

UNIT-I

Set theory, Relations, quadratic equations, sequence & series, binomial theorems, determinants, matrices.

UNIT-II

Rectangular co-ordinates, length of a line segment, section ratio, area of a triangle, equations of a straight line circles.

UNIT-III

Trigonometric functions, trigonometrical ratios of negative and associated angles, trigonometrical ratios of compound angles, multiple and sub multiple angles, Heights and distances.

UNIT-IV

Functions, limits and continuity, Derivative of functions, Maxima & Minima, Indefinite integrals and definite integrals.

Text & Reference Books:

1. L.R. Dhanda, G.K. Saini and Suranjan Saha, "Systematic Modern Mathematics- Part-I & Part-II", Kalyani Publishers.

Note: In each theory paper, nine questions are to be set. Two questions are to be set from each Unit and candidate is required to attempt at least one question from each unit. Question number nine will be compulsory, which will be of short answer type with 5010 parts, out of the entire syllabus. In all, five questions are to be attempted.

UNIT- I

Comprehension : One unseen passages of 250-300 words in length with a variety of comprehension questions including 05 marks for word0attack skills such as word formation and inferring meaning, finding opposites etc. The passage can be a factual passage (e.g., instruction, description, report etc.) or a literary passage (e.g., extract from fiction, drama, poetry, essay or biography), or a discursive passage involving opinion, (argumentative, persuasive or interpretative text).

UNIT- II

Vocabulary: Change the Number, Change the Gender, Words commonly mis0spelt, Antonyms, Synonyms, Fill up using correct determinant.

UNIT-III

Filling up the correct form types of the tense in the sentence: present/ past /future tense with simple/continuous/perfect/ perfect continuous forms, Reordering word groups in the sentence to make a meaningful sentence, Writing meaning of given word and using in the sentence.

Conversion among various types of sentences: affirmative, interrogative sentences, negation, exclamations.

UNIT-IV

Composition: Composition on a given topic/title based on any current social, environment, health issues.

Formal Letter Writing (invitation, accepting/rejecting an invitation, apology, welcome, thanking complements),

Text & Reference Books:

1. W. Standard Allen, " Living English Structure ", (Orient Longman)
2. Wilford D. Best, " The Student's Companion" , (Rupa)

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UNIT-I

Introduction: Characteristics of Computers, Evolution of computers, Capabilities and limitations of computers, Generations of computers, Types of computers(micro, mini, main frame, supercomputers), Block diagram of computer, Basic components of a computer system0 Input unit, output unit, Arithmetic logic Unit, Control unit, central processing unit, Instruction set, registers, processor speed, type of processors.

UNIT-II

Memory: main memory organization, main memory capacity, RAM, ROM, EPROM, PROM, cache memory, PCs specifications. Secondary Storage Devices- Magnetic Tape, Magnetic Disks0Internal Hard Disk, External Hard Drives, Floppy Disks, Optical Disks-CD, VCD, CD-R, CD-RW, DVD, Solid State Storage0Flash Memory, USB Drives.

UNIT-III

Input devices: Keyboard, Pointing Devices0mouse, Touch Screens, Joystick, Electronic pen, Trackball, Scanning Devices-Optical Scanners, OCR, OMR, Bar Code Readers, MICR, Digitizer, Electronic card reader, Image Capturing Devices-Digital Cameras. Output devices- Monitors0 CRT, LCD/TFT, Printers- Dot matrix, Inkjet, Laser, Plotters- Drum, Flatbed, Screen image projector.

UNIT-IV

Computer Software: Software and its Need, Types of software0System software, Application software, System software0operating system, utility program, programming languages, assemblers, compilers and interpreter, introduction to operation system for PCs-DOS, windows, linux, file allocation table (FAT & FAT32), files & directory structure and its naming rules, programming languages0machine, assembly, high level, 4GL, their merits and demerits, application software and its types – word0processing, spreadsheet, presentation graphics

Text & Reference books:

1. Pradeep K. Sinha, Priti Sinha, "Computer Fundamentals". BPB Publications.
2. Rajaraman, V., "Fundamental of Computers". Prentice Hall India, New Delhi.

