

SHRI VENKATESHWARA UNIVERSITY



Syllabus

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

(One Years Programme)

**SCHOOL OF ENGINEERING &
TECHNOLOGY**

SEMESTER-I

Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	PCA-101	COMPUTER FUNDAMENTAL & MS OFFICE	3	0	1	20	10	30		70		100	4
2	PCA-102	PROGRAMMING IN C LANGUAGE	3	0	1	20	10	30		70		100	4
3	PCA-103	DATA BASE MANAGEMENT SYSTEM	3	0	0	20	10	30		70		100	3
4	PCA-104	SOFTWARE ENGINEERING	3	1	0	20	10	30		70		100	4
5	PCA-105	FOUNDATION ENGLISH	3	1	0	20	10	30		70		100	4
6	PCA-151	MS OFFICE & C PROGRAMMING LAB	0	0	2				50		50	100	1
7	PCA-152	DATA BASE MANAGEMENT SYSTEM LAB	0	0	2				50		50	100	1
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SUBJECT- COMPUTER FUNDAMENTAL & MS OFFICE	CODE-PCA-101
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UNIT-I

Brief History of Development of Computers, Computer System Concepts, Computer System Characteristics, Capabilities And Limitations, Types of Computers, Basic Components of A Computer System - Control Unit, ALU, Input/output Functions and Characteristics, Memory RAM, ROM, EPROM, PROM and other types of Memory.

UNIT-II

Input/Output & Storage Units:- Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, scanners, Digital Camera, MICR, OCR, OMR, Barcode Reader, Voice Recognition, Light pen, Touch Screen, Monitors - characteristics and types of monitor -Digital, Analog, Size, Resolution, Refresh Rate, Interlaced / Non Interlaced, Dot Pitch, Video Standard - VGA, SVGA, XGA etc,

UNIT-III

Printers And Its Types -Dot Matrix, Inkjet, Laser, Plotter, Sound Card And Speakers, Storage Fundamentals - Primary Vs Secondary Data Storage And Retrieval Methods - Sequential, Direct And Index Sequential, Various Storage Devices - Magnetic Tape, Magnetic Disks, Hard Disk Drives, Floppy Disks ,Optical Disks, Flash Drives Video Disk, MMC Memory Cards, Physical Structure of Floppy & Hard Disk, Drive Naming Conventions In PC.

UNIT-IV

Use of Communication and IT, Communication Process, Communication Types- Simplex, Half Duplex, Full Duplex, Serial And Parallel Communication, Types Of Network - LAN, WAN, MAN ,Internet, Topologies of LAN - Ring, Bus, Star, Mesh And Tree Topologies, Components of LAN -Media, , World Wide Web and Applications and Internet Services.

UNIT-V

Software and Its Need, Types of Software - System Software, Application Software, System Software - Operating System, Utility Program, Programming Languages, Assemblers, Compilers And Interpreter, Programming Languages- Machine, Assembly, High Level, 4GL, Their Merits And Demerits, Application Software and its Types - Word- Processing, Spreadsheet, Presentation Graphics, Data Base Management Software, Characteristics, Virus-Working Principles, Types of Viruses, Virus Detection and Prevention Methods .

TEXT & REFERENCE BOOKS:

COMPUTERS TODAY, BY S.K BASANDRA, GALGOTIA PUBLICATIONS.

FUNDAMENTALS OF INFORMATION TECHNOLOGY ALEXIS LEON & MATHEWS LEON, ,
VIKAS PUBLISHING

DOS QUICK REFERENCE RAJEEV

MATHUR, , GALGOTIA PUBLICATIONS

Unit I

Importance of C, basic structure of C program, characters, keywords, identifiers, constants, variables, data types, declaration of variables.

Unit II

Operators arithmetic, relational logical, assignment , increment , decrement, conditional, special operator, precedence of operators, expression, reading & writing a character, input output format, assignment, if, nested if, switch, else if ladder ? : operator, goto, while, do, for statement.

