



**Paper Code : SAD:403**

**Paper Name : System Analysis and Design (SAD)**

Teaching Hours (Per Week)		Examination Scheme		
TH. (hours)	Pr. (hours)	Internal Th. (marks)	External Th. (marks)	Total
4		30	70	100 (marks)

**Lectures = 68 Hours**

### Detailed Syllabus

**Objective:** Systems are created to solve problems. One can think of the systems approach as an organized way of dealing with a problem. In this dynamic world, The subject System Analysis and Design, mainly deals with the software development activities. Its Objective is to determine specific needs of a system and ultimately facilitate a comprehensive design around these needs.

#### UNIT I

**16 Hrs.**

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, politician. The analyst and user interface; behavioral issues, conflict resolution.

#### UNIT II

**12 Hrs.**

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.

#### UNIT III

**14 Hrs.**

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.

#### UNIT IV

**14 Hrs.**

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.

#### UNIT V

**12 Hrs.**

Meaning and role of MIS, System approach to MIS, types of information systems: Transaction Processing System, Management Information System, Decision Support System, Expert System.

Case Studies: MIS for Accounting and Finance Function, MIS for Marketing System.

#### Book 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.
6. V.Rajaraman, "Analysis and Design of Information Systems", 2nd Edition.
7. K.E. Kendall and J.E.Kendall, "Systems Analysis and Design", 5th Edition.
8. J.A.Hoffer, J.F.George, J.S.Velacich, "Modern Systems Analysis and Design".
9. E.Yourdon "Modern Structured Analysis", Prentice Hall of India, 1996.
10. Alan Denise, Barabara Haley Wixam and Roberta M. Roth,"System Analysis and Design".