

SHRI VENKATESHWARA UNIVERSITY



Syllabus

**PGDCA
POST GRADUATE DIPLOMA IN COMPUTER
APPLICATIONS
II Semester**

(One Years Programme)

**SCHOOL OF ENGINEERING &
TECHNOLOGY**

Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	PCA-201	OBJECT ORIENTED PROGRAMMING CONCEPTS & C++	3	0	1	20	10	30		70		100	4
2	PCA-202	WEB TECHNOLOGY	3	0	1	20	10	30		70		100	4
3	PCA-203	JAVA PROGRAMMING	3	0	0	20	10	30		70		100	3
4	PCA-204	COMMUNICATION SKILLS	3	1	0	20	10	30		70		100	4
5	PCA-251	C++ & WEB TECHNOLOGY LAB	3	1	0				50		50	100	4
6	PCA-252	JAVA LAB	0	0	2				50		50	100	1
7	PCA-253	MINOR RESEARCH PROJECT	0	0	2				50		50	100	1
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SEMESTER II

SUBJECT- OBJECT ORIENTED PROGRAMMING CONCEPTS & C++	CODE- PCA-201
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Unit I

Introduction to Object Oriented Programming: Object oriented paradigm- Differences between Oriented Programming, Encapsulation, Inheritance and Polymorphism, Benefits of OOP, Structure of a C++ program, namespace, Data types, C++ tokens, Identifiers, Variables, Constants, Operators,

Unit-II

Functions, Classes and Objects:
Introduction of Classes, Class Definition, Defining a Members, Objects, Access Control, Class Scope, Scope Resolution Operator, Inline functions, Memory Allocation for Objects, Static Data Members, Static Member Functions, Arrays of Objects, Objects as Function Arguments, Friend Functions.

Unit-III

Constructors, Destructors, Inheritance:
Introduction to Constructors, Default Constructors, Parameterized Constructors, Inheritance :
Introduction to inheritance, Defining Derived Classes, Single Inheritance, Multiple Inheritance, Multilevel Inheritance, Hierarchical Inheritance, Hybrid Inheritance.

Unit-IV

Pointers, Virtual Functions and Polymorphism:
Introduction to Memory management, new operator and delete operator, Pointers

to objects,
Pointers to Derived Classes, Polymorphism, Compile time polymorphism, Run
time polymorphism,
Virtual Functions, Overloading- Function Overloading, Operator overloading.

Unit-V

Templates and Exception handling:

Introduction to Templates, Class Templates, Class Templates with Multiple
Parameters, Function

SUBJECT- WEB TECHNOLOGY

CODE-PCA-202

UNIT I

Introduction to HTML : Information Files Creation; Web Server; Web
Client/Browser(Understanding how a Browser communicates with a Web Server);
Hyper Text Markup Language(HTML) (HTML Tags, Paired Tags); Commonly
used HTML Commands (The structure of an HTML
program, Document Head, Document Body); Titles and Footers; Text Formatting
(Paragraph

UNIT2

Tables : Introduction (Header, Data rows, The Caption Tag); Using the Width and
Border Attribute; Using the Cell padding Attribute; Using the Cell spacing
Attribute; Using the BGCOLOR
Attribute; Using the COLSPAN and ROWSPAN Attributes. Linking Documents:

UNIT3

Introduction to JavaScript : JavaScript in Web Pages (Netscape and JavaScript,
Database Connectivity, Client side JavaScript, Capturing User Input); The
Advantages of JavaScript (An
Interpreted Language, Embedded within HTML, Minimal Syntax - Easy to Learn,
Quick

UNIT4

Forms Used by a Web Site: The Form Object; The Form Object's Methods (The
Text Element, The Password Element, The Button Element, The Submit (Button)
Element, The Reset (Button)

Element, The Checkbox Element, The Radio Element, The Text Area Element, The Select and Option Element, The Multi Choice Select Lists Element); Other Built-In Objects in JavaScript (The String Object, The Math Object, The Date Object); User Defined Objects (Creating a User Defined Object, Instances, Objects within Objects).

Suggested Readings/ Books:

1. Internet for Everyone: Alexis Leon, 1st Edition, Leon Techworld, Publication, 2009.
2. Greenlaw R; Hepp E, "Fundamentals of Internet and WWW" 2nd Edition, Tata McGraw-Hill, 2007

SUBJECT- JAVA PROGRAMMING

CODE-PCA-203

UNIT I

FUNDAMENTALS OF OBJECT-ORIENTED PROGRAMMING: - Introduction, Object-Oriented Paradigm, Basic Concepts of Object-Oriented Programming Benefits of OOP, Applications of OOP. How Java Differs from C and C++ (Java character set, Keywords, Identifiers, Literals, Operators, Separators), DECISION MAKING AND LOOPING :- Introduction, The while Statement, The do Statement, The for Statement (Additional features of for loop, Nesting of for loops),

UNIT II

OBJECTS AND METHODS: - Introduction, Defining a Class, Adding Variables, Adding Variables, Adding Methods, Creating Objects, Accessing Class Members, Constructors, Inheritance:

UNIT III

ARRAYS, STRINGS AND VECTORS: - Arrays, One-Dimensional Arrays, Creating an Array (Declaration of arrays, Creation of arrays, Initialization of arrays, Array length), Two-Dimensional Arrays (Variable size arrays), Strings

(String arrays, String methods, String Buffer class), Vectors, Wrapper Classes. INTERFACES: Introduction, Defining Interfaces, Extending Interfaces, Implementing Interfaces, Accessing Interface Variables.

UNIT IV

PACKAGES: Introduction, System Packages, Using System Packages, Naming Conventions, Creating Packages, Accessing a Package, Using a Package, Adding a Class to a Package, Hiding Classes. MANAGING ERRORS AND EXCEPTIONS Introduction, Types of Errors (Compile-time error, Run-time error),

UNIT V

APPLET PROGRAMMING :- Introduction, How Applets Differ from Applications, Preparing to Write Applets, Building Applet Code, Applet Life Cycle (Initialization state, Running State, Idle or stopped state, Dead state, Display state), Creating an Executable Applet, Designing a Web Page(Comment Section, Head Section, Body Section), Applet Tag, Adding

SUBJECT- COMMUNICATION SKILLS	CODE- PCA204
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UNIT I

Basics of Technical Communication- Functions of Communication-Internal & External Functions,Models-Shannon & Weaver's model of communication, Flow, Networks and Importance, Barriers to Communication, Essential of effective communication (7 C's and Other principles), Non-verbal Communication.

UNIT II

Basic Technical Writing: Paragraph writing (descriptive, Imaginative etc.), precise writing, Reading and comprehension, Letters – Format & various types

UNIT III

Verbal Communication- Presentation Techniques, Interviews, Group Discussions, Extempore, Meetings and Conferences.

UNIT IV

Technical Communication-Dissertation and Thesis, Technical Reports, Instruction Manuals and Technical Descriptions, Creating Indexes.

Suggested Readings/ Books:

1. Loveleen Kaur, "Communication Skills", Satya Pratashan Publication, Edition 2008.
2. M Aihraj Rizvi," Effective Technical Communication", Tata McGraw hill, Edition 2005.
3. Varinder Kumar Bodhraj, "Business Communication", Kalyani Publishers", Edition 2011.