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UNIT-I

Introductory Concepts: Types of programming languages, Introduction to C, some simple C programs, Desirable program characteristics.

C Fundamentals: C character Set, Identifiers and keywords, data types, constants, variables and arrays, Declarations, expressions, statements, Symbolic constants.

UNIT -II

Operators and expressions: Arithmetic operators, unary operator, Relational and logical operators, assignment operators, conditional operators, Library Functions.

Data Input and Output: Preliminaries, single character input, single character output, Entering input data, writing output data, the gets() and puts() function.

UNIT-III

Control Statements: Preliminaries, Branching, Looping, Nested control statements, switch statement, break statement, The continue statement, The goto statement, The comma operator.

Arrays: Defining an array, processing an array, passing arrays to functions, Multidimensional arrays, Arrays and strings.

UNIT-IV

Functions: A brief overview, Defining a function, accessing a function, function prototypes, passing arguments to a function, recursion.

Pointers: Fundamentals, Pointer declarations, Passing pointers to the functions, pointers and one dimensional array, dynamic memory allocation, Operations on pointers, arrays of pointers.

Text & Reference Books:

1. Byron Gottfried, "Programming with C", Schaum's Outlines, Tata McGraw Hill.
2. Mullis Cooper, "Spirit of C": Jacob Publications.
3. Yashwant Kanetkar, "Let us C": BPB.
4. Kerningham B.W. & Ritchie D. M., "The C Programming Language": PHI.

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UNIT -I

DOS commands: (internal (DIR, DATE, TIME, CLS, CD, RD, MD, PATH, TYPE, DEL, ECHO, COPY, REN, PROMPT, VOL, VER), external (ATTRIB, CHKDSK, DISKCOPY, DISKCOMP, XCOPY, TREE, DELTREE, DOSKEY, FORMAT, FIND, SORT, FDISK, MORE, SYS)), Concept of files & directories, Wild card characters, Redirection operators.

Windows 2007: Definition, Benefits, Features & uses of Windows 2007, Control panel, Accessories, Task bar, My computer uses, Recycle bin.

UNIT -II

Common Office 2007: Elements, Introduction to Office 2007, Customizing the Office Environment, Managing Files in Office, Text Tools, Drawing and Graphics Tools.

Word Processing: Definition, Benefits, Features & uses of Word 2007, Menus, Toolbars, Cursor control keys, Short cut keys, Hot keys, Editing Text, Document Formatting, Reusable formatting with Styles and Templates, File handling (opening, creating, saving, printing, editing), Formatting text, Find and replace, Tables and Columns, Advanced Page Layout in Word, Automating Information with Fields, Managing Long Documents, Spell check, Thesaurus, File protection, Mail Merge, Labels, and Envelopes, Macros.

UNIT -III

Spreadsheets: Definition, Benefits, Features & Uses of MS Excel 2007, Menus, Toolbars, Worksheets, Formatting Worksheets and Restricting Data, Calculating with Formulas and Functions, Ranges, Auto fill, Data (sort, filter, validation, subtotal), Viewing and Manipulating Data with charts and PivotTables, Print, Goal seek, Scenario, Macros, Creating Excel Databases.

UNIT -IV

Presentations: Definition, Benefits, Features & Uses of PowerPoint, Menus, Toolbars, Creating and Editing Slides, Adding graphics, Multimedia, and Special Effects to Slides, Insert (picture, slide, text), Master slide, Views, Animation, Action buttons, Macros.

Text & Reference Books:

1. Jennifer Ackerman Kettell, Guy Hart0Davis, Curt Simmons, "Microsoft Office 2003: The Complete Reference", Tata McGraw Hill.
2. Biswaroop Roy Choudhary, "Computer course", Fusion Books.

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