

BCA -101
THEORETICAL FOUNDATION OF COMPUTER SCIENCE
PAPER-I : DISCRETE MATHEMATICS

Max Marks : 50

NOTE: The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculator is allowed not Scientific calculator.

UNIT-I Recall of statements and logical connectives, tautologies and contradictions, logical equivalence, algebra of propositions quantifiers, existential quantifiers and universal quantifiers.

UNIT-II Boolean algebra and its properties, algebra of propositions as an example, De Morgan's Laws, partial order relations g.l.b., l.u.b. Algebra of electric circuits and its applications. Design of simple automatic control system.

UNIT-III Boolean functions - disjunctive and conjunctive normal forms. Boolean's expansion theorem, fundamental forms. Many terminal Networks.

UNIT-IV Arbitrary Cartesian product of sets. Equivalence relations, partition of sets, injective, surjective, bijective maps, binary operations, countable, uncountable sets.

UNIT-V Basic Concept of Graph Theory, Sub graphs, Trees and their properties, Binary Trees, Spanning Trees, Directed Trees, Planar graphs, Euler Circuit, Hamiltonian Graph, Chromatic number.

BOOKS RECOMMENDED:

1. Boolean Algebra and its Application : J.E. Whitesitt
2. Concepts of Modern Mathematics : P.L. Bhatnagar
3. Discrete Mathematics : B.R.Thakur
4. Graph theory and its applications : Narsingh Dev.
5. Discrete Maths : C.L.Liu T M Hill

BCA -101
PAPER-II : CALCULUS AND STATISTICAL METHODS

Max Marks : 50

Note : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Only Simple calculator is allowed not Scientific calculator.

UNIT-I Limits, Continuity and differentiability of function(s) of one variable, First and second kind of discontinuities.

UNIT-II Differentiation of Functions, Differentiation of functions of functions, parametric functions, product of functions, function in Product and quotient form, Logarithmic differentiation, Differentiation of Parametric functions.

UNIT-III Tangent & Normal, Subtangent, Subnormal, Monotonic Increasing and Decreasing function, Simple examples of Maxima and Minima.

Statistical Methods

UNIT-IV Probability – sample space, Types of events (mutually exclusive, equally, likely event, favorable events, dependent and independent events), composition of events, additive and multiplicative law of probability, conditional probability, inverse probability, Bays Theorem.

UNIT-V Frequency distribution and measures of dispersions, Binomial, Poisson and Normal distribution. Curve fitting and Principle of least square, Correlation and Regressions lines.

BOOKS RECOMMENDED:

1. Differential Calculus : Gorakh Prasad
2. Statistics : Rey & Sharma
3. Statistics : Shukla & Sahay

BCA & Other Computer Application

BCA -101
THEORETICAL FOUNDATION OF COMPUTER SCIENCE
PAPER - III : INTRODUCTORY ELECTRONICS

Max Marks : 50

NOTE : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

UNIT-I SEMICONDUCTORS & INTEGRATED CIRCUITS

Introduction to semiconductors & its types, Diode, PNP & NPN transistors, CE amplifier & Switching characteristics of Transistors, Logic Families, Scale of Integration, RTL, DTL, TTL, and its characteristics.

UNIT-II INTEGRATED CIRCUIT FABRICATION

Integrated circuits technology. Advantages and limitations of Integrated circuits, Basic monolithic integrated circuit technology.

UNIT-III DATA REPRESENTATION

Data types, number systems, fixed point representation, 1's and 2's complements, Binary fixed point representation, arithmetic operation on binary operation, overflow and underflow, codes, ASCII, EBCDIC codes, Grey codes, Excess-3, BCD codes, Error detection and correcting codes.

UNIT-IV LOGIC GATES AND BOOLEAN ALGEBRA

Logic gates AND, OR, NOT, gates and their truth tables, NOR, NAND and XOR gates, Boolean algebra, basic Boolean Law, demorgan's theorem, Map Simplification, Minimizing technique, K-Map, Sum of product, Product of sum.

UNIT-V COMBINATOINAL & SEQUENTIAL LOGIC CIRCUITS

Combinational and sequential circuits, binary adder, subtractor, Flip flop – RS, D, JK, and T flip flop, data & shift register, encoder, decoder, comparator, Multiplexer, Demultiplexer, RAM & ROM.

BOOKS RECOMMENDED :

1. Digital Computer Electronics - Albert P. Malvino (TMH Edition)
2. Digital Computer and LogicDesign - M Morris Mano (PHI)
3. Digital Computer Fundamentals - Thomas P. Bartee (Megraw Hill)
4. Handbook of Electronics - GuptaKumar(Pragati Prakashan Meerut)

BCA - 102
FUNDAMENTALS of IT & O.S.

Max Marks : 100

Min. Marks : 40

NOTE : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

UNIT-I Introduction to Computers

Computer System Characteristics and Capabilities : Speed, Accuracy, Reliability, Memory capability, Repeatability. *Computer Hardware and Software:* Block Diagram of a Computer, Different Types of Softwares, *Data Processing:* Data, Data Processing System, Storing Data, Processing Data. *Types of Computers:* Analog, Digital, Hybrid General and Special Purpose Computers. *Computer Generations:* Characteristics of Computer Generations Computer Systems – Micros, Minis & Main-frames. *Introduction to a PC :* The IBM Personal Computer Types of PC systems PC, XT & AT Pentium PC's Limitations of Micro Computer.

UNIT-II Computer Organization :

Introduction to Input Devices : Categorizing Input Hardware, Keyboard, Direct Entry-Card Readers, Scanning Devices – O.M.R., Character Readers, MICR, Smart Cards,

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Voice Input Devices, Pointing Devices – Mouse, Light Pen. *Storage Devices* : Storage Fundamentals, Primary and Secondary Storage, Data Storage and Retrieval Methods – Sequential, Direct & Indexed Sequential, Tape Storage and Retrieval Methods *Tape Storage Devices*, characteristics and limitations, Direct access Storage devices for Microcomputers - Hard Disks, Disk Cartridges, Direct Access Storage Devices for large Computer systems, Mass storage systems and Optical Disks, CD ROM. *Central Processing Unit* : The Microprocessor, control unit, A.L.U., Registers, Buses, Memory, Main Memory (RAM) for microcomputers, Read Only Memory (ROM). *Computer Output* : Output Fundamentals, Hardcopy Output Devices, Impact Printer, Non-Impact Printers, Plotters, Computer output Microfilm/Microfiche (COM) systems, Softcopy Output Devices, Cathode Ray Tube, Flat Screen Technologies.