Unit III

Array : one, two, & multidimensional array, declaring & initializing string variables, reading & writing strings from screen, arithmetic operations on string, string handling functions, storage classes.

Unit IV

The C functions, general form , function argument, return statement, returning values , calling a function, no argument , argument but no return values, arguments with return values.

Unit V

Structure initialization , array of structures , unions understanding pointers, declaring & initializing pointers, accessing variables, pointers expression, pointer increments, pointers & characters strings, pointers & functions. Defining & opening a file, input/output operations on files , closing a file, error handling , random access to files

SUBJECT- DATA BASE MANAGEMENT SYSTEM	CODE - PCA-103
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Unit I

Introduction: Database system, advantages of database systems-redundancy, consistency, sharing, database, DBMS components. Architecture of database systems: Schema, sub-schema; logical and conceptual view. Data Description Language (DDL), DML and database

Unit II

Data Models : Relational Model-structure, tuple, attributes, relation normalization, key-primary key, candidate key, alternate key, relational calculus & relational algebra-concepts, definition of union, set difference, Cartesian product – selection, intersection, quotient and join. Normal forms: First, Second,Third.

Unit III

FoxPro - Database file, record & field, field types, creating database file-defining, saving structure, entering, listing, removing, updating, searching, sorting, viewing records, closing database.

Index – creating index files, multiple fields – compound & structural index, creating index – ascending, descending order, saving index file.

Unit IV

Seek, index, sort, time, date, date arithmetic, mathematical functions- sqrt (), abs (), max (), min (), round (), mod (), len (), mathematical commands sum average,count,calculate, do while- enddo, skip, trim, accept, input, wait, if-end if , scan – endscan, for-end for, do case-endcase, text-endtext,

Unit V

handling multiple data base database files-select, set relations, designing custom screen @-say –get and read, range,picture, designing custom screen using @ command @ prompt,define menu ,popup features

SUBJECT- SOFTWARE ENGINEERING	CODE- PCA-104
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Unit I

Introduction to software engineering: - concept of software engineering, phases in software development –requirement analysis software design, coding, testing, maintenance, software development process model –water fall, prototyping, spiral model, project size categories, project structure,

Unit II

Delphi COCOMO Model on software size estimate, project scheduling- average duration estimation, project scheduling & milestones, Software configuration management concept SCM element identification, control accounting, Auditing Risk Management

Unit III

Software design- Fundamental Design concept, Abstraction, Information Hiding, Structure, Modularity, Concurrency, Modules and modularization criteria, coupling and cohesion, design Notations – Data Flow Diagram,

Unit IV

Verification– validation – concept, walk through, Inspection, Static analysis, Testing – fundamental, Error, Fault, Failures and Reliability, Test cases, Functional and Structural testing, Unit testing, Integration, Testing, Validation testing, Recovery testing, Security testing, Unit V

CASE tools – Fundamental of CASE, Software Developmental, Environment, Different case tools.

UNIT I

Effective Communication In Business, Importance and benefits of effective communication

Components of communication, The concepts and problems of communication

Non-verbal communication

UNIT2

Writing Skills, Writing Different Types of Letters, Using Microsoft Word

Preparing effective resume, Writing reports

Presentation Skills ,Preparing presentations, Using Microsoft PowerPoint for presentations

UNIT3

Listening Skills

i. Listening Skills

1. Recognize why listening is important
2. Understand how listening is beneficial
3. Increase productivity by listening
4. Avoid common misconceptions about listening
5. Understand the difference between hearing and listening

ii. Analyzing Your Listening Skills

1. Understand the need for the listening process
2. Identify the different types of listening
3. Use critical listening skills
4. Eliminate personal filters when listening
5. Take effective notes

UNIT4

Emotional Intelligence

I. Emotional Intelligence and You

1. Identify reasons Emotional Intelligence is important in the workplace
2. Identify strengths of Emotionally Intelligent team leaders and managers
3. Apply the LISTEN process in a work environment

II. Emotional Intelligence and Teams

1. Identify different types of intelligence

