Sr. Secondary Course (Syllabus)

Computer Science (330)

Lesson 1

Anatomy of a Digital Computer

1.1 Introduction
1.2 Objectives
1.3 Functions and Components of a Computer
  1.3.1 How the CPU and Memory work
1.4 Input devices
  1.4.1 Keyboard
  1.4.2 Magnetic Ink character Recognition (MICR)
  1.4.3 Optical mark recognition (OMR)
  1.4.4 Bar Code Reader
  1.4.5 Digitigng Tablet
  1.4.6 Scanners
  1.4.7 Mouse
  1.4.8 Light Pen
  1.4.9 Speech input devices
1.5 Memory Unit
  1.5.1 Capacity of Primary Memory
1.6 Secondary Storage
  1.6.1 Magnetic Tape
  1.6.2 Magnetic Disk
  1.6.3 Floppy Disk
  1.6.4 Optical Disk
1.7 Output Device
  1.7.1 Display Screen
  1.7.2 Printer
  1.7.3 Plotter
  1.7.4 Sound Cards & Speaker
  1.7.5 3 D - Audio
1.8 What do you have learnt
1.9 Terminal Questions
1.10 Feedback to In –Text Question

Lesson - 2

Data Processing Concept

2.1 Introduction.
2.2 Objectives
2.3 Data
2.4 Processing
2.5 Information
2.6 Data Processing Activities
2.7 The Data Processing Cycle
2.8 Computer Processing Operation
2.9 Data Processing Systems
2.10 Data Organisation

2.11 Variable and Fixed Length Records
2.12 Logical Versus Physical Records
2.13 What you have learnt
2.14 Terminal Questions
2.15 Feedback to In- Text Question

Lesson – 3

Computer Software

3.1 Introduction.
3.2 Objectives
3.3 Computer Language
3.4 Type of High –Level Language
3.5 Compilers and Interpreters
3.6 What is Software
3.7 Type of software
3.7.1 System software
3.7.2 Application Software
3.8 What do you have learn
3.9 Terminal Questions
3.10 Feedback to In-Text Question

Lesson – 4

Operating System

4.1 Introduction.
4.2 Objectives
4.3 Main features of Windows 98
4.3.1 Using the Mouse
4.4 The Symbol for Menu Commands
4.4.1 Desktop
4.4.2 Desktop Icon
4.5 Start Button and Taskbar
4.5.1 Programs Submenu
4.5.2 Favorites Submenu
4.5.3 Documents Submenu
4.5.4 Setting
4.5.5 Find
4.5.6 Help
4.5.7 Run
4.5.8 Shut Down
4.6 Window Explorer
4.7 Managing Files, Folders and Windows
4.7.1 Shortcuts
4.7.2 Windows Most Common
4.8 Sharing Folders and Printers
4.9 MS-DOS – Based Program
4.10 What You Have Learn
4.11 Terminal Question
4.12 Feedback to In-Text Question

Lesson – 5

Data Communication and Networking

1.1 Introduction
1.2 Objectives
1.3 Data Communication
1.4 Communication Protocol
1.5 Data Transmission Modes
1.6 Types of Communication Services
1.7 Communication Media
1.8 Computer Network
1.9 Types of Networks
1.10 Network Protocols
1.11 Network Architecture
1.12 Important terms used in Networking
1.13 What you have learn
1.14 Terminal Question
1.15 Feedback to In-Text Question

Lesson – 6

Fundamentals of Internet and Java Programming

6.1 Introduction
6.2 Objects
6.3 Internet – The History
6.4 Services of Internet – E-mail, FTP, Internet, WWW.
6.5 World Wide Web (WWW)
6.6 Java and C++
6.7 Characteristic of Java
6.8 How to Java ignores after Java
6.9 Software Business after Java3
6.10 Java and the Internet
6.11 What you have learnt
6.12 Terminal Questions
6.13 Feedback

Lesson – 7

Introduction to C++

1.1 Introduction
1.2 Objectives
1.3 C++ Character Set
1.4 Basic Data Types
  1.4.1 Integer Type (int)
  1.4.2 Floating Point type (float)
  1.4.3 Character Type (char)
1.5 Tokens
1.5.1 Keyword
1.5.2 Identifiers
1.5.3 Literals
1.5.4 Punctuators

