

Government Degree College

Rajampet Annamayya Dist.

(Affiliated to Yogi Vemana University, Kadapa)

TEACHING PLAN

Academic Year: 2023-2024

Department of Computer Science

Name of the Lecturer: P. Naresh Behera

Sl. No.	Paper
1	Web Interface Designing Technologies
2	Web Applications Development using PHP& MYSQL
3	Database Management Systems
4	Problem Solving using C

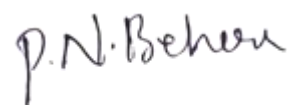
Teaching Notes

For

**Paper 6A-Web Interface Designing
Technologies**

Teaching Plan No.-1

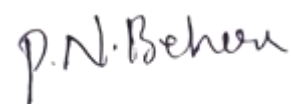
Name of the topic	HTML Basics
Hours required	10
Learning Objectives	● Understand the basic structure of an HTML document. ● Learn about common HTML elements and their attributes. ● Create a simple HTML page.
Previous Knowledge to be reminded	File navigation, Text editors, Web browsers
Examples/Illustrations	Web pages and websites
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	https://www.w3schools.com/ ,
Student Activity planned after teaching	Online Quiz
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Introduction to web designing, difference between web applications and desktop applications, introduction to HTML, HTML structure, elements, attributes, headings, paragraphs, styles, colours, HTML formatting, Quotations, Comments, images, tables, lists, blocks and classes, HTML CSS, HTML frames, file paths, layout, symbols, HTML responsive.



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Teaching Plan No.-2

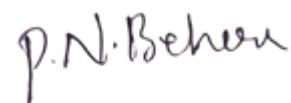
Name of the topic	HTML forms
Hours required	3
Learning Objectives	● Understand the basic structure and purpose of HTML forms. ● Identify and use common form elements ● Create simple forms with basic elements. ● Understand the role of the <form> element and its attributes.
Previous Knowledge to be reminded	Text editors, Web browsers
Eaxmples/Illustrations	Registration and login forms
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	https://www.w3schools.com/ ,
Student Activity planned after teaching	Designing a Login form
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	HTML form elements, input types, input attributes, HTML5, HTMLgraphics, HTML media – video, audio, plug INS, you tube.



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Teaching Plan No.-3

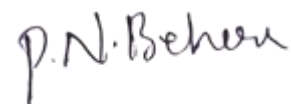
Name of the topic	HTML API's
Hours required	2
Learning Objectives	What HTML APIs are, their purpose, and how they allow JavaScript to interact with HTML elements and content dynamically.
Previous Knowledge to be reminded	Text editors, Web browsers
Eaxmples/Illustrations	GPS , MAP
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	https://www.w3schools.com/ ,
Student Activity planned after teaching	Online Quiz
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Geo location, Drag/drop, local storage, HTML SSE.



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Teaching Plan No.-4

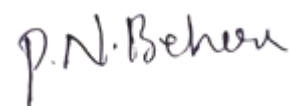
Name of the topic	Cascading Style Sheets(CSS)
Hours required	5
Learning Objectives	Understand the syntax and structure of CSS Learn Selectors,properties and values Understanding CSS layouts
Previous Knowledge to be reminded	HTML tags and attributes
Eaxmples/Illustrations	Applying color, margin, padding etc..
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	https://www.w3schools.com/ ,
Student Activity planned after teaching	Applying CSS to HTML elements
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	CSS home, introduction, syntax, colours, back ground, borders, margins, padding,height/width, text, fonts, icons, tables, lists, CSS forms, CSS counters, CSS responsive.



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Teaching Plan No.-5

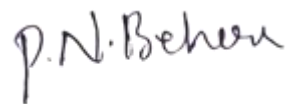
Name of the topic	Client side Validation using Javascript
Hours required	10
Learning Objectives	Understand syntax and data types of Javascript. Learn variables, control statements and functions. Understand DOM manipulation and events Learn Javascript arrays and objects
Previous Knowledge to be reminded	HTML Basics
Examples/Illustrations	Login form validation
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	https://www.w3schools.com/ ,
Student Activity planned after teaching	Online Quiz
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Introduction to JavaScript - What is DHTML, JavaScript, basics, variables, string manipulations, mathematical functions, statements, operators, arrays, functions. Objects in JavaScript - Data and objects in JavaScript, regular expressions, exception handling.



