STRUCTURED SYSTEMS ANALYSIS, DESIGN (SAD)

Contents	Lecture No
System Definition and concepts, General theory Systems, Manual and Automated Systems, Real-life Business Sub-Systems.	(1)
Systems Environments and Boundaries, Real-time and Distributed Systems; Basic principles of successful Systems, Approach to system development: Structured System Analysis & Design, Prototype.	(2)
Role and need of Systems Analyst; Qualifications and responsibilities; Systems Analyst as an Agent of Change.	(3)
System Development Cycle: Introduction to Systems Development Life Cycle (SDLC), Various phases, Study, Analysis; Design; Development; Implementation; Maintenance.	(4)
Systems document consideration: Principles of system documentation, Types of documentation & their importance, enforcing documentation discipline in an organisation	(5)
Systems Planning: Data and fact gathering techniques, Interviews, Group Communication, Presentations, Site visits, questionnaires.	(6)
Assessing Project Feasibility: Technical, Operational, Economic, Cost Benefits Analysis,Schedule, Legal and contractual, Political. Types of Feasibility Reports, System selection Plan and Proposal, Prototyping, Cost-Benefit analysis, schedule, legal & contractual, political.	(7-8)
Modern methods for determining system requirement: Joint application development program, prototyping, Business process Re-engineering, System selection plan a proposal.	(9)
Modular & structured design: Module specification, Top-down & bottom-up design. Module coupling & cohesion, Structure charts.	(10)
Systems Design and Modeling: Process Modeling, Logical and Physical Design, Conceptual Data Modeling: Entity/Relationship Analysis, Entity-Relationship Modeling, ERDs .	(11)
Data Flow Diagrams, concepts of normalization.	(12-16)
Data Dictionary, Decision Tree, Decision Table, Structured English. Documentation: Data Dictionary, Recording Data Descriptions.	(17-19)
Test 1	(20)
Input and Output: Classification of Forms, Input/Output Forms Design, input validation User-Interface Design, Graphical Interfaces, standards & guidelines for GUI design.	(21-22)
Designing Physical files & Databases: Designing Physical records, Designing fields, Designing physical files, Designing databases.	(23)
Introduction to CASE tools, features, advantages & limitations. Awareness of some commercial CASE tools.	(24-25)

System Implementation and Maintenance: Planning considerations, Conversion methods, Procedures and Controls, System Acceptance Criteria, System Evaluation and Performance, Testing and Validation, Preparing user manual, Maintenance activities and issues.	(26-28)
Security aspects of a Computer System; Control Measures; Disaster Recovery and Contingency Planning, Prevention of Computer Virus & Malicious Applications.	(29-30)
OO Analysis/Design :OO Development Life Cycle and Modeling. Static and dynamic modeling. Comparison of OO and Module-oriented Approach. Modeling using UML ; The UML diagrams; the process of Object modeling.	(31-36)
Introduction to MIS: Meaning and Role of MIS, Definition of MIS, Systems Approach to MIS.	(37)
MIS for Accounting and Finance Function, MIS for Marketing Systems.	(38)
Types of Information Systems : Transaction Processing Systems, MIS, DSS, Expert systems.	(39-40)
Final Test	(41)