pointers and Structures.

UNIT - V:

Structures: Introduction – Defining a structure – Declaration of structure – Accessing Structures members – Array of Structures – Structures within structures – Structures and functions – Structures and Pointers – Union. Files: Opening and closing files – Operations on files.

Text Book

1. E. Balagurusamy , “ Programming in ANSI C “ , 8th Edition , McGraw Hill , - 8th edition, published in 2019-Publisher: McGraw Hill

Reference Book

1. Greg Perry and Dean Miller - C Programming Absolute Beginner's Guide – 6th Edition 2018
2. Mike McGrath's - C Programming in easy steps. The 5th edition Prentice Hall
3. David Griffiths and Dawn Griffiths' Head First C: book offers a unique approach to learning C O'Reilly Media

24UCS351: C Programming Lab

Contact Hours: 4
Credits: 2

Internal Marks: 40
External Marks: 60

Syllabus

1. To convert temperature from degree centigrade to fahrenheit
2. To find given number is odd or even
3. To find maximum between three numbers
4. To display monday to sunday using switch case
5. To display first ten natural numbers and their sum
6. Multiplication of two matrices
7. Maximum number in array using pointer
8. To reverse number using pointer
9. Quadratic equation using function
10. Factorial of a number using recursion
11. Call by reference and call by value
12. Create a file containing student details

SEMESTER-II

24UCS302: PRINCIPLES OF INFORMATION TECHNOLOGY

Credits: 3
Contact Hours: 3

Internal Marks: 25
External Marks: 75

Syllabus

UNIT I

Introduction to Computer Classification of Digital Computer System Computer Architecture Devices. Memory Units Auxiliary Storage Devices Input and Output

UNIT II

Introduction to Computer Software Operating System. Programming Languages General Software Features and trends.

UNIT III

Database Management Systems Data Processing Introduction to Database Management System-database design.

UNIT IV

Introduction to Telecommunication Distributed System Internet - Intranet. Networking Communication System.

UNIT V

Multimedia tools Virtual Reality E-Commerce Data warehousing Data Mining Applications; Geographical Information System Computer in Business, Industry, Home, Education and Training.

Textbooks:

1. Fundamentals of Information Technology, Alexis Leon And Mathews Leon, Vikas Publishing House Pvt. Ltd, 2009

References Books:

1. Henry C.Lucas, Jr., Information Technology for Management McGraw Hill (Part-III).c, 1999
2. Williams, Sawyer, Hutchinson, Using Information Technology McGraw Hill. 1999
3. Stephen Doyle, "Understanding Information Technology", Stanley Thornes 2000
4. Kathleen M. Austin, Lorraine N. Bergkvist, "Principles of Information Technology, Good heart Willcox Company, 2015.
5. V. Raja Raman, "Introduction to Information Technology", PHI Learning Pvt. Ltd, 2018.