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Teaching Plan No.-6

Name of the topic	Word press
Hours required	20
Learning Objectives	Identify key components of a WordPress dashboard (posts, pages, media library, settings, etc.) Navigate through the WordPress admin interface to access different sections and features. Create new blog posts and pages, including adding text, images, and formatting.
Previous Knowledge to be reminded	Web pages and websites
Eaxmples/Illustrations	
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab,XAMPP server
References cited	https://www.w3schools.com/ ,
Student Activity planned after teaching	Online Quiz , Installing XAMPP,
Activity planned outside the Class room, if any	
Any other activity	Designing a website using wordpress
Topic Synopsis	Introduction to word press, servers like wamp, bitnami e.tc, installing and configuring word press, understanding admin panel, working with posts and pages, using editor, text formatting with shortcuts, working with media-Adding, editing, deleting media elements, working with widgets, menus. Working with themes-parent and child themes, using featured images, configuring settings, user and user roles and profiles, adding external links, protecting word press website from hackers.



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Teaching Notes

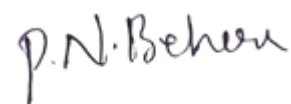
For

Paper 7A-Web Applications

Development using PHP & MYSQL

Teaching Plan No.-1

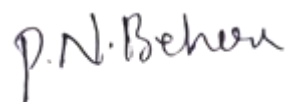
Name of the topic	The Building blocks of PHP
Hours required	10
Learning Objectives	● Understand the basic structure of PHP ● Learn how to declare and use variables ● Understand data types, operators, loops, ● Understand function definition and calling
Previous Knowledge to be reminded	HTML Basics
Eaxmples/Illustrations	Web pages and websites
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	https://www.w3schools.com/ ,
Student Activity planned after teaching	Online Quiz
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Variables, Data Types, Operators and Expressions, Constants. Switching Flow, Loops, Code Blocks and Browser Output. What is function?, Calling functions, Defining Functions, User-Defined Functions, Variable Scope, Saving state between Function calls with the static statement, more about arguments.



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Teaching Plan No.-2

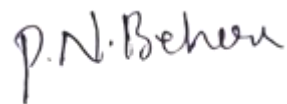
Name of the topic	Arrays, Strings & Objects in PHP
Hours required	10
Learning Objectives	● Learn to create different types of arrays ● Understand different ways to declare strings ● Learn to search for substrings, compare strings, and format strings. ● Understand the concept of a class as a blueprint for creating objects. ● Understand the relationship between classes and objects (instances of classes).
Previous Knowledge to be reminded	Building blocks of PHP
Examples/Illustrations	Array function and string functions
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	https://www.w3schools.com/ ,
Student Activity planned after teaching	Online Quiz, Seminars
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Working with Arrays: What are Arrays? Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance Working with Strings, Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.



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Teaching Plan No.-3

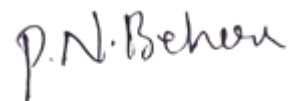
Name of the topic	Working with PHP Forms
Hours required	10
Learning Objectives	● Learn about different form elements and how to use attributes ● Learn how to handle form submissions in PHP using the \$_POST and \$_GET superglobals. ● Learn how to handle file uploads using PHP.
Previous Knowledge to be reminded	HTML forms
Eaxmples/Illustrations	Login forms
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	https://www.w3schools.com/ ,
Student Activity planned after teaching	Online Quiz, Assignments
Activity planned outside the Class room, if any	
Any other activity	Validating Login forms
Topic Synopsis	Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, and Working with File Uploads.



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Teaching Plan No.-4

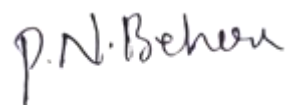
Name of the topic	Working with Files and Directories
Hours required	10
Learning Objectives	● Learn to open, read, write, and close files using functions ● Learn to create, delete, and list directories using functions ● Understand how to change directory paths using functions
Previous Knowledge to be reminded	File Navigation and file paths
Examples/Illustrations	
Additional Inputs	Absolute and relative paths
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	https://www.w3schools.com/ ,
Student Activity planned after teaching	Creating, reading, writing and closing of files
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Including Files with include(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories, Open Pipes to and from Process Using popen(), Running Commands with exec(), Running Commands with system() or passthru().



