

University Centre for Distance Learning



**Syllabi & Scheme of Examination
BCA-1st Year/DCST**

Chaudhary Devi Lal University Sirsa (Haryana)

Website:- www.cdlu.ac.in



SCHEME OF EXMINATION

1. **Bachelor of Computer Applications- First Year**
2. **One Year Diploma in Computer Science and Technology**

Paper Code	Course Nomenclature	Ext. Ass.	Inter. Ass.	Time
108	Fundamentals of IT	70	30	3 Hrs.
109	PC Software	70	30	3 Hrs.
110	Programming Fundamentals using C	70	30	3 Hrs.
111	Mathematical Foundation of Computer Science	70	30	3 Hrs.
112	Internet and Web Designing	70	30	3 Hrs.
113	Software Lab-I (based on BCA/DCA-110)	70	30	3 Hrs.
114	Software Lab-II (based on BCA I DCA-109 & 112)	70	30	3 Hrs.

TOTAL MARKS 700

Eight questions will be set by the examiners covering the whole syllabus. Students are required to attempt any five questions in all. All questions carry equal marks. Each theory paper will be of three hours duration. Minimum pass marks are 35 in each theory paper and practical(40 marks) and aggregate 40 %

FUNDAMENTALS OF IT

Total Time: 3Hours

Maximum Marks: 70

Minimum Marks:30

Note: Eight questions will be set by the, examiners covering the whole syllabus. Students are required to attempt any five questions in all. All questions carry equal marks.

Introduction to Information Technology, concept of bit and byte, binary, octal, decimal and hexa-decimal number systems and their conversion, data representation, complement form, BCD codes, fixed point and floating point representation

Computer and its components, mini computer, micro computer, personal computer, super computer, note book! laptop, networking of computers, Local Area Network, Metropolitan Area Network, Wide Area Network, network topologies: Bus, Ring, Star, Mesh and Hybrid, Internet and Intranet, modem.

Memory Organization : Memory hierarchy, RAM, ROM, dynamic RAM, flash memory, secondary memory and its characteristics, hard disk drives, cache memory and its organization, floppy drive and CD/DVD drive.

Peripheral devices: common input and output devices, printer, plotter, scanner, joy stick, web camera, touch panel, light pen and card reader.

Text Book:

- * Mano M Morris, Digital Logic and Computer Design, PH India Pvt. Ltd. 2000.
- * Rajaraman V., Radhakrishan T.; An Introduction To Digital Computer Design, Prentice Hall of India Pvt. Ltd. 4th Ed.
- * P.K. Sinha, Computer Fundamental, BPB Publication.

PC SOFTWARE

Total Time: 3Hours

Maximum Marks: 70

Minimum Marks:35

Note: Eight questions will be set by the, examiners covering the whole syllabus. Students are required to attempt any five questions in all. All questions carry equal marks.

History of Computer, Generation of Computer, Classification of Computer, Application of Computer, Computer archicture and organization, concept of operating system, Computer language, networking concept.

Disk Operating System, Internal and External DOS Commards, configuring DOS and Batch files.

Windows basics: History of Windows, Starting Windows, Desktop, maximizing, minimizing, restoring and closing a window, using the start menu, control panel, man-aging multiple windows, arranging icons on the desktop, creating a new folder, logging off and shutting down windows, using notepad, calculator, WordPad.

Word: What is word processing, advantages of using word processing, starting word, creating a document, saving a document, printing a document, Editing a document, selecting Text, deleting Text, undoing and redoing Changes.

Formatting Text Paragraph: Formatting text, paragraph formatting, using bullets and numbering in paragraphs.

Enhancing a document: Page Setup, inserting page breaks, looking at a document m different views, using Headers and footers, using tabs, using mail-merge.

MS-Excel : What is Excel, starting started with Excel, editing cells and using commands and functions. Moving and copying, inserting and deleting rows and columns, printing a worksheet.

MS-Power Point: What is Power point, creating a presentation, power point views, running a slide show, printing a presentation?

Text Books:

- * R K Taxali, PC Software for Windows made' simple, Tata McGraw Hill Publishing Company Limited, New Delhi.

PROGRAMMING FUNDAMENTALS USING C

Total Time: 3Hours

Maximum Marks: 70

Minimum Marks : 35

Note: Eight questions will be set by the, examiners covering the whole syllabus. Students are required to attempt any five questions in all. All questions carry equal marks.

Programming fundamentals': problem definition, algorithms, flow charts and their symbols, introduction to compiler, interpreter, debuggers, assembler, linker and loader and their inter relationship. Machine-, Assembly-, High Level- Language.

Elements of C : Character set,. identifier and keywords, data type, declaration and definition. formatted input/output, expressions.

