DETAILED SYLLABUS

FOR DISTANCE EDUCATION

Diploma
(One Year Semester Scheme)

Diploma in Computer Application
(DCA)
**COURSE TITLE**: DIPLOMA IN COMPUTER APPLICATION  
**DURATION**: 1 YEAR (SEMESTER SYSTEM)  
**TOTAL MARKS**: 1000

### FIRST SEMESTER

<table>
<thead>
<tr>
<th>COURSE TITLE</th>
<th>PAPER CODE</th>
<th>MARKS</th>
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<td>DCA-110</td>
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### SECOND SEMESTER

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Note:

Theory Paper:  30% Continuous Internal Assessment and 70% University examination.

Practical Paper:  30% Continuous Internal Assessment and 70% University examination

Continuous Internal Assessment:
1) Two or three tests out of which minimum two will be considered for Assessment 60% of Continuous Internal Assessment
2) Seminars/Assignments/Quizzes 30% of Continuous Internal Assessment
3) Attendance, class participation and behavior 10% of Continuous Internal Assessment
INTRODUCTION TO INFORMATION TECHNOLOGY

Maximum Time : 3 Hrs. University Examination : 70 Marks
Total Marks : 100 Continuous Internal Assessment : 30 Marks
Minimum Pass Marks : 40%

A) Instructions for paper-setter
The question paper will consist of five sections A, B, C and D. Sections A, B and C will have two questions from the respective sections of the syllabus and will carry 15% marks each. Section D will have 10-20 short answer type questions which will cover the entire syllabus uniformly and will carry 40% marks in all.

B) Instructions for candidates
1. Candidates are required to attempt one question each from sections A, B and C of the question paper and the entire section D.
2. Use of non-programmable scientific calculator is allowed.

SECTION A
Definition of Information Technology, Use of IT, Definition of information system, need of information system, definition of knowledge, Range of application: Scientific, business, educational, weather forecasting, and remote sensing, planning, e-commerce, web publishing, Management Information System, Decision Support System, inventory control, medical, industrial control, banks, railways, etc.

SECTION B
Computer Fundamentals: Block structure of computer, Characteristics of computers, Problem solving with computers, Generation of computers, Classification of computers. Number System: Bit, Byte, Binary, Decimal, Hexadecimal, and Octal system, Conversion from one system to the other, Error detecting codes, Representation of characters, Integers and fractions. Binary Arithmetic: Addition, Subtraction and Multiplication.

SECTION C
Input and Output units: Their functional characteristics, main memory, cache memory, read only memory, overview of storage devices – floppy disk, hard disk, compact disk, tape. Computer Networks and Communication: Network types, Network topologies, Network communication devices, Physical communication media, TCP/IP. Internet and its Applications: E-mail, Telnet, FTP, WWW, Internet chatting.

Reference:-

DCA-120 COMPUTER PROGRTAMMING USING “C”

Maximum Time : 3 Hrs. University Examination : 70 Marks
Total Marks : 100 Continuous Internal Assessment : 30 Marks
Minimum Pass Marks : 40%

A) Instructions for paper-setter
The question paper will consist of five sections A, B, C and D. Sections A, B and C will have two questions from the respective sections of the syllabus and will carry 15% marks each. Section D will have 10-20 short answer type questions which will cover the entire syllabus uniformly and will carry 40% marks in all.

B) Instructions for candidates
1. Candidates are required to attempt one question each from sections A, B and C of the question paper and the entire section D.
2. Use of non-programmable scientific calculator is allowed.

SECTION A
Data types, constants, Variables, Arithmetic and logical expressions, Data input and output, Assignment statements, Conditional statements.

SECTION B
Iteration, Arrays, String processing, User-defined data types, functions, recursion, Parameter passing by reference & by value.

SECTION C
Structures, Multiple Structure, Array of Structure, Unions, Pointers, Character pointers, Pointers to arrays, Array of pointers, Pointers to structures.

Reference:-
2. D.Dromey “How to solve it by Computer”, Prentice-Hall, 1985
DCA-130  PC SOFTWARE PACKAGES

Maximum Time : 3 Hrs.  University Examination : 70 Marks
Total Marks : 100  Continuous Internal Assessment : 30 Marks
Minimum Pass Marks : 40%

A) Instructions for paper-setter
The question paper will consist of five sections A, B, C and D. Sections A, B and C will have two questions from the respective sections of the syllabus and will carry 15% marks each. Section D will have 10-20 short answer type questions which will cover the entire syllabus uniformly and will carry 40% marks in all.