1.5.5 Operators
1.6 The Size of operator
1.7 The order of Precedence
1.8 Type conversion
1.9 Constants
1.10 Variables
1.11 Input/output (I/O)
1.12 Structure of C++ Program
1.13 What you have learnt
1.14 Terminal Question
1.15 Feedback to In-Text Question

Lesson - 8

General Concept of OOP

8.1 Introduction
8.2 Objectives
8.3 Object – Oriented Programming
8.4 Basic Concepts
8.4.1 Objects
8.4.2 Classes
8.4.3 Data Abstraction
8.4.4 Data Encapsulation
8.4.5 Modularity
8.4.6 Inheritance
8.4.7 Polymorphism
8.5 Benefits of OOP
8.6 Programming Applications of OPP
8.7 What you have learnt
8.8 Terminal Questions
8.9 Feedback to In-Text Question

Lesson – 9

Control Statements

9.1 Introduction
9.2 Objectives
9.3 Statements
9.4 Compound Statement
9.5 Null Statement
9.6 Conditional Statement
9.7 Loop Construct
9.8 Jump Statements
9.9 Exit ( ) function
9.10 What you have learnt
9.11 Terminal Question
9.12 Feedback to In-text Question

Lesson - 10

Functions

1.1 Introduction

1.2 Objectives
1.3 # Include Directive
1.4 Library Function
1.5 User defined C++ function
1.5.1 Function Prototype
1.5.2 Arguments to a function
1.5.3 Return type of a function
1.5.4 Global and local variables
1.5.5 Calling of function
1.6 Inline function
1.7 Function with default arguments
1.8 What you have learnt
1.9 Terminal questions
1.10 Feedback to In-text Question

Lesson – 11

Array

11.1 Introduction
11.2 Objectives
11.3 Initializations of one dimensional Array
11.4 Initialization of String
11.5 Processing an Array
11.6 Two dimensional Array
11.7 Terminal question
11.8 Feedback to In-Text question

Lesson 12

Structure, Type def & Enumerated Data Type

12.1 Introduction
12.2 Objective
12.3 Structure
12.4 Variable of the Structure
12.5 Accessing of data members
12.6 Structure variable in assignment statements
12.7 Structure within structure
12.8 Accessing nested structure members
12.9 Initializing nested structure
12.10 Typedef
12.11 Enumerated Data Type
12.12 What you have learnt
12.13 Terminal questions
12.14 Feedback to In-Text Question

Lesson – 13

Classes & Objects with Constructors / Destructors

13.1 Introduction
13.2 Objective
13.3 Structure
13.4 Class

13.4.1 Creating objects
13.4.2 Accessing class member
13.4.3 Member function
13.4.4 Nesting of member function
13.4.5 Memory allocation for objects
13.4.6 Array of object
13.5 Constructor
13.5.1 Default constructor
13.5.2 Parameterized constructors
13.5.3 Copy constructor
13.6 Constructor with default arguments
13.7 Destructor
13.8 What you have learnt
13.9 Terminal Question
13.10 Feedback to In-Text Question

Lesson – 14

Inheritance Extending Classes

15.1 Introduction
14.2 Objectives
14.3 Need for Inheritance
14.4 Different forms of inheritance
14.5 Defining derived class
14.6 Multiple inheritance
14.7 Visibility modes
14.8 Absent class
14.9 Virtual base class
14.10 What you have learnt
14.11 Terminal Questions
14.12 Feedback to In-Text Question

Lesson – 15

Pointer

15.1 Introduction
15.2 Objectives
15.3 Pointer
15.3.1 Pointer to Array
15.3.2 Pointer to string constant
15.3.3 Pointer to structure
15.3.4 Pointer to objects
15.4 This pointer
15.5 What you have learnt
15.6 Terminal Question
15.7 Feedback to In-Text Question

Lesson 16

Files

1.1 Introduction
1.2 Objectives

1.3 File
1.3.1 Opening a file
1.3.2 Open ( ) function
1.3.3 File pointers
1.3.4 The tellg ( ) and tellp ( ) function
1.3.5 Write ( ) and read ( ) functions
1.3.6 Close ( ) function
1.4 What you have learnt
1.5 Terminal Questions
1.6 Feedback to In-Text Question