

Scheme of Examination

Course Title:	Diploma in Computer Application
Abbreviation:	D.C.A.
Type of Course:	One Year Diploma
Pattern:	Yearly
Award of Degree:	Diploma in Computer Application will be awarded for those who successfully complete all the components and declared pass in the programme after One Year.

Scheme of Examination DCA (Diploma in Computer Application)

Paper Code	Name of Subject	Internal	Term-end	Min Pass Marks	Max. Marks
DCA 101	Computer Fundamentals	14	56	25	70
DCA 102	PC Software	14	56	25	70
DCA- 103	DBMS	14	56	25	70
DCA- 104	Web Programming	14	56	25	70
DCA- 105	C Programming	14	56	25	70
Practical					
DCA-106 MS Office & DBMS					75
DCA-107 C Language					75
Total					500

DCA 101 COMPUTER FUNDAMENTALS

Unit I

Introduction to Computer: Definition, Characteristics, Classification of Computers, Analog Computers, Digital Computers, Hybrid Computers, Classifications of computer on the basis of size and speed, different type of computers, generation of computers. Computer keyboard, pointing devices, mouse, track ball, touch pad, joystick, touch – sensitive screens, pen – based systems, digitizer, data scanning devices, optical recognition systems, bar code readers, optical mark readers, optical scanners, drum scanners, hand scanner, flatbed scanner, web camera, game pad, digital camera.

Unit II-

Hard copy devices: Printer, impact printers, daisy wheel, dot matrix printer, line printer, chain printers, comb printers, non-impact printers, DeskJet, inkjet printers, laser printer, thermal transfer printer, barcode printers. Computer Display: CRT, LCD, projection displays, plasma display panel, display standard, monochrome display adapter, HGA, CGA, EGA, VGA, MGA, SVGA, XGA, QVGA, SXGA, UXGA

Unit III-

Introduction to memory, classifications, random-access memory, volatile memory, non-volatile memory, flash memory, read-only memory, secondary memory, the cache memory, auxiliary storage memory, memory hierarchy, storage devise, magnetic tape, magnetic disk, floppy disk, hard disks, CD, DVD, magneto-optical. Number system, binary, octal, hexadecimal, addition, subtraction, multiplications,

Unit IV-

Computer code: BCD, ASCII, EBCDIC code, Excess-3 code, gray code, software, User interface, system software, programming software, application software logic gates and Boolean algebra. Computer

Viruses: Introduction, history, types of computer viruses, classification of viruses ways catch a computer virus, symptoms of a computer virus.

Unit V-

Introduction of internet, history, IP, TCP and UDP, application protocol, world wide web, how the web works, web standards, website, overview, types of websites, electronic mail, internet, e-mail header, saved message file extension, messages and mailboxes

Books:

1. Computer Fundamentals By P.K. Sinha
2. O' Level Module 1 by V.K. Jain
3. O' Level Mode Simple By Satish Jain
4. Essential of IT (Hindi Medium) – Pragma Publication

DCA 102 PC SOFTWARE

Unit – I

Windows Basics – Introduction to word – Editing a document - Move and Copy text - Formatting text & Paragraph – Enhancing document – Columns, Tables and Other features

Unit II

Features of Word Processor: Create, edit, store, print documents, Navigation of documents, cut, copy & paste, Find & replace, Different Page Views and layouts, Alignment, formatting features, Tabs & Indents, Inserting tables, pictures, hyperlinks, Spell checking, Macros, Mail merge, Template, Wizards,

Unit – III

Features of Spreadsheet: Creating, saving, editing, moving around a worksheet, workbook; Inserting, deleting navigation in worksheets, Working with Formula, Cell reference, Functions, Creating, editing, selecting and naming range. Format Feature, Changing alignment,

Unit IV

Character styles, Date Format, Border & Colors etc. Previewing & Printing a worksheet, Goal Seek, Pivot Table, Creating Charts & Graphs. Macro, Linking and embedding.

Unit – V

Power Point Presentation Package: Creating Presentation, Different presentation templates, Setting backgrounds, layouts, Customizing, Formatting a presentation, Adding Graphics and effects to the presentation.

DCA- 103 : DATA BASE MANAGEMENT SYSTEM

UNIT-I

Data, Data Processing, Merits and demerits of file organisation. Database Overview, Purpose of the Database system, File systems Vs. Database Systems, View of Data: Data Abstraction, Instances, Schema,

Unit II

Data Models: Overview of Network, Hierarchical, and Relational Model, ER Model: Basic Terminology, Entity, Entity sets, attributes and keys, Relation and Relationship sets, Entity-Relationship Diagram, Weak and Strong entity types, Features of E-R Model, Specialization, Generalization Aggregation, Creating table from ER diagram.

Unit III

Basic Concept of Normalization up to BCNF.

