MSC (CA&IT) - Semester: III

(Effective from year 2024-25)

Course Code:	CAIT-303	**Course Title:**	System Analysis and Design
Course Credits:	04	**Hour of Teaching/Week:**	04
Internal Assessment Marks:	50	**External Exam Marks:**	50
Exam Duration	**2 Hrs**		

Unit	Contents
1	System definition, Need for system development, Types of system, Types of user, System development strategies, SDLC, Feasibility study, Structured Analysis Development Strategies, Physical and Logical DFD, Data Dictionary, System Prototype Method, Role of system analyst, System investigation :- Fact Finding Techniques, Tools for Documenting Procedure & Decision ,Decision Tree, Decision Table, Structured English. Academic and personal qualification of a system analyst, the multifaceted role of the system analyst: change agent, investigator and motivator .Architect psychologist, and politician. The analyst and user interface; behavioral issues, conflict resolution
2.	Cost benefit analysis: cost and benefits determination. The system proposal. File structure, file organization: sequential organization, indexed sequential organization, inverted list organization. Direct access organization. Database design. Objectives of database, Key terms, normalization, role of database administrator.
3.	System Engineering and Quality Assurance, Design of software, Software design and documentation tools, Structured Flowchart, HIPO, Warnier/Orr Diagrams, Testing and validation, types of testing, Documentation, Managing System Implementation, Training, Conversion methods. Quality assurance: quality assurance goals of the systems life cycle, levels of quality assurance. Approaches to reliability: error avoidance, error detection
4.	Introduction to UML, OO Development Life cycle and Modeling, static and Dynamic modeling, Comparison of OO and Module-Oriented Approach, Modeling using UML. Audit of Computer System Usage, Types of threats to Computer System and Control measures: Threat and Risk Analysis, Disaster recovery and Contingency Planning, Viruses.

References:

1. James, A.S, Analysis and design of information systems, Mc Graw hill, New York, 1997

2. 'A' Level made simple Structured System Analysis and Design, BPB publications: Dr.Madhulika Jain,Vineeta Pillai, Shashi Singh, Satish Jain

3. Effective Methods for Software Testing,William E.Perry 4. Venkata rao,v., System Analysis, design & MIS,BPB publications, 2000 5. Awad, Elias.,analysis and design, Galgotia publications pvt.Ltd.1998