C. U. SHAH UNIVERSITY,WADHWAN CITY.

Faculty of: **Computer Science**
Course: **Bachelor of Computer Applications**
Semester**: II**
Subject Code**:4CS02ASD1**
Subject Name: **System Analysis and Design**

Sr. No	Branch Code	Subject Code	Subject Name	Teaching hours/ Week			Credit hours	Credit Points	Evaluation Scheme/ Semester								
									Theory				Practical				Total
									Internal Assessment		End Semester Exams		Internal Assessment		End Semester Exams		
				Th	Tu	Pr			Marks	Duration	Marks	Duration	Marks	Duration	Marks	Duration	
5	2	4CS02ASD1	System Analysis and Design	4	--	--	4	4	15(SE) 15(CE)	1Hr.	70	2½ Hrs.	--	--	--	--	100

AIM :

- Students will be able to provide knowledge of fundamentals of application development, where each application is considered as a system.
- This subject provides insight knowledge needed in order to conceptualize various functionalities of system before actual development of the system. This enables application developers to identify pros and cons of the application to be built.

Unit I Introduction **06 Hrs.**

- Introduction to Data, information and System
- Types of information
  - Operational
  - Tactical
  - Strategic
- Why do we need information system?
- Requirement of information at different levels of management.
- Qualities of information

Unit II System analysis and design of life cycles **16 Hrs.**

- System development life cycle steps
  - Requirement determinations
  - Requirement specifications
  - Feasibility analysis
  - System design
  - System implementation
  - System evaluation
- Role of System Analyst
- Attribute of System Analyst
- Tools used in system analysis
  - Data Flow Diagram (DFD)
  - Levelling rules

    - Logical and Physical DFD
    - Software tools used to create DFD
- Data Dictionary: its development and use
- Structure system analysis and design
    - Structured English
    - Decision tables
- Data oriented system design
    - Concept of E-R model
    - Relationship and cardinality
- How to design relational database?

Unit III Design of I/O **05 Hrs.**

- Data input methods and coding techniques
- Validating input data
- Input data control and interactive data inputs
- Design of output, reports screen design, and GUI output formats.

Unit IV Design of Files **06 Hrs.**

- Basic file terminology (data item, record, record key, entity, file, file system)
- Types of file (master file, transaction file, report file)
- Methods of file organization (sequential, direct access, indexed)

Unit V Control **05 Hrs.**

- Audit and security of information system
- Why control of system is needed?
- Auditing information system
- Testing information system

Unit VI System Design in era of E-Commerce **10 Hrs.**

- B2B, B2C, C2C E-Commerce
- Advantages and disadvantages of E-Commerce
- E-Commerce System architecture
- Physical and logical network
- Web services
- Electronic Data Interchange

Books and references

- "Analysis & Design of Information System" by **James A. Senn**, Tata Mc Graw-Hill,
- "Analysis & Design of Information System" by **V. Rajaraman,** PHI Publication.

SWAYAM/NPTEL Link:

https://nptel.ac.in/courses/106/108/106108102/