Implement Database concepts using Access, Creating Tables, Data Types, Entering Data, Table Design, Indexing, Importing Data, Operators and expressions, expression builder, various functions of Access, Import and Export Table,

Unit IV

Creating Queries, Setting Relationship between Tables, Creating Forms, Controls and components of form, Master table and transaction table. Join property, various join options available in access, Creating & Printing Reports.

Unit V

Query Languages: DDL, DML, DCL, Introduction to SQL, Data Types, Basic SQL commands like Create, Alter, Drop, Truncate, Insert, Update, Delete etc, Basic SQL Queries, Union, Intersect and Except, Nested Queries.

Suggested Readings

1. Database Management System By A. Silberschatz, Henry F.Korth, S. Sudershan (McGraw- Hill)
2. An Introduction to Database System By C.J. Date (Addision Wesley)
3. Fundamentals of DBMS By Gupta, Dhillon, Magho, Sharma (Lakhanpal Publishers)
4. Teach yourself Access. Sieglel, BPB
5. Introduction to Computer Data Processing and System Analysis By V K Kapoor (Sultan Chand and Sons)

PGDCA- 104 : WEB PROGRAMMING

Unit I

Introduction to World Wide Web: History, Working of Web Browsers, Its functions, Search engine category, Concept of Hyper Text Transfer Protocol (HTTP), Web Servers, Internet Explorer

Unit II

Web publishing Document Interchange Standard, Component of Web Publishing, Site and Domain Name, Overview of Intranet and its applications.

Unit III

HTML, Designed Tools, HTML Editors, Issue in Web Site Creations and Maintenance, FTP S/W for Upload Website, Elements of HTML & Syntax, Building HTML Documents, Use of Font Size and Attributes, Backgrounds, Formatting tags, Images, Hyperlinks, div tag

Unit IV

List Type and its Tags, Table Layout, , Use of Frames and Forms in Web Pages. Working with Style sheet: Elements and different Type of style sheet

Unit V

Basic of Cyber Security and Cyber Crime: Computer Ethics and Application Programs, Cyber Law, Introduction to IT laws & Cyber Crimes – Internet, Hacking, Cracking, Viruses, Virus Attacks, Software Piracy, Intellectual property, Legal System of Information Technology, Social Engineering, Mail Bombs, Bug Exploits

Suggested Readings

1. Internet and Web Page Designing By V.K Jain (BPB)
2. Internet & Web Design By A. Mansoor, Pragma Publications.
3. Web Enabled Commercial Application Development Using HTML, DHTML , java script, Perl CGI By Ivan Bayross (BPB)
4. Cyber Security by Nina Godbole & Sunit Belapure
5. Computer Forensics by Marie- Helen Maras

DCA - 105 : C PROGRAMMING

Unit-I

Basic concepts of programming: Characteristic & Implementation of Algorithm, Flow Chart Symbols, Benefit and Limitations; Decision Table, Pseudo Code. Programming Techniques: Top down, Bottom up, Modular, Structured, Features, Merits, Demerits and their Comparative study.

Unit-II

Structure of C Program; Character Set, Tokens, Variable, Constant; Data Types; Operator, Expressions,

Type Conversions; Console Input-Output functions; Control Flow Statements and Blocks, Branching statements and Labels.

Unit-III

Loop Structure: While, Do while, For, Modular programming: Basic types of function, Declaration and definition, Function call, Parameter passing, Recursion, Scope of variables, Storage classes.

Unit-IV

Arrays: Declaration and use of Array, Array manipulation; Searching, Insertion, Deletion of an element, Strings as array of characters, Standard library string functions. Pointer: Declaring & Initializing pointers, Accessing a variable and address of a variable, Pointer expressions, Pointers and Function Arguments, Pointers and Arrays,

Unit-V

Structures-Declaring and Initializing, Nested structure, Array of Structure, Passing Structures to functions, Unions, typedef, enum, Bit fields. Data Structures: Arrays, stacks, queues, d-queue, linked lists, single link list, double link list, trees, threaded tree, b-tree, graphs, depth first search, breath first search, algorithm, prism algorithm, prefix, postfix, infix, in-order, pre-order, post-order, recursive functions. Sorting: Internal and external sorting, Quick Sort, merge sort, bubble, insertion, selection sorting. Shortest path, travel salesman problem Searching techniques and merging algorithms

Suggested Readings

1. D. Ravichandran, programming in C New Age International, 1996.
2. E. Balaguruswamy, Tata McGraw Hill Pub.
3. Y.Kanitkar, Let us C. BPB Publication, 4th Ed. 2002.
4. Rajiv Dharaskar, Hidden Treasure of C, BPB Publication, 1995.
5. Shridhar B. Dandin, Programming in C – Pragya Publication (Hindi Medium).