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Teaching Plan No.-5

Name of the topic	Interacting with MySQL using PHP
Hours required	10
Learning Objectives	● Understand the concept of a database, tables, rows, and columns. ● Learn how to create, modify, and delete databases and tables using SQL. ● Learn basic SQL syntax for selecting, inserting, updating, and deleting data. ● Understand how to execute SQL queries and handle the results.
Previous Knowledge to be reminded	Structured Query Language
Examples/Illustrations	
Additional Inputs	Database
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	https://www.w3schools.com/ ,
Student Activity planned after teaching	Creating database, tables, insert data, delete data in MySQL and using PHP
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. Creating an Online Address Book: Planning and Creating Database Tables, Creating Menu, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism,



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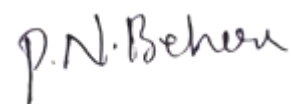
Teaching Notes

For

Database Management Systems

Teaching Plan No.-1

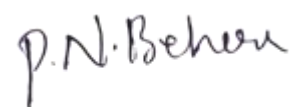
Name of the topic	Overview of Database Management System
Hours required	12
Learning Objectives	Differentiate between database systems and file based systems
Previous Knowledge to be reminded	Data & information, spread sheets
Eaxmples/Illustrations	College database
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	Database Management Systems by Raghu Ramakrishnan, McGrawhill
Student Activity planned after teaching	Seminar Presentation on Database Management Systems
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Introduction to data, information, database, database management systems, file-based system, Drawbacks of file-Based System, database approach, Classification of Database Management Systems, advantages of database approach, Various Data Models, Components of Database Management System, three schema architecture of data base, costs and risks of database approach.



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Teaching Plan No.-2

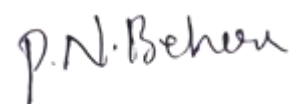
Name of the topic	Entity-Relationship Model
Hours required	12
Learning Objectives	Understand the building blocks of ER model Design a database using ER model
Previous Knowledge to be reminded	Data & information, spread sheets
Eaxmples/Illustrations	ER diagram Hospital administration
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	Database Management Systems by Raghu Ramakrishnan, McGrawhill
Student Activity planned after teaching	Case Study on ER model and EER model
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Introduction, the building blocks of an entity relationship diagram, classification of entity sets, attribute classification, relationship degree, relationship classification, reducing ER diagram to tables, enhanced entity-relationship model (EER model), generalization and specialization, IS A relationship and attribute inheritance, multiple inheritance, constraints on specialization and generalization, advantages of ER modeling.



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Teaching Plan No.-3

Name of the topic	Relational Model
Hours required	12
Learning Objectives	Understand the concept of Relational model Use relational model in database design Understand relational algebra Learn Normalization of database schema
Previous Knowledge to be reminded	Data & information, spread sheets
Examples/Illustrations	Creation of college database and establish relationships between tables
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	Database Management Systems by Raghu Ramakrishnan, McGrawhill
Student Activity planned after teaching	Exercise on Normalization
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Introduction, Codd Rules, relational data model, concept of key, relational integrity, relational algebra, relational algebra operations, advantages of relational algebra, limitations of relational algebra, relational calculus, tuple relational calculus, domain relational Calculus (DRC), Functional dependencies and normal forms upto 3 rd normal form.



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Teaching Plan No.-4

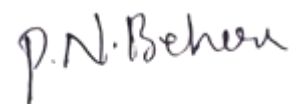
Name of the topic	Structured Query Language
Hours required	12
Learning Objectives	Understand SQL commands Use SQL commands for creating and manipulating data stored in databases.
Previous Knowledge to be reminded	Data & information, spread sheets
Eaxmples/Illustrations	Creation of database table, insert,update,delete and view data using SQL commands
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	Database Management Systems by Raghu Ramakrishnan, McGrawhill
Student Activity planned after teaching	Competition on SQL Query Writing
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Introduction, Commands in SQL, Data Types in SQL, Data Definition Language, Selection Operation, Projection Operation, Aggregate functions, Data Manipulation Language, Table Modification Commands, Join Operation, Set Operations, View, Sub Query.

