**Lesson Plan (April-July,2022)**

**Name of the Assistant Professor**- **Shama Subject- Computer Science**

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| **Month** | **B.Com(CAV) (II sem)****Programming in C** | **BCA (II Sem)****System Analysis and Design** | **BCA (VI Sem)****Computer Graphics** |
| April | History of C, Importance of C, Structure of a C Program.Elements of C: C character set, identifiers and keywords, Data types, Constants andVariables, Assignment statement, Symbolic constant.Unformatted & formatted I/O function in CArithmetic, relational, logical, bitwise, unary, assignment, conditional operators and special operators. | System Concept: Definition, Characteristics, Elements of systemTypes of System: Physical and abstract systemOpen and closed systemMan-made information systems.System Development Life Cycle: Phases of system developmentFeasibility study: Technical, Operational & Economic Feasibilities.Role of system analyst | Introduction to Computer GraphicsInteractive and Passive Graphics; Applications of Computer Graphics Display Devices: CRT Random Scan ,Raster Scan,Refresh Rate and InterlacingColor CRT Monitor, DVST, Flat-Panel Displays: Plasma Panel, LED, LCD; Lookup Table, Interactive Input Devices, Display Processor, General Purpose Graphics Software, Coordinate Representations |
| May | Arithmetic expressions, evaluation of arithmetic expression, type casting and conversion, operator hierarchy & associativity.Decision making & branching: Decision making with IF statement, IF-ELSE statement,Nested IF statement, ELSE-IF ladder, switch statement, goto statement. | System Planning: Bases for planning in system analysis.Initial Investigation: Determining user’s requirements and analysis, fact finding process and techniques.Tools of structured Analysis: Data Flow diagram, data dictionary, IPO and HIPO charts,Gantt charts, pseudo codes, Flow charts, decision tree, decision tables. | Point-Plotting Techniques: Scan Conversion, Scan-Converting a Straight Line: The Symmetrical DDA, The Simple DDA, Bresenham’s Line Algorithm; Scan-Converting a Circle: Circle drawing using Polar Coordinates, Bresenham’s Circle Algorithm, Scan-Converting an Ellipse: Polynomial Method, Trigonometric Method; Polygon Area Filling: Scan-line Fill and Flood Fill Algorithms |
| June | Decision making & looping: For, while, and do-while loop, jumps in loops, break, continue statement. Functions: Definition, prototype, passing parameters, recursion.Storage classes in C: auto, extern, register and static storage class, their scope, storage, &lifetime | Cost/Benefit Analysis: Data analysis cost and benefit analysis of a system.Input/ Output and Form Design, File Organization and database design: Introduction to files and database, File structures and organization, objectives of database design, logical and physical view of data. | Two-Dimensional Graphics Transformation: Basic Transformations: Translation, Rotation, Scaling; Matrix Representations Homogeneous Coordinates; Other Transformations: Reflection, Shearing, Coordinate , Composite Inverse; Affine; Raster Graphical Input: Pointing and Positioning Devices and Technique |
| July | Arrays: Definition, types, initialization, processing an arraypassing arrays to Functions, Strings & arrays.Structure and unions, data file | System testing: Introduction, objectives of testing, test planning, testing techniques.Quality assurance: Goal of quality assurance, levels of quality assuranceSystem implementation and software maintenance: primary activities in maintenance | Two-Dimensional Viewing: Window and Viewport, 2-D Viewing Transformation Clipping: Cohen-Sutherland Line Clipping Algorithm, Mid-Point Subdivision Line Clipping Algorithm; Polygon Clipping: Sutherland- Hodgman Polygon Clipping Algorithm; Three-Dimensional Graphics: Three-Dimensional Display Methods; 3-D Transformations: Translation, Rotation, Scaling |

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| **Subject/Month** | **April** | **May** | **June** | **July** |
| **BCA** **(IV Sem)****RDBMS** | Relational Model Concepts, Codd's Rules for Relational Model, Functional Dependencies and Normalization:-Purpose, Data Redundancy and Update AnomaliesFunctional Dependencies:-Full Functional Dependencies and Transitive Decomposition and Normal Forms (1NF, 2NF, 3NF & BCNF). | Relational Algebra:-Selection and Projection, Set Operation, Renaming, Join and Division, Relational Calculus: Tuple Relational Calculus and Domain Relational Calculus. | SQL: Data Definition and data types, SQL Operators, Specifying Constraints in SQL, Basic DDL, DML and DCL commands in SQL, Simple QueriesNested Queries, Tables, Views, Indexes, Aggregate Functions, Clauses | PL/SQL architecture, PL/SQL and SQL\*Plus, PL/SQL Basics, Advantages of PL/SQL, The Generic PL/SQL Block: PL/SQL Execution Environment, PL/SQL Character set and Data Types, Control Structure in PL/SQL, Cursors in PL/SQL, Triggers in PL/SQL, Programming using PL/SQL |