

Madhya Pradesh Bhoj (Open) University

B.Sc(IT) (Final Year) Syllabus

BIT-17 Data Structures through C Language

Unit - I

Introduction to 'c' Language, Basic Constructs of Structured Programming, History of C Language, Advantage of C Language, Components of c Language, Structure of a C Program, A Sample C Language Program, **Data Types**, Primary Data Types, Composite Data Types, **Constants and Variables**, Character Constants, Integer Constants, Real or Floating point Constants, String Constants, Logical Constants, Variables, **Operators and Expressions**, Arithmetic Operators, Relational operators, Logical Operators, Assignment Operators, Increment and Decrement Operators, Conditional Operator, Bitwise Operators, Special Operators, Operator Precedence, Type Modifiers, Expressions, Type Definitions using typedef,

Unit - II

Progra_ **Control, Conditional Statements**, The Break Statement, the Continue Statement, The exit 0 Function. **Arrays**, One Dimensional Array, Strings, Two Dimensional Array, Multi-dimensional Array, **Functions**, Need of User Defined Functions, Function Declaration and Prototypes, Function Definition, Calling a Function, the Return Statement, Storage Classes, Scope and Lifetime of Declaration, Passing Parameters to Functions, Command line Arguments, Recursion in Function,.

U nit III

Structures, Creating Structure Variables, Assigning Values to Members, Structure Initialization, Comparison of Structure Variables, Array within Structures, Structures within Structures, Passing Structures to Functions, structure Pointers. **Pointers**, Pointer Notation, Pointer Declaration and Initialization, Accessing Variable through pointer, Pointer Expressions, pointers and one Dimensional Arrays, Malloc Library Function, Calloc Library function, Pointers and Multi-dimensional Arrays, Arrays of Pointers, Pointer to Pointers, Pointers and Functions, Functions With a Variable Number of Arguments.

Unit - IV

Data Structures, Primitive and Composite Data types, Abstract Data Type, Algorithm Design, Program Analysis, **Stacks**, Representation of Stacks, Application of Stacks, Simulating Recursive Function Using Stack, **Queues**, Circular Queue, Deques, Priority Queues.

Unit - V

Linked List, Static and Dynamic Memory Allocation, Pointers, Static and Dynamic Variables, Linear Linked List, Representation of Linked List, Implementation of Linked List, Concatenation of Linked List, Merging of Linked List, Reversing of Linked List, Application of Linked List, Doubly Linked List, Circular_Linked List, Generalized List.

BIT 18: Multimedia

Unit I: Multimedia- An Overview

What is multimedia? Multimedia in action-business, schools, home, public places, . making of multimedia- various project stages, hardware software, creativity, multimedia skills, project manager, creative designer, multimedia designer, interface designer, script writer, multimedia programmer, audio specialist, video specialist.

Unit II: Multimedia System

Hardware-processor, memory, monitor, video card, audio card, cd-rom drive, peripherals, software-text editing software, ocr, 3d modeling and animation tools, image editors, sound editors, video editors, multimedia authoring tools.

Unit III: Multimedia Elements

Text in multimedia, fonts and faces, text styles, hypermedia, hypertext, font editing and designing tools, multimedia system sound, digital audio, midi audio, audio production, images-bitmaps, vectors, 3d drawing, rendering, colors, image file formats, animation- principals of animation, animation file formats, analog video, digital video, video recording and video formats.

Unit IV: Multimedia Development

Planning, Designing Multimedia, Production, Managing Multimedia Projects, Multimedia Delivery, Product Testing, Revision, Documentation, Packaging and Distribution

BIT 19 : Web Site Designing

UNIT - I

Introduction to Internet, Beginning of internet, Timeline of internet, How internet works, Components of internet - client/server, modem, cable, modem, backbone, router, IP addresses, address classes, dns names, subnet, udp, & TCP, ports, firewall Connecting to internet, Who owns the internet, Facilities available over internet - email, www, ftp, telnet, usenet, blog, rss, faq, caht, rfc IPv6, Virtual private network Mode of connectivity with internet, uses of internet.

UNIT-II

Introduction to www, what is www, Introduction to website, website structure, Uniform resource locator, home page Browser, uses of web site, Web site hosting, Registration process of domain name languages of web.

UNIT-III

HTML-Creating HTML Documents, Title and Headings, Paragraphs Linking to other Documents Relative Links versus Absolute Pathnames Links to Specific Section.') in Documents Unnumbered Lists Numbered Lists Definition Lists Nested Lists Preformatted Text Text Tags Animated GIF Images Image Alignment Using an Image as Hypertext Link Embedding sound and video Frames.

UNIT-IV

JavaScript Introduction JavaScript Basics What We Can Do with JavaScript Embedding JavaScript in HTML Functions Using the JavaScript Console Using JavaScript Objects

Window Methods Handling Events Using the Status Bar Validating Form Input Using Windows and Frames Creating a Frame Using JavaScript URLs javascript e_amples(programs).

UNIT - V

Active Server Pages (ASP) Introduction components Vbscript Vb script functions error codes Example of asp programmms.

to ASP technologies Asp objects ActiveX Working with databases HTTP status codes

BIT: 20 Unix Operating System

Unit 1: The Unix Operating system

Understanding the Unix Operating System- History of Unix, Feature of Unix as, Unix Structure, Unix System Application environment, Applications of the Unix system, Beginning a Unix session, User Security: Password, Unix help manual, Ending a Unix session. Unix Fundamentals- The Unix System Software, Some Simple Unix commands, Correcting Typing errors, Interrupting programme execution, Suspending Programme display, Receiving and sending E-mail. Managing Files and Directories- The Unix file system, File naming conventions, Relative path names, types of files and users in Unix, Directory commands in Unix, File commands in Unix, Display Commands Text editor Functions of text editors, text editors in Unix, Vi editor, getting started with vi editor, commands used in vi editors, emacs editor.