B) Instructions for candidates
1. Candidates are required to attempt one question each from sections A, B and C of the question paper and the entire section D.
2. Use of non-programmable scientific calculator is allowed.

SECTION A
MS Word Basics: Introduction to MS Office; Introduction to MSWord; Features & area of use. Working with MS Word.; Menus &Commands; Toolbars & Buttons; Shortcut Menus, Wizards &Templates; Creating a New Document; Different Page Views and layouts; Applying various Text Enhancements; Working with – Styles, Text Attributes; Paragraph and Page Formatting; Text Editing using various features ; Bullets, Numbering, Auto formatting, Printing &various print options, Spell Check, Thesaurus, Find &Replace; Headers & Footers ; Inserting – Page Numbers, Pictures, Files, Auto texts, Symbols etc.; Working with Columns, Tabs & Indents; Creation & Working with Tables including conversion to and from text; Margins & Space management in Document; Adding References and Graphics; Mail Merge, Envelops & Mailing Labels.

SECTION B
MS Excel: Introduction and area of use; Working with MS Excel; concepts of Workbook & Worksheets; Using Wizards; Various Data Types; Using different features with Data, Cell and Texts; Inserting, Removing & Resizing of Columns & Rows; Working with Data &Ranges; Different Views of Worksheets; Column Freezing, Labels, Hiding, Splitting etc.; Use of different features with Data and Text; Use of Formulas, Calculations & Functions; Cell Formatting including Borders & Shading; Working with Different Chart Types; Printing of Workbook & Worksheets with various options.

SECTION C
MS PowerPoint: Introduction & area of use: Working with MS Power Point; Creating a New Presentation; Working with Presentation; Using Wizards; Slides & its different views; Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists: Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects: Designing & Presentation of a Slide Show; Printing Presentations, Notes, Handouts with print options.
Reference:

DCA-140 P SOFTWARE LAB (COMPUTER PROGRAMMING USING “C”)

Maximum Time : 3 Hrs. University Examination : 70 Marks
Total Marks : 100 Continuous Internal Assessment : 30 Marks
Minimum Pass Marks : 40%

This Laboratory Course will mainly comprise of exercises on what is learnt under paper DCA -120 (COMPUTER PROGRAMMING USING “C”).

DCA-150 P SOFTWARE LAB (PC SOFTWARE)

Maximum Time : 3 Hrs. University Examination : 70 Marks
Total Marks : 100 Continuous Internal Assessment : 30 Marks
Minimum Pass Marks : 40%

This Laboratory Course will mainly comprise of exercises on what is learnt under paper DCA -130 (PC SOFTWARE).
SECOND SEMESTER

DCA-210 MICROSOFT ACCESS

Maximum Time : 3 Hrs. University Examination : 70 Marks
Total Marks : 100 Continuous Internal Assessment : 30 Marks
Minimum Pass Marks : 40%

A) Instructions for paper-setter
The question paper will consist of five sections A, B, C and D. Sections A, B and C will have two questions from the respective sections of the syllabus and will carry 15% marks each. Section D will have 10-20 short answer type questions which will cover the entire syllabus uniformly and will carry 40% marks in all.

B) Instructions for candidates
1. Candidates are required to attempt one question each from sections A, B and C of the question paper and the entire section D.
2. Use of non-programmable scientific calculator is allowed.

SECTION A
Introduction to Databases, DBMS and RDBMS : Introduction, Information, Quality of Information, Information Processing, Characteristics of Data in a Database, What is a Database Management System (DBMS)?, Need for DBMS, Types of DBMS, Relational Database Management Systems (RDBMS), RDBMS Terminology, Relational Data Structure, Relational Data Integrity, Conclusion, Review Questions.

SECTION B

SECTION C
Introduction to Structured Query Language (SQL) : Introduction, Characteristics of SQL, Advantages of SQL, Types of SQL Tables, Create Table, NULLS, Data Manipulation, Update Operations, SQL in Access.