UNIT-III Computer Software:

System Software: System software Vs. Application Software, Types of System Software, Introduction and Types of Operating Systems programs, Booting Load, Diagnostic Tests, Operating Systems Executive, BIOS, Utility Programs, File Maintenance, Language Processors, Assembler, Compiler & Interpreter. *Application Software*: Microcomputer Software, Interacting with the System, Trends in Application software, Types of Application Software, Difference between Program and Packages.

UNIT-IV Microsoft Disk Operating System :

Introduction, History and Versions of DOS. *Fundamentals of DOS* : Physical Structure of the Disk, Compatibility of drives, Disks & DOS versions, Preparing Disks for use, Device Names. *Getting Started with DOS* : Booting Process (DOS, Windows, Unix), System Files and Command.com, Internal DOS Commands - DIR, MD, CD, COPY, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE. Files & Directories, Elementary External DOS Commands - CHKDSK, MEM, XCOPY, PRINT, DISKCOPY, DISKCOMP, DOSKEY, HELP, TREE, SYS, LABEL, ATTRIB, Creating a Batch File, Additional Commands - ECHO, PROMPT, EDIT, FORMAT, FDISK, BACKUP, RESTORE, MORE, SORT, APPEND. Introduction to Unix OS, Basic commands - pwd, ls, cat, pg, who, ps, mail, cal, File commands- ls, cat, tail, cp, mv, rm, file, type, chmod. Directory Commands- cd, mkdir, rmdir.

UNIT-V Overview of GUI & Windows OS:

Introduction to GUI and various versions of MS Windows 98, Windows XP, Windows 2000, Windows Vista, Workgroups and domains, Quick launch toolbar, Windows Firewall, 3D navigation, Desktop, Internet explorer 7.0, networking features (Sharing files, managing programs and multimedia, control panel, Speech recognition and Dictation). Handling user accounts, Security and protection features, management tools (updating, diagnosing, configurations, backup and recovery, upgrading windows vista). OLE Concept, Comparative study of Linux, DOS and Windows, features of Windows Vista, reliability, migrating the data.

Books

- | | | |
|--|---|--------------------------------------|
| 1. Using IT | : | Williams T M Hill |
| 2. IT | : | Curtin T M Hill |
| 3. Fundamental of Information Technology | : | Chetan Shrivastava Kalyani Publisher |
| 4. Computer Fundamentals | : | P.K Sinha BPB Publications |

BCA-103

PROGRAMMING IN 'C' LANGUAGE

Max Marks : 100

Min. Marks : 40

NOTE : The Question Paper setter is advised to prepare unit-wise question with the provision

of internal choice.

UNIT-I Fundamentals of C Programming - Overview of C : History of 'C', Structure of 'C' program. Keywords, Tokens, Data types, Constants, Literals and Variables. Operators and Expressions : Arithmetic operators, Relational operator, Logical operators, Expressions, Operator : operator precedence and associativity, Type casting, Console I/O formatting, Unformatted I/O functions: getch(), getchar, getche(), getc(), putc(), putchar().

Control Constructs : If-else, conditional operators, switch and break, nested conditional branching statements, loops: For, do.. while, while, Nested loops, break and continue, goto and label, exit function.

UNIT-II Arrays, Strings and Functions : **Array**:-Array declaration, One and Two dimensional numeric and character arrays. Multidimensional arrays.

String:- String declaration, initialization, string manipulation with/without using library function.

Functions:-definition, function components: Function arguments, return value, function call statement, function prototype. Type of function arrangement: return and argument, no return and no argument, return and no argument, no return and argument. Scope and lifetime of variable. Call by value and call by reference. Function using arrays, function with command line argument. User defined function: maths and character functions, Recursive function.

UNIT-III Structure, Union & Enum - **Structure**: basics, declaring structure and structure variable, typedef statement, array of structure, array within structure, Nested structure; passing structure to function, function returning structure. **Union**: basics, declaring union and union variable, **Enum**: declaring enum and enum variable.

UNIT-IV Dynamic Data Structures in 'C' - Pointers: definition of pointers, pointer declaration, using & and * operators. Void pointer, pointer to pointer, Pointer in math expression, pointer arithmetic, pointer comparison, dynamic memory allocation functions – malloc, calloc, realloc and free, pointers vs. Arrays, Arrays of pointer, pointer to array, pointers to functions, function returning pointer, passing function as argument to function, pointer to structure, dynamic array of structure through pointer to structure.

UNIT-V File Handling and Miscellaneous Features - File handling: file pointer, file accessing functions, fopen, fclose, fputc, fgetc, fprintf, fscanf, fread, fwrite, eof, fflush, rewind, fseek, ferror. File handling through command line argument. Introduction to C preprocessor #include, #define, conditional compilation directives: #if, #else, #elif, #endif, #ifndef etc.

BOOKS RECOMMENDED :

Main Reading :

1. Programming in C - Yashwant Kanetkar
2. Programming in C - Venugopal
3. The C Programming Language - Kernighan and Ritchie [Prentice Hall].
4. Application Programming in C - R. Johnson-baugh & Martin Kalin Macmillan International Editions.
5. The Spirit of C - Mullish Cooper, Jaico publishing House
6. How to solve it by Computers - R.G.Dromey, Prentice Hall of India.
7. Mastering in CPP - Venugopal

Supplementary Readings:

1. The art of C Programming - Jones, Robin & Stewart, Narosa Publishing House.
2. C Problem solving and Programming - A. Kenneth, Prentice Hall International.
3. C made easy - H. Schildt, McGraw Hill Book Company

