GUJARAT TECHNOLOGICAL UNIVERSITY

MASTER OF BUSINESS ADMINISTRATION

Year – 2 (Semester – III) (W.E.F. Academic Year 2018-19)

Specialization: Information Technology Management
Subject Name: System Analysis and Design (SAD)
Subject Code: 3539252

1. **Learning Outcome:**
   - Understand the principles and tools of systems analysis and design
   - Analyze a problem and design an appropriate solution using a combination of software development tools and techniques.
   - Define and describe the phases of the system development life cycle.
   - Determine methods for evaluating the effectiveness and efficiency of a system.

2. **Course Duration:** The course duration is of **36 sessions of 75 minutes** each

3. **Course Contents:**

Module No.	Modules with its Contents/Chapters	No. of Sessions	Marks (out of 70)
I	**Introduction**: System Definition and concepts, System Environments and Boundaries. Realtime and distributed systems, Basic principles of successful systems, Structured System Analysis and Design. Systems Analyst: Role and Need of Systems Analyst. Qualifications and responsibilities. System Analysis as a Profession; **System Development Cycle:** Introduction to Systems Development Life Cycle (SDLC). Various phases of SDLC:Study, Analysis, Design, Development, Implementation, Maintenance	10	18
II	**Systems Documentation Consideration**: Principles of Systems Documentation, Types of documentation and their importance, enforcing documentation discipline in an organization System Planning: Data and fact gathering techniques: Interviews, Group Communication Questionnaires, Presentations & Site Visits. Assessing Project Feasibility: Technical, Operational, Economic, Cost Benefits Analysis, Schedule, legal and contractual,	9	18

	Political. Modem Methods for determining system requirements.		
III	**Modular and Structured Design:** Module specifications. Top-down and bottom-up design. Module coupling and cohesion. Structure Charts. System Design and Modeling: Process Modeling, logical and physical design, Conceptual Data Modeling: Entity Relationship Analysis, Entity-Relationship Modeling, DFDs, Process Description: Structured English, Decision Tree, Decision Tables. Documentation: Data Dictionary, Recording Data Descriptions. Input and Output: Classification of forms, Input/output forms design. User-interface design, Graphical interfaces. Standards and guidelines for GUI design, Unified Modeling Language, The Systems Analysts Toolkit – Communication Tools, CASE Tools,	9	17
IV	**System Implementation, Maintenance/Audit:** Planning considerations. Conversion methods, procedures and controls. System acceptance criteria. System Implementation and Maintenance, financial Analysis Tools, Project Management tools, System Evaluation and Performance. Testing and Validation. Preparing User Manual. Maintenance Activities and Issues	8	17
V	**Practical Application with reference to SAD:** A project report on a chosen Information System based on a business requirement. They will have to analyze the feasibility of developing the system identified, analyze its requirements and subsequently design the system and its interfaces using the concepts studied in the subject.	---	(30 marks CEC)

4. Teaching Methods:

The following pedagogical tools will be used to teach this course:

- Lectures
- Case Discussions
- Audio-visual Material (Using CDs/Clippings/ online videos)
- Assignments and Presentations

5. Evaluation:

The evaluation of participants will be on continuous basis comprising of the following elements:

A	Continuous Evaluation Component comprising of Projects / Assignments / Quiz / Class Participation / Class test / Presentation on specific topic etc	(Internal Assessment-50 Marks)
B	Mid-Semester examination	(Internal Assessment-30 Marks)
C	End –Semester Examination	(External Assessment-70 Marks)

6. Reference Books:

Sr. No.	Author	Name of the Book	Publisher	Year of Publication
1	Jeffrey A. Hoffer, Joey F. George and Joseph S. Valacich,	Modern Systems Analysis and Design	Pearson	Latest Edition
2	Roger, Pressman,	Software Engineering	McGraw Hill	Latest Edition
3	Kendal and Kendal	System Analysis and Design	PHI	Latest Edition
4	Waman S. Jawadekar	Software Engineering Principles and Practice	McGraw Hill	Latest Edition
5	Denis, Wixom, Tegarden,	System Analysis and Design with UML Version 2.0 An Object Oriented Approach	Wiley	Latest Edition
6	Gary B. shelly, Thomas J. Cashman and Harry J. Rosenblant	Systems Analysis and Design Methods	Cengage Learning	Latest Edition

Note: Wherever the standard books are not available for the topic appropriate print and online resources, journals and books published by different authors may be prescribed.

7. List of Journals/Periodicals/Magazines/Newspapers, etc.

1. Journal of Systems Analysis and Software Engineering
2. Global Journal of Technology and Optimization – Software Design