Unit 2: Hands on Experience with Unix

Essential Unix Commands Unix- Advance File commands, Communication Utilities, Unix Tools- cc, make, touch, Source code management, Text Processing grep, sed, awk, nawk, gawk, Unix System Administration

Unit 3: Unix Programming Environment

Problem Solving in Unix

Bourne shell-Creating a Simple Shell Script, Making Executable files, Command separation and grouping, Job Control, variables, Control-flow commands, Shell Scripting-Automating Tasks- Entering and leaving the C Shell, History, Alias, Job Control, Variables
C Shell

Unit 4: Graphical User Interface

GUI in Unix -What is a GUI, X Windows, Getting Started with X Windows, Working with Motif Windows in MWM, Using Window Menu, X Windows Command

Unit 5: Unix Security and Internet

Unix Security - Security Policies, Physical security, User Authentication, File System Security, Network Security, Basics of Unix Communications,-Unix and Computer Communications, Unix Internet Services. Unix Mail-E-mail on Unix, Advantages of E-mail, Sending messages, message editor, canceling message, understanding message headers, reading messages, replying to messages, saving messages Various versions of mail, managing your mail with pine. Unix News: USENET: Introduction to USENET, Reading News Posting News Internet Communications-ftp, telnet, gopher, W AIS, lynx, write, talk,

BIT: 21 Introduction to .NET

Curriculum for Visual Studio.Net(VB.Net and C#)

Unit1.Overview of the Microsoft .NET Framework

. The .NET Framework

. The Common Language Runtime (CLR)

. The .NET Framework Class Library

- Introduction to C# and VB. Net and Console Applications, Windows Applications, Windows Controls, Asp.Net Projects, Web COAtrols, Web

Services, Net Components

. Overview Of the VS.Net IDE

- Visual Studio. Net and its main features. Creating Projects, Writing

Code, and Compiling code, Debugging Code, Other VS.Net Features. Unit 2.Object-Oriented Programming in Visual Studio.NET

- Introduction to Data Types

. Using Variables, Variable Scope

- Converting Data Types, Creating and Using Structures

.. Storing Data in Arrays

- Understanding Classes, Working with Classes, Using Shared Members . Inheritance, Polymorphism, abstraction, encapsulation, instantiation,

initialization, constructors, and destructors. Namespaces in . Net.

. Types Of Errors, Use Of Exceptions in .Net framework.

Unit3.Tour Of Visual Studio .NET

. What are Visual Studio .NET Projects and Solutions?

- Buttons, CheckBoxes, ListBox Control, Panel, Group Boxes, Link Buttons, Splitter Control and more controls, Restricting User Input, Validating Field Data, Validating Form Data

. Creation of menu and integration of Forms.

Unit 4. ADO.NET , ADO.NET objects and Crystal Reports

Connections, DataAdapters, Commands, DataSets, DataViews.

- Binding to Controls, and Problems for accessing Data From SqlServer or access using Connected and Disconnected Record Sets.
- . Accessing Data Through Crystal Report.
- . Accessing Filtered Data Through Crystal Report.

Unit 5. ASP.NET

- Introduction to Asp. Net, Web forms
- . Difference Between Web Controls and HTML controls.
- . Binding Data To Control, Use of Data-grid.
- Types of Validation controls. Required Field Validator, Custom Validator, Compare Validator, Range Validator
 - . Web Services C# .

BIT 22: C++

Unit - I

Object Oriented Paradigms and Metaphors: Basic Concepts of Object-oriented Programming Objects What is C++? A Simple C++ Program Initialization Input with C in Tokens Control Statements Decisions Nesting Type Conversion.

Data Types Operators and Expressions. Tokens Basic Data Types Constants User Defined Data Types Derived Data Types Declaration of Variables Operations and Expressions Operator and Function Overloading Manipulation of Strings Using Operators Polymorphism Streams.

Unit - II

Function in C++ : The Main Function Passing Arguments to Function Returning Values From Functions Overload Functions Inline Functions Default Arguments, **Class and Objects** The Concept of a Class, Classes Versus Objects.

Unit-III

Constructor and Destructor: Constructors, Destructors, Constructors of the String Class, String Class Assignment ,String Access Operators and Method.

Operator Overloading Type Casting

Unit - IV

Inheritance: Derived Class Relationships Superclass/Subclass Multiple Inheritance Constructors, Destructors, and Inheritance Hierarchical Inheritance Hybrid Inheritance Virtual Base Classes.

What Are Pointers? C++ Memory Map Free Store Pointers and Arrays Reserving Dynamic Memory Freeing Dynamic Memory Polymorphism Virtual Functions Pure Virtual Functions Early vs. Late Binding.

Unit - V

Input-Output in C++ :Old Vs. Modern C++
I/O C++ Streams Creating Inserters Creating Extractors
Creating Manipulator Functions.

File Handling in C++ Classes *for* File Stream Operations Opening and Closing A File Manipulations of
File Pointers Random Access Command-Line Arguments.