Introduction to PC Software & Internet Applications

Max Marks : 100

Min. Marks : 40

NOTE : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

- UNIT-I Using Office 2007 MS-Word-** Creating and editing word documents, formatting documents –aligning documents, indenting paragraphs, changing margin, formatting pages, formatting paragraph, printing labels, working with tables, formatting text tables, inserting and deleting cells, rows and columns, use bulleted and numbering, checking spelling and grammar, finding synonyms, working with long documents, working with header and footer, adding page number and foot note, working with graphics, inserting clip art, working with pictures, Word art, creating flow chart, creating word templates, creating templates, working with mail merge, writing the form letter, merging form documents, selecting merge records, creating macros, running macros.
- UNIT-II Working with MS-Excel** – Introducing Excel, use of excel sheet, saving, opening and printing workbook, Apply formats in cell & text, Divide worksheet into pages, setting page layout, adding Header & Footer, Using multiple documents, arranging windows i.e. (Cascade, Tiled, Split), protecting your work, password protection, Working with Functions & Formulas, using absolute reference, referencing cell by name, using cell label, giving name to cell and ranges; working with formula (mathematical & trigonometric, statistical, date time, most recently used), Working with Excel graphics, creating chart & graphs, filtering a database, using auto filter, criteria range, calculating total and subtotal, creating pivot table, goal seek, recording & playing macros, deleting and selecting macro location.
- UNIT-III Working with MS-PowerPoint & MS-Access** - **Presenting with PowerPoint** - Creating presentation, working with slides, different types of slides, setting page layout, selecting background and applying design, adding graphics to slide, adding sound and movie, working with table, creating chart and graph, playing a slide show, slide transition, advancing slides, setting time, rehearsing timing, animating slide, animating objects, running the show from windows. **MS-Access** - Creating tables, Access, defining datatypes, creating relationships, manipulating records.
- UNIT-IV Introduction to HTML and Designing Web Page using MS-FrontPage** - Concept of website, web standards, what is HTML, HTML documents/files, HTML Editor, explanation of the structure of home page, elements in HTML document, HTML elements, HTML tags and basic HTML tags, viewing the source of webpage, and downloading the WebPages source **Image, internal and external linking between web pages** - IMG elements. **Features of Front page 2000**, Designing web page, working with views, Hyperlinks, setting Hyperlink, using List, themes, tables, Frames, style sheet, working with forms, page Templates, frame templates, anchor, working with banners, Dynamic effect, How to publishing webpages in local area network.
- UNIT-V Animations and Graphics:** Basic Concept of 2D/3D Animation, Principle and application in Multimedia, Hardware & software resources requirement for animation, steps for creating generic animation. Learn the basic of Flash Animation; **Creating a new movie** : Get set Up, Input Text, Animate Text, drawing and painting with tools, brush, create basic shapes like Oval, Rectangle & Polystar Tools, tool working with object & filling the object, Transformation, object properties dialog box, creating layers motion tweening, shape tweening, mask layers, basic action scripts, importing sound through Flash.
- Interface of Photoshop** : The Photoshop workspace use of menus palettes and

12, 13, 14, 16

toolbox, creating new images, using selecting tools, lasso tool, Direct select Lasso, convert point tool, image adjustment through Photoshop.

Book :

1. Office 2000 made easy - Alan Neubauer, Tata McGraw Hill.
2. An Introduction to HTML - Dr.K.N. Agarwala, Dr.O.P.Vyas, P.A.Agarwala
3. FLASHMX Bible - Robert Reinhart
4. Sams Teach Yourself Macromedia Flash 8 in 24 Hours - Phillip Kerman
5. Photoshop Bible - Willey Publication
6. Ms front page 2000 complete concept and Technical Gary, B.shelly.
8. Complete Reference HTML
9. How to do everything with Macromedia- Bonnie Blake,Doug Sahlin
10. Multimedia Making it works - Tay Vaughan Tata McGraw Hills

BCA -105

PROGRAMMING IN VISUAL BASIC

Max Marks : 50

Min. Marks : 20

NOTE : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

UNIT-I Introduction to visual Basic: Hardware requirements, features of VB, Editions of Visual Basic, and Event Driven Programming vs procedure oriented programming. Introduction to Integrated Development Environment. Basic concepts of Visual Basic programming: Controls, properties, methods, events, forms, projects. Creating Executable files.

Variables, constants, data types, data conversion function., scope of variables
Operators Control Structure : Conditional / branching statements : If...else..endif, Select case Looping statements: do.. while, for.. next, for each, exiting a loop, goto statement, msgbox and input box functions.

UNIT-II Arrays: types of arrays, array manipulation, Working with standard controls. Working with control array, various key and mouse events, using drag and drop concepts.
Procedure and Functions: types of function, library function, date and time function, format function, and string related function, validation function. Creating user defined function & procedure, call by value and call by reference, concept of recursion, working with basic module, class module and form module.

UNIT-III Working with Advanced Controls: toolbar, status bar, tabbed dialog controls, progress bar, animation controls, dpicker, calendar, common dialog control.
SDI & MDI Application: creating MDI application, menu editor: defining menu & popup menu, sub main, startup objects. Working with graphics control and using graphic methods.

UNIT-IV Error Handling: Types of errors, error trapping tools: watch window, local window, immediate window, debug menu, tracing program flow with call stack, the err object, error function, error handling routines : on error goto statements.
File Handling: type of file handling, Sequential file handling: reading, writing and appending in file, understanding user defined data type, Random access file: reading, writing and appending in file.

UNIT-V Data Access Using the ADO Data Control: Basic concepts of relational database, visual data manager, introduction to SQL, concept of ODBC, Overview of DAO and RDO, Using DAO and RDO to access data. ADO features, difference among ADO, DAO and RDO, accessing and manipulating database using ADO, ADO object hierarchy, concept of recordset and its type, connection object, command object.

Data Environment: accessing data using data environment, using Datagrid, Data combo, data list, MSHFlexgrid.

Report Generation: Overview of Data Report, creating Data report, adding groups using data report functions. Introduction to Crystal Report Writer.

BOOK RECOMMENDED :

- Mastering Visual Basic 6 Fundamentals - By Microsoft
- Mastering in Visual Basic - By BPB Publications.
- Introduction to VB Programming - By V. K Jain
- Visual Basic 6 Programming Black Book By Holzner Dreamtech

BCA -106

COMMUNICATION SKILLS

Max Marks : 50

NOTE : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

Objective : This course is designed to enable the students of computer education to speak and write English with a fair degree of grammatical correctness. The inputs in the course contents are related to spellings, meanings of words and the correct use of words relating to the field of computers and other areas of knowledge.

UNIT-I Vocabulary, knowledge of at least one thousand words - their spelling, meanings and usage. Phrases.

UNIT-II Structure of sentences - Simple, Complex and compound. Clauses and Subordinate clauses

UNIT-III The tenses and aspects. The modal, the gerund, the participle, the infinitive.