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Teaching Plan No.-5

Name of the topic	PL/SQL
Hours required	12
Learning Objectives	Understand PL/SQL Language Elements Write PL/SQL programs to work with databases.
Previous Knowledge to be reminded	Data & information, spread sheets, SQL commands
Eaxmples/Illustrations	PL/SQL Programs using control structures
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	Database Management Systems by Raghu Ramakrishnan, McGrawhill
Student Activity planned after teaching	Peer Review of PL/SQL code
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Introduction, Shortcomings of SQL, Structure of PL/SQL, PL/SQL Language Elements, Data Types, Operators Precedence, Control Structure, Steps to Create a PL/SQL Program, Iterative Control, Procedure, Function, Database Triggers, Types of Triggers.



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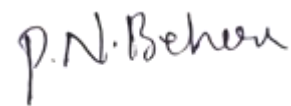
Teaching Notes

For

Problem Solving Using C

Teaching Plan No.-1

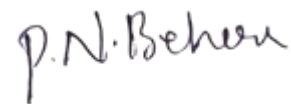
Name of the topic	Introduction to computer and programming
Hours required	7
Learning Objectives	Understand the working of a digital computer To explore basic knowledge on computers Learn to write algorithms and design flowchart
Previous Knowledge to be reminded	Basic computer knowledge
Exaxmples/Illustrations	Making tea, process of college admission
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	Computer fundamentals and programming in C, REEMA THAREJA, OXFORD UNIVERSITY PRESS
Student Activity planned after teaching	Online Quiz
Activity planned outside the Class room, if any	Identify the different types of computers, printers, networking devices and their configurations in the college premises.
Any other activity	
Topic Synopsis	Introduction, Basic block diagram, functions of various components of computer, Concepts of Hardware and software, Types of software, Compiler and interpreter, Concepts of Machine level, Assembly level and high-level programming, Flowcharts and Algorithms



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Teaching Plan No.-2

Name of the topic	Fundamentals of C
Hours required	8
Learning Objectives	Understand basic concepts of C programming Learn how to solve common types of computing problems.
Previous Knowledge to be reminded	Algorithms and flowcharts
Examples/Illustrations	Adding two numbers, calculate simple interest etc.
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	E. Balagurusamy, "Programming in ANSI C", Tata McGraw Hill, 6th Edn, ISBN-13: 978- 1- 25- 90046-2
Student Activity planned after teaching	Online Quiz, Programming practice in computer lab.
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	History of C, Features of C, C Tokens-variables and keywords and identifiers, constants Data types, Rules for constructing variable names, Operators, Structure of C program, Input /output statements in C Formatted and Unformatted I/O



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Teaching Plan No.-3

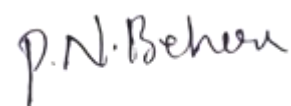
Name of the topic	Control statements in C
Hours required	10
Learning Objectives	Understand and apply the if, if-else, and else if ladder statements Master the use of while, for, and do-while loops Analyze and develop a solution to a given problem with suitable control structures
Previous Knowledge to be reminded	Algorithms and flowcharts, structure of C
Examples/Illustrations	Find the sum of individual digits of a positive integer Generate Fibonacci sequence Check whether a number is Armstrong or not. Generate all the prime numbers between 1 and n
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	E. Balagurusamy, "Programming in ANSI C", Tata McGraw Hill, 6th Edn, ISBN-13: 978- 1- 25- 90046-2
Student Activity planned after teaching	Online Quiz, Structured Programming Assignment.
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Decision making statements: if, if else, else if ladder, switch statements. Loop control statements: while loop, for loop do-while loop. Jump Control statements: break, continue and goto.