References:
DCA-220 OPERATING SYSTEM

Maximum Time : 3 Hrs. University Examination : 70 Marks
Total Marks : 100 Continuous Internal Assessment : 30 Marks
Minimum Pass Marks : 40%

A) Instructions for paper-setter
The question paper will consist of five sections A, B, C and D. Sections A, B and C will have two questions from the respective sections of the syllabus and will carry 15% marks each. Section D will have 10-20 short answer type questions which will cover the entire syllabus uniformly and will carry 40% marks in all.

B) Instructions for candidates
1. Candidates are required to attempt one question each from sections A, B and C of the question paper and the entire section D.
2. Use of non-programmable scientific calculator is allowed.

SECTION A
DISK OPERATING SYSTEMS (DOS)
Introduction, History & versions of DOS, DOS basics- Physical structure of disk, drive name, FAT, file & directory structure and naming rules, booting process, DOS system files.
DOS commands: Internal - DIR, MD, CD, RD, COPY, DEL, REN,VOL, DATE, TIME, CLS, PATH, TYPE etc. External - CHKDSK, XCOPY, PRINT, DISKCOPY, DISKCOMP,DOSKEY, TREE, MOVE, LABEL, APPEND, FORMAT, SORT, FDISK, BACKUP, EDIT, MODE, ATTRIB, HELP, SYS etc Executable V/s Non executable files in DOS.

SECTION B
WINDOWS XP
My computer- exploring hard disk, copying and moving files and folder from one drive to another, formatting floppy drive. Windows Accessories - Calculator, Notepad, Paint, WordPad, Character map paint, command prompt.
Windows Explorer- exploring hard disk, copying and moving files and folders from one drive to another, formatting floppy drive and other Explorer facilities. burning CD.
Entertainment- CD player, DVD Player, Media Player, Sound Recorder, Volume Control, movie maker
Recycle bin- restoring a deleted file, emptying the cycle bin. Managing files, folders and disk-navigating between folders, manipulating files and folders, creating new folder, searching files and folders.

SECTION C
LINUX History & Features of Linux, Linux Structure, File system of Linux, Hardware requirements of Linux, Various flavours of Linux, Program & Process, Process creation
and process identifiers, Functions of profile and login files in Linux, Linux kernel, Login and logout from Linux system, Linux commands - bc, cal, cat, cd, chgrp, chmod, chown, clear, cmp, copy, date, find, ps, kill, ls, mail, mkdir, more, mv, rm, rmdir, tty, wc, who, whois, grep, write, telnet. Pipeline concepts, Using floppy and cdrom in linux, vi editor.

Reference:
4. Windows XP Complete Reference. BPB Publications
A) Instructions for paper-setter
The question paper will consist of five sections A, B, C and D. Sections A, B and C will have two questions from the respective sections of the syllabus and will carry 15% marks each. Section D will have 10-20 short answer type questions which will cover the entire syllabus uniformly and will carry 40% marks in all.

B) Instructions for candidates
1. Candidates are required to attempt one question each from sections A, B and C of the question paper and the entire section D.
2. Use of non-programmable scientific calculator is allowed.

SECTION A
Internet - Evolution, Protocols, Interface Concepts, Internet Vs Intranet, Growth of Internet, ISP.
Connectivity- Dial-up, Leased line, VSAT etc., URLs, Domain names, Portals.
E-MAIL - Concepts, POP and WEB Based E-mail ,merits, address, Basics of Sending & Receiving, E-mail Protocols, Mailing List, Free Email services.

SECTION B

SECTION C
Html - Concepts of Hypertext, Versions of HTML, Elements of HTML syntax, Head & Body Sections, Building HTML documents, Inserting texts, Images, Hyperlinks, Backgrounds and Color controls, Different HTML tags, Table layout and presentation, Use of font size & Attributes, List types and its tags, Use of Frames and Forms in web
pages. Overview of MS FrontPage, Macromedia Dream weaver, and other popular HTML editors, designing web sites using MS FrontPage (using at least FrontPage 2000)

**Reference:**

**DCA-240 P ** SOFTWARE LAB (MICROSOFT ACCESS)

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<td>30 Marks</td>
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Minimum Pass Marks : 40%

This Laboratory Course will mainly comprise of exercises on what is learnt under paper DCA -210 (MICROSOFT ACCESS).

**DCA-250 P ** SOFTWARE LAB (OPERATING SYSTEM & HTML)

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Minimum Pass Marks : 40%

This Laboratory Course will mainly comprise of exercises on what is learnt under paper DCA -220 & DCA-230 (OPERATING SYSTEM & HTML).