UNIT-IV Transformation of sentences :-

1. Interchange of Active and Passive Voice.
2. Interchange of Affirmative and Negative Sentences.
3. Interchange of Explanative and Assertive Sentences.
4. Interchange of interrogative and Assertive Sentences.
5. Direct and Indirect Speech.

UNIT-V Practical Application of grammar. Practice in talks, conversation and writing. Report writing. Writing of applications. Letter writings, Description of events.

Books :

1. Living English Structure - by W.S. Allen.
2. A Practical English Grammar - by Thomson and Martinet.

Testing Pattern :

The question paper will clearly specify units and will have questions from unit I to IV. Unit V will include practicals.

Unit I	-	10 marks
Unit II	-	10 marks
Unit III	-	10 marks
Unit IV	-	10 marks
Unit V	-	Practicals - 10 marks

BCA -106

FOUNDATION COURSE : GENERAL AWARENESS

Max Marks : 50

NOTE : The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.

1. Indian Art, meaning of art, features of indian art, elementary knowledge of paintings, music, BCA & Other Computer Application

- dancing, sculpture archeology, iconography & other social arts.
2. Indian Literature, Ancient Indian Literature, Elementary knowledge of Vedic Literature, Mahabharata, Ramayan and other main granthas.
3. Indian Freedom Struggle : Freedom Struggle of 1857, National Consciousness, non-cooperation movements, Civil disobedient movement quit India movement, contribution of revolutionaries in freedom struggle.
4. Indian Constitution : Introduction, main features of constitution fundamental rights, Fundamental duties.

Text Book :

Indian Culture the book sponsored by M.P. Hindi granth Academy is the prescribed textbook for the syllabus.

Bridge course for BCA (Only For Non mathematics Students)

Max Marks : 50

Min. Marks : 20

Note : Fundamentals of the topics are to be dealt to enable the students to understand the topics. The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice.. Only Simple calculator is allowed not scientific.

UNIT-I Algebra

Partial fractions, Arithmetic Progression & Geometric Progression. Determinants and matrices, Inverse matrix.

UNIT-II

Permutation combination, method of induction, Binomial Theorem for positive integral index. And any index (without proof), Exponential and logarithmic series.

UNIT-III Trigonometry

Measurement of angles, Trigonometric ratios, simple formula, compound angles, Trigonometric ratios of multiple and sub multiple angles. Height and Distance, Inverse Function.

UNIT-IV Geometry

Locus, Cartesian coordinate system, Distance formula, Section formula, Slope of a straight line various forms, Angle between two lines, pair of straight lines, parabola, ellipse and hyperbola.

UNIT-V Statistics

Frequency Distribution, Measures of central tendency, Mean, Median, Mode, G.M., H.M., Inter quartile range, Mean deviation, Standard deviation.

BOOKS RECOMMENDED

Mathematic (class XI and XII) - R.D.SHARMA
YOUNGBODH Mathematics - (class XI and XII)

PRACTICAL WORK

BCA-105 (B) PROGRAMMING IN VISUAL BASIC

1 Scheme of Examination:-

Practical examination will be of 3 hours duration. The distribution of practical marks will be as follows

Programme 1	-	10
Programme 2	-	10
Viva	-	15
[Practical Copy + Internal Record]	-	15
Total	-	50

- 2 In every program there should be comment for each coded line or block of code
- 3 Practical file should contain printed programs with name of author, date, path of program,

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unit no. and printed output.

4. All the following programs or a similar type of programs should be prepared

List of Practical

1. WAP to perform arithmetic operation using command buttons. (Declare variable globally).
2. WAP to take input of principal, rate & time and calculate simple interest & compound interest.
3. Write a program to take input of x and print table of x in the following format.
$$X * 1 = X$$
$$X * 2 = 2X$$

$$X * 10 = 10 * X$$
4. Design an interface, which will appear like marksheet. It will take input of marks in subjects and calculate total marks and percentage then provide grade according to following criteria. (Using nested if) (Use tab index property to move focus).

If %	Then Grade
≥ 90	A+
≥ 75 & < 90	A
≥ 60 & < 75	B
≥ 45 & < 60	C
Otherwise	F
5. WAP to create a simple calculator (Using control array)
6. Write a program to check whether an centered no. is prime or not. (Using for loop & Exit for)
7. Write a program which will count all vowels, consonants, digits, special characters and blank spaces in a sentences (Using select case)
8. WAP to illustrate all functionalities of listbox and combobox.
9. WAP using check boxes for following font effects.
 - Bold
 - Italic
 - Underline
 - Increase font size
 - Decrease font size
 - Font color
10. WAP for temperature conversion using option button.
11. WAP to launch a rocket using pictures box and timer control.
12. WAP to change back color of any control (label, textbox) using scroll box.
13. WAP to search an element for a one dimension static array.
14. WAP to sort a dynamic array of
 - (a) n numbers
 - (b) n strings (Input array size at run time)
15. WAP to take input of two matrices and perform their addition, subtraction and multiplication using menu editor.
17. WAP to illustrate call by value and call by reference (to swap to values)
18. Write a program to calculate factorial of a number using user defined function.
19. Take input of a word and WAP to check whether it is a palindrome or not. (Without using structure fun)

20. WAP to find smallest among given three numbers using **user defined procedures**.
21. WAP to generate, print and find sum of first n elements of fibonacci series using **recursion**.
22. WAP to perform read write operations in a **sequential file**.
23. Create a **user defined data type** having fields name (as string of length 20 bytes), Rollno (as integer), class (as string of 10 bytes). WAP to create a **random access file** to store above data and perform following operations in this file.
 - (a) Write new record (b) Read / display existing record (c) Delete any record
 - (d) Search any record (f) List selected records (e) close the file
24. WAP to display records of a table using **DAO & bound control** code for buttons to move at first record, next record, previous record, last record in the table.
25. Create a table using **visual data manager** and write a program using **RDO & advanced bound control** to add, delete, edit & navigate records.
26. WAP to access a database using **ADO & display** a key column in the combo box or list box when an item is selected in it, its corresponding records is shown in **MSH flex grid**.
27. Using **Data Environment** create a program to display records of any table.
28. WAP to generate marksheet of students in a class through **data report**.
29. WAP to illustrate various **key board and mouse events**.
30. Using **drive, directory and file list box** (it will show only .bmp files). Let the user select the bmp files, which will appear in picture box as user click on any item in list box.
31. Using **toolbar** design an interface for string manipulation. Toolbar should have tabs to
 - (a) Find length of string (b) No of blank spaces in string (c) Reverse the string
 Also show current date & time in **status bar**.

