**Lesson Plan (FEB-MAY,2023)**

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

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| **Month** | **B. Com (CAV) (VI Sem)**  **Enterprise resource planning** | **BCA (II Sem)**  **System Analysis and Design** | **BCA (VI Sem)**  **Computer Graphics** |
| Feb | Enterprise: concept and functions; process  Approach to business  Types of information in business systems approach to information management  Integrated data model  ERP: concept, origin and need, reasons of growth of ERP.  Assignment 1 | System Concept: Definition, Characteristics, Elements of system  Types of System:  Physical and abstract system  Open and closed system  Man-made information systems.  System Development Life Cycle: Phases of system development  Feasibility study: Technical, Operational & Economic Feasibilities.  Role of system analyst  Assignment-1 | Introduction to Computer Graphics  Interactive and Passive Graphics; Applications of Computer Graphics  Display Devices: CRT  Random Scan ,Raster Scan,  Refresh Rate and Interlacing  Color CRT Monitor, DVST,  Flat-Panel Displays: Plasma Panel, LED, LCD; Lookup Table, Interactive Input Devices, Display Processor, General Purpose Graphics Software, Coordinate Representations  Assignment 1 |
| March | Introduction to ERP technologies: business process reengineering; management information system; decision support system; executive information system; supply chain management system.  Practical-1: Analyzing College ERP system  Assignment 2  Test-1 | 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.  Assignment 2  Test-1 | 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  Assignment 2  Test-1 |
| April | ERP modules: finance ,sales and distribution, manufacturing, inventory management, CRM ,etc., vendors for ERP, implementing ERP solutions.  Practical-2: Analyzing college MIS system and its concepts.  Test-2 | 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.  Test-2 | 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  Test-2 |
| May | Project: Design ERP/ MIS system of student’s own choice.  Revision | System testing: Introduction, objectives of testing, test planning, testing techniques.  Quality assurance: Goal of quality assurance, levels of quality assurance  System implementation and software maintenance: primary activities in maintenance  Revision | 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  Revision |

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| **Subject/Month** | **Feb.** | **March** | **April** | **May** |
| **BCA**  **(IV Sem)**  **RDBMS** | Relational Model Concepts, Codd's Rules for Relational Model, Functional Dependencies and Normalization:-Purpose, Data Redundancy and Update Anomalies  Functional Dependencies: -Full Functional Dependencies and Transitive Decomposition and Normal Forms (1NF, 2NF, 3NF & BCNF).  Assignment 1  Test-1 | Relational Algebra: -Selection and Projection, Set Operation, Renaming, Join and Division,  Relational Calculus: Tuple Relational Calculus and Domain Relational Calculus.  Assignment 2  Test-1 | SQL: Data Definition and data types, SQL Operators, Specifying Constraints in SQL, Basic DDL, DML and DCL commands in SQL, Simple Queries  Nested Queries, Tables, Views, Indexes, Aggregate Functions, Clauses  Practical: Design a database and run SQL queries over the database.  Test-2 | 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  Practical: Creating program using PL/SQL.  Revision |