

**CHARLES BABBAGE COLLEGE OF INFORMATION  
TECHNOLOGY, SAMBALPUR  
BCA 1<sup>st</sup> Year**

**PAPER-1 : COMPUTER FUNDAMENTALS & OPERATING SYSTEMS**

**a. Fundamentals ( marks :50 )**

- i. Introduction to Computers
- ii. Units of Computers
- iii. Memory
- iv. Software
- v. Categories of Computers
- vi. Miscellaneous ( internet, virus & multimedia concepts )

**b. Operating Systems ( marks: 50 )**

**i. DOS (marks : 25 )**

1. Introduction to Operating System
2. Internal Commands
3. External Commands
4. Redirection, pipes and filters
5. Batch processing

**ii. WINDOWS ( marks: 25 )**

1. Introduction to windows
2. Components of windows
3. Customizing the desktop
4. Working with files & folders
5. Windows accessories.

**PAPER-2 :OFFICE AUTOMATION**

**a. Ms-Word (marks: 40)**

- i. Introduction to Office Automation..
- ii. Editing Document..
- iii. Formatting document
- iv. Word tools
- v. Page formatting
- vi. Tables
- vii. File management
- viii. Miscellaneous ( wizard , templates , etc )

**b. Ms-Excel (marks: 40)**

- i. Introduction to Ms-Excel
- ii. Editing worksheet
- iii. Formatting & Essential Operations
- iv. Formulas and Functions
- v. Charts
- vi. Database management
- vii. What-if-analysis tools and modeling technique
- viii. Automating worksheet

**c. Ms-PowerPoint (marks: 20)**

- i. Introduction to PowerPoint
- ii. Manipulating & Enhancing Slides
- iii. Slide Masters Templates & Wizard
- iv. Inserting Objects
- v. Animation & Sounds

**PAPER-3 : PROGRAM DEVELOPMENT CONCEPT & TECH. AND FoxPro.**

**a. PROGRAMING LOGIC AND TECHNIQUE**

**(marks :50)**

- i. Introduction to Programming
- ii. Flowchart and algorithms
- iii. Programming Technique and Pseudocodes
- iv. Structured Programming
- v. Programming Aids.

**b. FoxPro**

**(marks:50)**

- i. Introduction to FoxPro
- ii. Creating Database files
- iii. Viewing and Editing data
- iv. Sorting and Indexing
- v. Functions and Math commands
- vi. Multiple File handling
- vii. Memory variables and Dimensions
- viii. Programming
- ix. Screen Manipulation (Controls & Menu)
- x. Procedures & UDF
- xi. Report Label & Screen

#### **PAPER-4 : C with Data Structure (marks :100)**

- a. Introduction to C
- b. Elements of C language
- c. Control Statements and loops in C
- d. Array
- e. Functions and Storage class
- f. Pointers
- g. Structure and Union
  
- h. Data Structures**
  - 1. Linked list(single, double & circular)
  - 2. Stack Operations
  - 3. Queues Operations
  - 4. Concept of Tree
- i. Enum, typedef and C preprocessor
- j.** Files
- k.** Introduction to Graphics.

#### **PAPER-5 : FUNCTIONAL ENGLISH (marks: 100)**

- a. Written communication skills**
  - i. Integral elements of writings: features and skills
  - ii.** Paragraph writing
  - iii.** Trans coding information
  - iv.** Letter writing
  - v.** Report writing
  
- b. Oral communication skills**
  - i. Components of speech element
  - ii. Types of speech acts
  
- c. Skills of studying Information**
  - i. Note taking
  - ii. Consulting reference materials
  - iii. Classifying Information
  - iv. Indexing Information
  - v. Interpreting Information

**PAPER-6 : FOUNDATION COURSE IN COMPUTER BASED MATHEMATICS**

(marks: 100)

- a. Number bases .
- b. Compute based arithmetic .
- c. Floating point representation .
- d. Set notation / representation .
- e. **Boolean algebra** : basic definitions, theorems & properties, functions, canonical, and standard forms, function simplification, digital logic gates.
- f. **Relation** : Definition , Domain & range of a relation , Inverse of a relation , Relation in a set , Equivalence relation , Functions , Different types of Functions .
- g. **Linear algebra** : Matrices, Vector spaces, Linear dependents, Guss elimination method, rank of matrix, Consistence & inconsistent of system of equation. Determinants up to order three , Minors & Cofactors , Properties of determinants , Cramer's rule .
- h. **Permutations & Combination** : Counting Principle , Permutations and combinations (With and without repetition) Binomial theorem for any rational index, Positive Integral Index and identifies involving binomial coefficients .

**PAPER-7 : LAB – I**

- a. Operating Systems: (1) DOS (2) WINDOWS (marks: 50)
- b. MS-OFFICE : (1) MS-WORD (2) MS-EXCEL (3) MS-POWERPOINT (marks: 50)

**PAPER-8 : LAB – II**

- a. FOXPRO ( marks : 50 )
- b. C LANGUAGE ( marks : 50 )

**PAPER- 9 : PROJECT ( marks : 100 )**

\* **First Year Total Marks : 900**