BCA-107 PROGRAMMING IN 'C'

1 Scheme of Examination:-

Practical examination will be two programs and a project demonstration. It will be of 3 hours duration. All programme with flowchart & algorithms. The distribution of practical marks will be as follows

Programme 1	-	20
Programme 2	-	20
Programme 3	-	20
Viva	-	25
[Practical Copy + Internal Record]	-	15
Total	-	100

2. Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.
3. In every program there should be comment for each coded line or block of code.
4. All the following programs or a similar type of programs should be prepared

List of Practical

Input and Output, formatting

1. Write a program in which you declare variable of all data types supported by C language. Get input from user and print the value of each variable with alignment left, right and column width 10. For real numbers print their values with two digits right to the decimal.

Loops, Decisions

2. Write program to print all combination of 1 2 3.
3. Write program to generate following pattern

a) A B C D E F G
 A B C * E F G
 A B * * * F G
 A * * * * G

b) 1
 1 2
 1 2 3
 1 2 3 4

c) *
 * *
 * * *

d) 1
 1 2 1
 1 3 3 1
 1 4 6 4 1

4. Write main function using switch...case, if..else and loops which when called asks pattern type; if user enters 11 then first pattern is generated using for loop. If user enters 12 then first pattern is generated using while loop. If user enters 13 then first pattern is generated using do-while loop. If user enters 21 then a second pattern is generated using for loop and so on.
5. Write program to display number 1 to 10 in octal, decimal and hexadecimal system.
6. Write program to display number from one number system to another number system. The program must ask for the number system in which you will input integer value then the program must ask the number system in which you will want output of the input number after that you have to input the number in specified number system and program will give the output according to number system for output you mentioned.
7. Write a program to perform following tasks using switch...case, loops, and conditional operator (as and when necessary).
 - a) Find factorial of a number
 - b) Print fibonacci series up to n terms and its sum.
 - c) Print sin series up to n terms and its sum.
 - d) Print exponential series up to n terms and its sum.
 - e) Print prime numbers up n terms.
 - f) Print whether a given year is leap or not.
8. Write program no. 6 but use library function to perform above tasks.

Array

9. Create a single program to perform following tasks using switch, if..else, loop and single dimension character array without using library function:
 - a) To reverse the string.
 - b) To count the number of characters in string.
 - c) To copy the one string to other string.
 - d) To find whether a given string is palindrome or not.
 - e) To count no. of vowels, consonants in each word of a sentence and no. of punctuation in sentence.
 - f) To arrange the alphabets of a string in ascending order.
10. Create a single program to perform following tasks using switch, if..else, loop and single dimension integer array:
 - a) Sort the elements.
 - b) Search for presence of particular value in array element using linear search.
 - c) Search for presence of particular value in array element using binary search.
11. Write a program that read the afternoon day temperature for each day of the month and then report the month average temperature as well as the days on which hottest and coolest days occurred.
12. Create a single program to perform following tasks using switch, if..else, loop and double dimension integer array of size 3x3:
 - a) Addition of two matrix.

- b) Subtraction of two matrix.
 - c) Multiplication of two matrix.
 - d) Inverse of matrix.
 - e) Transpose of matrix.
 - f) Sum of diagonal elements
13. Create a single program to perform following tasks using switch, if..else, loop and double dimension character array of size 5x40:
- a) Sorting of string.
 - b) Finding the largest string.
 - c) Finding the smallest string.
 - d) Searching for presence of a string in array.

Functions

- 14. Write program using the function power (a, b) to calculate the value of a raised to b.
- 15. Write program to demonstrate difference between static and auto variable.
- 16. Write program to demonstrate difference between local and global variable.
- 17. Write a program to perform following tasks using switch...case, loops and function.
 - a) Find factorial of a number
 - b) Print Fibonacci series up to n terms and its sum.
 - c) Print Sin series up to n terms and its sum.
 - d) Print exponential series up to n terms and its sum.
- 18. Write a program to perform following tasks using switch...case, loops and recursive function.
 - a) Find factorial of a number
 - b) Print Fibonacci series up to n terms and its sum.
 - c) Print Sin series up to n terms and its sum.
 - d) Print exponential series up to n terms and its sum.
 - e) Print natural series up to n terms and its sum
- 19. Write a function to accept 10 characters and display whether each input character is digit, uppercase letter or lower case letter.

Array & Function

- 20. Create a single program to perform following tasks using switch, if..else, loop, function and double dimension integer array of size 3x3:
 - a) Addition of two matrix.
 - b) Subtraction of two matrix.
 - c) Multiplication of two matrix.
 - d) Inverse of matrix.
 - e) Transpose of matrix.
- 21. Create a single program to perform following tasks using switch, if..else, loop, user defined function and single dimension character array:
 - a) To reverse the string.
 - b) To count the number of characters in string.
 - c) To copy the one string to other string.
 - d) To find whether a given string is palindrome or not.
 - e) To count no. of vowels, consonant in each word of a sentence and no. of punctuations in sentence.
- 22. Create a single program to perform following tasks using switch, if..else, loop, function and single dimension integer array:
 - a) Sort the elements.
 - b) Find largest element and smallest element.

- c) Search for presence of particular value in array element using linear search.
- d) Search for presence of particular value in array element using binary search.
- ✓ 23. Create a single program to perform following tasks using switch, if..else, loop, function and double dimension character array of size 5x40:
 - a) Sorting of string
 - ✓ b) Finding the largest string, lexicographically.
 - ✓ c) Finding the smallest string, lexicographically.
 - c) Searching for presence of string in array.

Structure & Union

- ✓ 24. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare a structure variable of student. Provide facilities to input data in data members and display result of student.
 - ✓ 25. Create a structure Date with data member's dd, mm, yy (to store date). Create another structure Employee with data members to hold name of employee, employee id and date of joining (date of joining will be hold by variable of structure Date which appears as data member in Employee Structure). Store data of an employee and print the same.
 - ✓ 26. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare array of structure to hold data of 3 students. Provide facilities to display result of all students. Provide facility to display result of specific student whose roll number is given.
 - ✓ 27. Write program to create structure complex having data members to store real and imaginary part. Provide following facilities:
 - a) Add two complex nos. using structure variables.
 - b) Subtract two complex nos. using structure variables.
 - c) Multiply two complex nos. using structure variables.
 - d) Divide two complex nos. structure variables.
- Use structure as argument to function and function returning structure.

