

MCA-001

Computer Fundamentals and Programming in C

Max. Marks: 100 (80+20)

Time: 3Hrs

Note: Examiner will be required to set NINE questions with all questions carrying equal marks. Question Number 1, covering the entire syllabus, will be compulsory. Examiner will set two questions from each Unit with internal choice. Student will be required to attempt FIVE questions in all, selection one question from every unit apart from the Question Number 1.

UNIT-I

Computer Fundamentals: Concept of data and information. Components of Computer. Input and Output Device, Components of CPU, Memory and Storage Devices, Classification of Computers, Advantages and Limitations of Computer, Applications of Computer, Social concerns of Computer Technology: Positive and Negative Impacts, Computer Crimes, Viruses and their remedial solutions.

Computer Software: System and Application Software, Overview of Operating System Programming Languages Machine. Assembly. High Level Language, 4GL. Language Translator, Linker and Loader.

UNIT-II

Problem Solving: Problem Identification. Analysis, Algorithms, Flowcharts. Pseudo codes. Decision Tables. Program Coding. Program Testing and Execution.

C Programming Fundamentals: Keywords, Variables and Constants, Structure of a C program.

UNIT-III

Operators & Expressions: Arithmetic, Unary, Logical. Bit-wise, Assignment & Conditional Operators.

Decision Making: Decision making using if...else. Else If Ladder; Switch, break. Continue and Goto statements.

UNIT-IV

Loops: Looping using while, do...while, for statements. Nested loops.

Functions: Defining & Accessing User defined functions. Library Functions, Function Prototype, Passing Arguments, Passing array as argument. Recursion, Use of Library Functions. Macro vs. Functions, Pointers in C.

Textbooks & Reference Books:

1. E. Balaguruswamy: Programming in C. Tata McGraw Hill.
2. Rajender Singh Chhillar: Application of IT to Business, Ramesh Publishers, Jaipur.
3. Gill Nasib Singh: Computing Fundamentals and Programming in C, Khanna Books Publishing Co., New Delhi.

MCA-002

Rapid Application Development with Visual Basic

Max. Marks: 100 (80+20)

Time: 3Hrs

Note: Examiner will be required to set NINE questions with all questions carrying equal marks. Question Number 1, covering the entire syllabus, will be compulsory. Examiner will set two questions from each Unit with internal choice. Student will be required to attempt FIVE questions in all, selection one question from every unit apart from the Question Number 1.

UNIT-I

Introduction to Visual Basic: VB IDE & Components, Feature of VB, VB for Rapid Application Development, VB as event-driven & object-based language, An overview of VB project types.

Programming with VB: Variables, Constants, Data types. Variable Scope.

UNIT-II

VB Controls: Default Controls in Tool Box: Label Box, Text Box, Command Button. List Box, Combo Box. Picture & Image Box, Shape box. Timer. Option button. Check Box & Frames. Exploring Project Properties.

VB Operations & Control Structures: Arithmetic operations, String Operations. Built-in Functions, I/O in VB. Branching & Looping statements.

UNIT-III

Menu in VB: Adding Menu, Modifying and Deleting Menu Items. Creating Submenus.

Forms in VB: Working with Forms: Working with multiple forms; Loading. Showing and Hiding forms; Creating Forms at Run Time, Drag and Drop operation. MDI form Arranging MDI Child Windows. Coordinating Data between MDI Child Forms.

UNIT-IV

Advanced Controls in VB: Introduction: Scroll Bar, Slider Control, Tree View, List View, Rich Text Box Control Toolbar, Status Bar, Progress Bar, Cool bar, Image List, Tab Strip.

VB & Databases: VB as perfect Front-End Language, The Data Controls and Data-Bound Controls, Using DAO, RDO, ADO.

Textbooks & Reference Books:

1. Visual Basic 6 Programming: Black Book By Steven Holzner, dreamtech PRESS
2. Mastering Visual Basic 6 By Evangelos Petroustos, BPB
3. Programming in Visual Basic 6.0 By Julia Case Bradley & Anita C. Millsbaugh Tata