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Teaching Plan No.-4

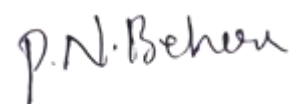
Name of the topic	Arrays & Strings in C
Hours required	10
Learning Objectives	Apply the derived data types in program solutions Learn how to declare, initialize, and access elements of an array using indexing. Learn how to declare, initialize, and access characters in a string using indexing.
Previous Knowledge to be reminded	Algorithms and flowcharts, structure of C
Examples/Illustrations	Addition and Multiplication of two matrices
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	E. Balagurusamy, "Programming in ANSI C", Tata McGraw Hill, 6th Edn, ISBN-13: 978- 1- 25- 90046-2
Student Activity planned after teaching	Online Quiz, Array and String Program Debugging.
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays - Declaration, Initialization and Memory representation. Strings: Declaring & Initializing string variables; String handling functions, Character handling functions



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Teaching Plan No.-5

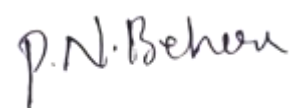
Name of the topic	Functions in C
Hours required	6
Learning Objectives	Understand the syntax and components of a C function Understand how to invoke a function Learn different ways to pass arguments to functions, including call by value and call by reference. Understand the concept of variable scope
Previous Knowledge to be reminded	Algorithms and flowcharts, structure of C
Eaxmples/Illustrations	Demonstrate Call by Value and Call by Reference mechanism Find GCD of Two numbers using Recursion
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	E. Balagurusamy, "Programming in ANSI C", Tata McGraw Hill, 6th Edn, ISBN-13: 978- 1- 25- 90046-2
Student Activity planned after teaching	Online Quiz, Pair Programming Exercise on Functions
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Function Prototype, definition and calling. Return statement. Nesting of functions. Categories of functions. Recursion, Parameter Passing by address & by value. Local and Global variables. Storage classes: automatic, external, static and register.



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Teaching Plan No.-6

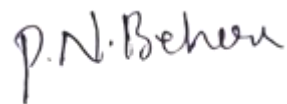
Name of the topic	Pointers in C
Hours required	6
Learning Objectives	Apply the derived data types in program solutions Learn how to declare, initialize, and access elements of an array using indexing. Learn how to declare, initialize, and access characters in a string using indexing.
Previous Knowledge to be reminded	Algorithms and flowcharts, structure of C
Examples/Illustrations	Perform various operations using pointers
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	E. Balagurusamy, "Programming in ANSI C", Tata McGraw Hill, 6th Edn, ISBN-13: 978- 1- 25- 90046-2
Student Activity planned after teaching	Online Quiz, Programming practice in computer lab.
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Pointers: Pointer data type, Pointer declaration, initialization, accessing values using pointers. Pointer arithmetic. Pointers and arrays, pointers and functions.



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Teaching Plan No.-7

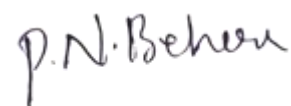
Name of the topic	Dynamic Memory Management in C
Hours required	6
Learning Objectives	Understand the concept of dynamic memory allocation and its advantages over static memory allocation. Learn malloc, calloc, realloc, and free functions and their usage.
Previous Knowledge to be reminded	Arrays, functions and pointers in C
Examples/Illustrations	Usage of dynamic memory management functions.
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	E. Balagurusamy, "Programming in ANSI C", Tata McGraw Hill, 6th Edn, ISBN-13: 978- 1- 25- 90046-2
Student Activity planned after teaching	Online Quiz, Programming practice in computer lab.
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Dynamic Memory Management: Introduction, Functions- malloc, calloc, realloc, free



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Teaching Plan No.-8

Name of the topic	Structures and Unions in C
Hours required	6
Learning Objectives	Define structures and unions in C programming Differentiate between structures and unions Access and modify members of structures & unions
Previous Knowledge to be reminded	Arrays, functions and pointers in C
Exaxmples/Illustrations	Read data of 10 employees with a structure
Additional Inputs	
Teaching Aids used	PPT, LCD Projector, Computer Lab
References cited	E. Balagurusamy, "Programming in ANSI C", Tata McGraw Hill, 6th Edn, ISBN-13: 978- 1- 25- 90046-2
Student Activity planned after teaching	Online Quiz, Appropriate use of structures and nested structures.
Activity planned outside the Class room, if any	
Any other activity	
Topic Synopsis	Structures: Basics of structure, structure members, accessing structure members, nested structures, array of structures, structure and functions, structures and pointers. Unions: Union definition; difference between Structures and Unions.



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