Pointer

- ✓ 28. Define union Emp having data members:-one integer, one float and one single dimension character array. Declare a union variable in main and test the union variable.
- ✓ 29. Define an enum Days_of_Week members of which will be days of week. Declare an enum variable in main and test it.
- ✓ 30. Write a program of swapping two numbers and demonstrates call by value and call by reference.
- 31. Write program to sort strings using pointer exchange.
- 32. Write a program in c using pointer and function to receive a string and a character as argument and return the no. of occurrences of this character in the string.
- ✓ 33. Create a program having pointer to void to store address of integer variable then print value of integer variable using pointer to void. Perform the same operation for float variable.
- ✓ 34. Write program to find biggest number among three numbers using pointer and function.
- ✓ 35. Write program to Create a structure Employee having data members to store name of employee, employee id, salary. Use Pointer to structure to store data of employee and print the stored data-using pointer to structure.
- ✓ 36. Write program to Create a structure Employee having data members to store name of employee, employee id, salary. Use Pointer to structure to simulate dynamic array of structure store data of n employees and print the stored data of n employees using pointer to structure.
- ✓ 37. Write a program to sort a single dimension array of integers of n elements simulated by

pointer to integer. Use function for sorting the dynamic array.

38. Write a program to sum elements of a double dimension array of integers of m rows and n columns simulated by pointer to pointer to integer. Use function for sum the elements of the dynamic array.
39. Write program to demonstrate difference between character array and pointer to character.
40. Write program to demonstrate difference between constant pointer and pointer to constant.
41. Write program to demonstrate pointer arithmetic.
42. Write program to demonstrate function-returning pointer.
43. Write program using self-referential pointer to structure to create and print the linked list, data structure.

File Streams

44. Write program to copy content of one file to other file removing extra space between words name of files should come from command line arguments.
45. Write program to create a file 'data' containing a series of integers and count all even numbers present in the file 'data'.
46. Write a program to count no. of tabs, new lines, character and space of a file.
47. Write a program to read item number, rate and quantity from an inventory file and print the followings:
 - a) Items having quantity > 5.
 - b) Total cost of inventory.

BCA-108 INTRODUCTION TO PC SOFTWARE & INTERNET APPLICATION

1. Scheme of Examination: -

Practical examination will be of 3 hours duration. The distribution of practical marks will be as follows

Programme 1 (Word)	-	13
Programme 2 (Powerpoint/Access)	-	13
Programme 3 (Excel)	-	13
Programme 4 (HTML/ Internet Tools)	-	16
Viva	-	25
[Practical Copy + Internal Record]	-	20
Total	-	100

2. In every program there should be comment for each coded line or block of code.
3. Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.
4. All the following programs or a similar type of programs should be prepared.

List of Practical

MS- WORD

File New, Open, Save, Cut, Copy, Paste, Drag Drop, Bullets and Numbering, Undo, Redo, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.

1. Open a document. Type the following text and perform the tasks as instructed below:-

Working with Word Processor

As already mentioned, a word processor is a package that processes textual matter and creates organized and flawless documents. In addition to it a word processor not only remove all the limitations of typewriter but also offers various useful features that cannot be even dreamt of with typewriter.

Also if same textual matter is to be reproduced with minor changes, retyping the only option in typewriters.

The word processing (and word processor) originated way back in 1964 when special typewriters, Magnetic Tape Selectric typewriters (MIST) were launched by IBM (International Business Machines).

(i) Insert the following text after the first paragraph

The main components of a word processing system are listed below:

- Computer
- Printer
- A word processing software

(ii) Save the document as Word1.doc

(iii) Move the second paragraph to the end of the document. Using drag & drop.

(iv) Move the second paragraph in the end of the document using cut, paste operations

(v) Undo the above actions.

(vi) Now use Redo actions

(vii) Go to the End of the document (in one step)

(viii) Go to the Beginning of document (in one step)

(ix) Insert page break before the third paragraph.

(x) Search the word "computer" in your document with options Match case, find whole words only.

(xi) Replace the word "typewriters" with "word processor"

(xii) Undo the above action

(xiii) Remove All page breaks from your document

(xiv) Change the magnification of your document to different percentages using zoom features.

(xv) Format the above written paragraphs and give the options as follows:

- (1) Alignment justified
- (2) Indentation: left 0.2 right:0.2
- (3) Spacing: before 6 pt. after:6 pt.
- (4) Special: first line by :0.4"
- (5) Line spacing 1.5 lines.

(xvi) Set the default tab stop to 0.3"

(xvii) Set the margins to 1.25.

(xviii) Format the page using

- (1) Left margin:0.5, right margin: 0.5
- (2) Top margin:1.5, bottom margin:0.5
- (3) Gutter Margin: 1 indentation: left 0.2 right:0.2
- (4) Header Margin:0.5

(xix) Format the each occurrence of group of words "Word-Processor" as bold, italic, under line and small caps using find and replace with formatting options.

(xx) Align the heading to Center and make it bold, underlined and italicized.

File New, Open, Save, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.

2. Type the text as show below and perform the tasks as directed:

Computers

COMPUTER is an electronic device that processes data and gives meaningful information.

Computers are being used in almost all the fields today

EXPERT SYSTEMS

HUMAN THINKING AND ARTIFICIAL INTELLIGENCE

Can computer think?

AI at work Today: Natural Language programs and Expert Systems.

