**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; processApproach to businessTypes of information in business systems approach to information managementIntegrated data modelERP: concept, origin and need, reasons of growth of ERP.Assignment 1 | 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 analystAssignment-1 | 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 RepresentationsAssignment 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 2Test-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 2Test-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 AlgorithmsAssignment 2Test-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 TechniqueTest-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 assuranceSystem implementation and software maintenance: primary activities in maintenanceRevision | 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, ScalingRevision |

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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 AnomaliesFunctional Dependencies: -Full Functional Dependencies and Transitive Decomposition and Normal Forms (1NF, 2NF, 3NF & BCNF). Assignment 1Test-1 | Relational Algebra: -Selection and Projection, Set Operation, Renaming, Join and Division, Relational Calculus: Tuple Relational Calculus and Domain Relational Calculus.Assignment 2Test-1 | 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, ClausesPractical: 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/SQLPractical: Creating program using PL/SQL.Revision |