Operators: Arithmetic, relation, logical, bit wise, unary, assignment and conditional operators their hierarchy and associatively.

Control statements: selection, sequencing, if and switch statement; Repetition for, while loops do while loop; break, continue, goto.

Arrays, runctions, including recursive functions, program organization: local and exter-nal variables and scope; pointers & arrays.

Strings: strings literals, string variables, I/O of strings, arrays of strings; applications.

Text Books:

- * Using Infonnation Technology, 5th Edi, Brian K Williams & Stacey C. Sawyer, 2003, TMH
- * The C Programming Language by Dennis M Ritchie, Brian W. Kemigham, 1988, PHI.
- * C Programming -A modern approach by K.N.King. 1996, WW Norton & Co.

MATHEMATICAL FOUNDATION OF COMPUTER SCIENCE

Total Time: 3Hours

Maximum Marks:70

Minimum Marks:35

Note: Eight questions will be set by the, examiners covering the whole syllabus. Students are required to attempt any five questions in all. All questions carry equal marks.

Matrices and matrix operation: different type of matrices, square matrix, row matrix, column matrix, diagonal matrix, identity matrix, addition, subtraction, multiplication of matrices, transpose and inverse of a matrix .

Set Theory: sets, set relations, set operations, infinite collections of sets, power sets, Cartesian products

Functions: Functions, injective and surjective functions, composition of functions, inverse functions, functions and set operations

Counting and Countability: counting principles, functions and counting, permutations and combinations, combinatorial arguments, infinite sets and countability Relations: Relations, composition of relations, equivalence relations, equivalence classes

Text Books:

* Discrete Mathematics By Olympia Nicodemi, CBS Publishers & Distributors

INTERNET AND WEB DESIGNING

Total Time: 3Hours

Maximum Marks:70

Minimum Marks:35

Note: Eight questions will be set by the, examiners covering the whole syllabus. Students are required to attempt any five questions in all. All questions carry equal marks

Electronic Mail: Introduction, advantages and disadvantages, Userids, Pass words, email addresses, message components, message composition, mailer features, E-mail inner workings, E-mail management, Mimetypes, Newsgroups, mailing lists, chat rooms.

The Internet: Introduction to networks and internet, history, working of Internet, Internet Congestion, internet culture, business culture on internet. Collaborative computing & the internet. Modes of Connecting to Internet, Internet Service Providers(ISPs), Internet address, standard address, domain name, DNS, IP.v6.Modems and time continuum, communications software; internet tools.

World Wide Web: Introduction, Miscellaneous Web Browser details, searching the www: Directories search engines and meta search engines, search fundamentals, search strategies, working of the search engines, Telnet and FTP.

Privacy and security topics: Introduction, Software Complexity, Encryption schemes, Secure Web document, Digital Signatures, Firewalls.

Introduction hypertext markup language, Web page installation, Web page setup, Basics of HTML & formatting and hyperlink creation. Basic and advanced HTML, java script language,

Text Books:

- * Fundamentals of the Internet and the World Wide Web, Raymond Greenlaw and Ellen Hepp - 2001, TMH
- * Internet & World Wide Programming, Deitel, Deitel & Nieto, 2000, Pearson Education

SOFTWARE LAB - I
(BASED ON BCA / DCA-110)

Maximum Marks: 70

Minimum Marks: 40

Representative programming problems:-

1. Write a program to find the largest of three numbers. (if-then-else)
2. Write a program to find the largest number out of ten numbers (for-statement)
3. Write a program to find the average male height & average female heights in the class (input is in form of sex code, height).
4. Write a program to find roots of quadratic equation using functions and switch statements.
5. Write a program using arrays to find the largest and second largest no. out of given 50 nos.
6. Write a program to multiply two matrices
7. Write a program to read a string and write it in reverse order
8. Write a program to concatenate two strings
9. Write a program to sort numbers using the Quick sort Algorithm.
10. Represent a deck of playing cards using arrays.
11. Write a program to check that the input string is a palindrome or not.

Note : Similar programs may also be prepared by the students.

SOFTWARE LAB - II
(BASED ON BCA / DCA-109 & 112)

Maximum Marks: 70

Minimum Marks: 40

Representative programming problems I exercise include:-

1. Sending and receiving mails.
2. Chatting on the net.
3. Using FTP and Tel net server.
4. Using HTML Tags (table, form, image, anchor etc.).
5. Making a Web page of. Your college using HTML tags.
6. To show all internal and external DOS commands.
7. To show all function of Windows
8. Prepare a letter in MS-Office
9. Prepare a Spreadsheet in MS-Excel to make marit list for admission purpose.
10. Prepare a presentation in Power Point for seminar

Note: Similar programs/exercise may also be solved by the students