THE IMPACT OF COMPUTERS ON PEOPLE

The Positive Impact

The Potential Dangers

THE IMPACT OF COMPUTERS ON ORGANIZATIONS

The Information Processing Industry

The Positive Impact on Using Organizations

The Potential Dangers for Using Organizations

- (i) Search for the word 'Computer' in the entire document. All the occurrences of the given word are to be searched irrespective of the case.
 - (ii) In the above question note that word also searches 'computerization and 'computerisations'. Now make sure that this time Word searches only for the word 'computer' in the entire document.
 - (iii) Change the entire uppercase letter to lowercase.
 - (iv) Give a heading to the above written text 'COMPUTERS IN TODAY'S WORLD'
 - (v) Centre aligns the Heading text Computer that appears in first line.
 - (vi) Apply outside border to entire document.
 - (vii) Apply outside border to the just heading text.
 - (viii) Change page setup according to the following specifications
Top margin: 1.5", bottom margin: 1.5"
Gutter: 1", left margin: 1.5"
Right margin: 1"
Page width: 7.5", page height: 6.5 "
Orientation: portrait
 - (ix) Give a header 'Creations' and footer 'The school of computing'. The footer should also consist of page no's.
 - (x) Give appropriate commands for giving different header and footers for first page and odd & even pages.
 - (xi) Save and close the document.
3. Write the following equations in MS-Word:
- $$4H_3PO_3 = 3H_3PO_4 + PH_3, \quad PCL_3 + CL_2 = PCL_5, \quad (x+y)^2 = x^2 + y^2 + 2xy$$
4. Write the following equations in MS-Word:
- $$C_2H_5OH + PCL_5 = C_2H_5CL + POCL_3 + HCL, \quad A = \pi r^2, \quad a \div b \neq 0$$
5. Write the following in MS-Word:
1. Preheat the oven to 220°C.
 2. Copyright ©
 3. Registered ®
 4. Trademark ™
6. Create the following table in MS-Word:

Name		Rahul	
Roll No.		101	
Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70

7. Create a document in MS-Word. Set the watermark as **Microsoft**. Also write the following text as formatted below:
- measuring programming progress by lines of code is like measuring aircraft building progress by weight.*

—Bill Gates

8. Create the following :



Time is money.

9. Create the following:

Computers

Multimedia

10. Create the following table in MS-Word:

Admission 2011-2012

Course	CC	OB	MBC	SC/ST	Total
Computer Science	9	18	5	5	37
Commerce	14	25	6	5	50
Mathematics	12	20	4	4	40

11. Create Table as shown

Car	Price
Maruti Omni Van	200000
Maruti 800	242000
Tata Sumo	390000
Sierra	447000

12. Insert the following in MS-Word.

Welcome

PC

13. Insert the following in MS-Word.



Radha

14. Write the following in MS-Word.

- > This is sentencecase.
- > this is lowercase.
- > THIS IS UPPERCASE.
- > This Is Capitalise Each Word.
- > tHIS IS tOGGLE cASE.

15. Create the following list in MS-Word:

- Actors
 - o Bruce Willis
 - o Gerard Butler

- o Vin Diesel
 - o Actress
 - o Julia Roberts
 - o Angelina Jolie
 - o Kate Winslet
 - o Cameron Diaz
16. Write the following in MS-Word:

1. Cricket Players
 - A. Batsman
 - i. Sachin Tendulkar
 - ii. Rahul Dravid
 - iii. Virendra Sehwag
 - B. Bowler
 - a. Kumble
 - b. Zaheer Khan
 - c. Balaji
 - C. Spinner
 - a) Harbhajan
 - b) Kumble
 - c) Kartik

17. Write a letter to send invitation to your friend inviting on your birthday.
18. Create labels for your friends' address.

MS - EXCEL

1. Create the following worksheet and save the worksheet as wages.xls
 PACE COMPUTERS (ATC CEDT), Govt. of India
 Payroll for Employee (Temporary)

Worker's Name	Hired On	days Worked	Gross Wages
Kushagra	3-Mar-07		
Pradeep	4-Mar-07		
Puneet	5-Mar-07		
Rajeev	6-Mar-07		

- (I) Calculate days work and gross wages
2. Create the following worksheet and save the worksheet as wages.xls

Name	Basic (monthly) (Rs.)	HRA (% of basic)	DA (Rs.)	Total Salary (1997)	Bonus (Rs)	Total Salary (1998)	% (Increase)
Shirome	5000	10 %	450		1200		
Somya	9000	15 %	800		200		
Tanya	7000	12 %	900		1800		

- i. Calculate the total salary as sum of Basic salary, HRA ,DA, for each employee for 1997
- ii. Calculate total salary for year 1998 as sum of salary of 1997 and bonus
- iii. Calculate % increase in salary from 1997 to 1998

3. Create a worksheet as follows

Pace computer (ATC CEDT) Govt. Of India
Payroll for employee (Permanent)

Empcode	name	doj	salary	bonus	net salary
E001	Meenu	3-Mar-95	5000		
E002	Manoj	4-Mar-06	4000		
E003	Preeti	3-Mar-95	4800		
E004	Sumita	6-Mar-07	7500		

- allow bonus 8000 to employee having service >2 year other wise allow bonus 3000
- find net salary as sum of bonus and salary

4. Create the worksheet as follows

Roll No	Name	English	Maths	Total	Average	Division
101	Kushagra	95	99			
102	Ajay	92	95			
103	Vijay	70	69			

Class Average

- find Total of two subject for each student
- find average of two subject for each student
- find class as average of average column
- find division of student as first, second, third, assume percentage of division of your own and maximum marks in each student as 100
- Apply conditional formatting for division column, first division should be in bold, second division should be in italic and third division should be underline

5. Create macro in excel to make selected cell, bold, italic outside bordered and center across select

6. Create bar chart with given data

	2001	2002	2003
Tea	19	23	25
Coffee	22	24	22
Sugar	45	40	45

- Provide heading production detail
- Provide z axis title; lacks metric tone
- Provide x axis title year

7. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

- Sort the data according to Zone then by Department
- Use group and outline feature to show & hide details

Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

- Use filter command to show records having zone: West
 - Use filter command to show records having zone: West and salary less than 5000
 - Use filter command to show records having salary greater than 10000
9. Create pivot table using Data of exercise 8
10. Suppose a database exists in ms-access you are required to import the data. How will you?
11. Create a table using feature
- Principle 1500
- Rate 4%
- Time 5

300	3	4	5
1%	45	60	75
2%	90	120	150
3%	135	180	225

12. Using goal seek feature find out the interest rate it must be to earn interest 500
- Principle 1500
- Rate 4%
- Time 5
- Interest 300

MS-Access

Q.1. Create the following table in MS-Access:

Field Name	Data Type	Description
ContactID	AutoNumber	Primary Key
ContactType	Text 50	Type of contact (Wholesale, dealer, other)
Name	Text 50	Contact's first name
Company	Text 50	The Contact's employer
Address	Text 50	Contact's address
City	Text 50	Contact's city
State	Text 50	Contact's state
ZipCode	Text 50	Contact's zip code
Phone	Text 50	Contact's phone
Fax	Text 50	Contact's fax
E-Mail	Text 100	Contact's e-mail address
WebSite	Text 100	Contact's Web address

(27)

Last Sales Date	Date/Time	The most recent date the contact purchased something
DiscountPercent	Number	The customary discount provided to the customer
Notes	Memo	Notes and observations regarding this customer
Active	Yes/No	Whether the customer is still buying or selling products

Q.2. Create the following tables in MS-Access with the referential integrity-foreign key:

1. **tblProducts**

Primary Key - ProductID

Product ID	Description	Category	Quantity	Cost	Retail Price	Product Number	Sale Price	Tax
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2. **tblSalesLineItems**

Primary Key - SalesLineItemID

Sales LineItemID	Invoice Number	Product ID	Product Number	Quantity	Description	Price	Discount
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3. **tblSales**

Primary Key - InvoiceNumber

InvoiceNumber	SaleDate	InvoiceDate	Buyer	PaymentMethod	TaxLocation	TaxRate
---------------	----------	-------------	-------	---------------	-------------	---------

MS PowerPoint

- Q.1. Create a PPT of Atleast 10 Slides with one slide for comparison, one slide displaying a chart with the table.
- Q.2. Create a PPT presentation use rehearse timing for the slide show
- Q.3. Create PPT presentation slide import sound and video clips.
- Q.4. Create PPT presentation with hyperlinking.
- Q.5. Create PPT presentation and apply themes and transitions.

HTML

Q.1. Write an HTML program to create the following table:

Class	Subject1	Subject2	Subject3
BCA I	Visual Basic	PC Software	Electronics
BCA II	C++	DBMS	English
BCA III	Java	Multimedia	CSA

Q.2. Write an HTML program to create the following lists:

- C
- C++
- Fortran
- COBOL

Q.3. Write an HTML program to create the following lists:

1. Java
2. Visual Basic
3. BASIC
4. COBOL

Q.4. Write an HTML program to demonstrate hyperlinking between two web pages. Create a marquee and also insert an image in the page.

BCA & Other Computer Application

Q.5. Write an HTML program to create frames in HTML with 3 columns (Width = 30%, 30%, 40%).

Q.6. Write an HTML program to create a web page with a blue background and the following text:

New Delhi

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.

Q.7. Write an HTML program to create the following table:

Admission

Course	OC	BC	MBC	SC/ST	TOTAL
Computer science	9	18	5	5	37
Commerce	14	25	6	5	50
Grand total					87

Q.8. Write an HTML program to create the following table:

Car Price List

Maruti		Tata		Ford	
Model	Price	Model	Price	Model	Price
Maruti 800	2 Lac	Sumo	2 Lac	Ikon	5 Lac
Omni	3 Lac	Scorpio	3 Lac	Gen	2 Lac

Q.9. Write an HTML program to create the following table:

STUDENTS REPORT

Pandit Ravishankar Shukla University		
NAME	ROLL NO	CLASS
Rahul	40	BCA-1
Preet	85	BCA-1
Priya	74	BCA-1
Richa	95	BCA-1

Q.10. Write an HTML program to create the following table:

Students Records

Name	Subject	Marks
Arun	Java	70
	C	60
Ashish	Java	75
	C	69

Q.11. Create an HTML document and embed a flash movie in it.

Q.12. Write the HTML coding to display the following table. Also insert an image in the web page.

Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70
Operating System	100	33	68
C++	100	33	73

Q.13. Write the HTML coding to display the following table:

Name		Rahul	
Roll No.		101	
Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70

Q.14. Write an HTML program to create a form as the following:

Enter Name :

Enter Roll No. :

Enter Age :

Enter DOB :

Q.15. Write an HTML program to create a web page with an image as background and the following text:

New Delhi

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.

On the other side New Delhi, the imperial city built by British, reflect the fast pace of the present. The most fascinating of all is the character of Delhi which varies from the present century mausoleum of the Lodi kings to ultra modern glass skyscrapers.

Q.16. Create the following HTML form.

USERNAME

PASSWORD

When you type characters in a password field, the browser displays asterisks or bullets instead of characters.

Q.17. Create the following HTML form.

FIRSTNAME

LASTNAME

GENDER
Male ☐ Female ☐

SUBJECTS: Multimedia ☒
 Database ☐
 Operating System ☐
 OSA ☐

Q.18. Create the following HTML form.

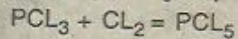
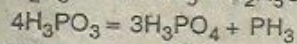
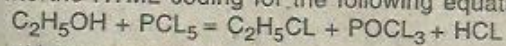
Enter your name :

Enter your rollno :

Subjects:
☐ Java
☐ C
☐ Visual Basic
☐ C++

Class:

Q.19. Write the HTML coding for the following equations:



Q.20. Write the HTML code to display the following:

• Actors

- o Bruce Willis
- o Gerard Butler
- o Vin Diesel
- o Bradd Pitt

• Actress

- o Julia Roberts
- o Angelina Jolie
- o Kate Winslet
- o Cameron Diaz

Q.21. Write the HTML code to display the following:

1. Cricket Players

D. Batsman

- i. Sachin Tendulkar
- ii. Rahul Dravid
- iii. Virendra Sehwag

E. Bowler

- d. Kumble
- e. Zaheer Khan
- f. Balaji

F. Spinner

- d) Harbhajan
- e) Kumble
- f) Kartik

BCA - 201

THEORETICAL FOUNDATION OF COMPUTER SCIENCE

PAPER - I : Numerical Analysis

Max Marks : 50

NOTE :- The Question Paper setter is advised to prepare unit-wise question with the provision of internal choice. Simple / Scientific calculator is allowed.

UNIT-I SOLUTION OF POLYNOMIAL AND TRANSCENDENTAL ALGEBRAIC EQUATIONS
Bisection method, Regula falsi method & Newton's method, Solution of Cubic & Biquadratic Equation.

UNIT-II SIMULTANEOUS EQUATIONS AND MATRIX
Gauss-Jordan method, Cholesky's method, Reduction to lower or upper Triangular forms, Inversion of matrix, method of partitioning, Characteristics equation of matrix, Power methods, Eigen values of matrix, Transformation to diagonal forms.

UNIT-III INTERPOLATION - SINGLE VARIABLE FUNCTIONS
Newton's Interpolation formula, Newton's Forward and Backward Difference Interpolation Formula, Langranges Interpolation formula, Newton's Divided Difference Interpolation Formula.