C. Syllabus Detailing and Learning objectives

Module	Chapter	Detailed Content	Syllabus Detailing	Learning Objectives
Module 1	**CH 1 Introduction** (Hours -06)	Introduction System overview, Types of Systems, Key Differences Between Structured and ObjectOriented Analysis and Design, Role of the System Analyst, Systems Development Life Cycle,	**Purpose**: To make students understand the meaning of system. Explain the structured and object oriented analysis and design . explain the difference between structured and object oriented analysis and design . Describe the role of system analyst. Understand the SDLC lifecycle.	1. To state , identify (An) and list the different types of systems **(R)** 2. To describe the role of system analyst (**R)** 3.To Distinguish between Structured and ObjectOriented Analysis and Design **(U**)
			Scope – **1. Academic Aspects-** Compare between structured and object oriented analysis and design **2. Technology Aspect-** Understand the SDLC lifecycle. **3. Application Aspect-** the role of system analyst	
			Students Evaluation – 1. Theory Questions to be asked on structured and object oriented analysis and design 2. Lab experiments: Using process model for software. 3. Corresponding viva questions can be asked on different types of systems, key Differences Between Structured and ObjectOriented Analysis and Design.	
	CH 2 System Analysis (Hours -02)	System Analysis Business process Reengineering and the Zachman Framework,	**Purpose** – To make students learn the concept of business process engineering and its use . Understand the Zachman framework for classifying and organizing the representation of enterprise.	4. To determine the various representations of a system using Zachman Framework**(AN)**
			Scope – **1. Academic Aspects-** Identify the concept of business process engineering and its use. **2. Technology Aspect-Use** Zachman framework for classifying and organizing the representation of enterprise.	5. To describe the concept of BPR and its use in an enterprise**(U)** 6. To solve the questions in Zachman

			3. Application Aspect- to help the developer to plan the representations using Zachman framework **Students Evaluation** 1. Questions on Zachman framework 2. Viva questions on BPR and Zachman framework	Framework(C)
Module 2	**Chapter 2 System Analysis (Hours -04)**	System Requirement, stakeholders, Techniques for information gathering, Validating the requirements.	**Purpose- T**his chapter focuses on the importance of requirements i.e, functional and non-functional requirements. what and who are the different stakeholders in an organization. the techniques for gathering information like interviews , questionnaires , JAD etc. the techniques for validating requirements. **Scope –** **1. Academic Aspects- difference between functional and non- functional requirements, techniques for requirement gathering.** **2. Technology Aspect-** Identify which techniques are useful for case to gather requirements. **3. Application Aspect-** discuss with stakeholder and find the functional and non-functional requirements**.** **Students Evaluation –** 1. Subjective questions on functional and non-functional requirements**, techniques for requirement gathering,** techniques for validating requirements. 2. Listing the functional and non-functional requirements. 3. Lab experiments based on **requirement gathering** **4. Viva questions on types of requirement gathering,** functional and non-functional requirements**.**	1. To Identify the functional and non-functional requirements in the system to be developed**. (AN)** 2.List the functional and non-functional requirements, Assess the feasibility of the requirements **(E)** 3. To describe the requirement gathering techniques and requirements validating techniques. **(U)**

	Chapter 3 Feasibility Analysis (Hours -04)	Feasibility Analysis , Tests for feasibility, CostBenefit Analysis,	**Purpose-** The purpose of this chapter is to provide the students with the knowledge of doing feasibility study for the requirements. To study the different tests for feasibility. To find the cost benefit analysis. **Scope -** **1. Academic Aspects-** Describe the concept feasibility analysis , Tests for feasibility, CostBenefit Analysis, **2. Technology Aspect-** To find the cost benefit analysis. **3. Application Aspect-** To understand importance of cost benefit analysis. **Students Evaluation –** 1. Subjective questions on feasibility analysis 2. Analysis of requirement using cost benefit analysis. **3. Viva questions** on feasibility analysis, cost benefit analysis**.**	4. To analyze the requirements for cost benefit analysis. **(AN)** 5. Illustrate the importance of CostBenefit Analysis and describe the , Tests for feasibility**. (U)** 6. To conclude the CostBenefit Analysis with help of reports **(AN)**
Module 3	**Chapter 3 - Feasibility Analysis (Hours -04)**	Feasibility analysis of candidate system. The system Proposal.	**Purpose –** To determine the feasibility analysis of a candidate system. Understand how to write a system proposal for any given system **Scope –** **1. Academic Aspects-** Learn the importance of system proposal. **2. Technology Aspect-** **Write system proposal for given system** **3. Application Aspect-**	1. Describe feasibility **(R).** 2 Determine system proposals for any given system. **(AN)** 3. explain Feasibility analysis of candidate system. **(E)**

			Design of User Interface using the standards for system proposal, e.g. in various applications like online shopping etc. **Student Evaluation -** 1.Descriptive questions based on system proposal 2. Mini project: design of UI.	4. Interpret the requirements and accordingly model in form of DFD diagram. **(AN)** 5.Understand the processes and flow of data between process to process and flow of data between process to entity or data store and apply it to data flow diagram **(A)** 6.Describe the system using data flow diagram(**E)**
	Chapter 4 Modeling System Requirements	Traditional approach: Data flow diagram.	**Purpose** – To model the system by using traditional approach. Drawing data flow diagram for the given system. **Scope –** **1. Academic Aspects-** Identify the processes, entity, data sources and flow of data between processes and process to data source. **2. Technology Aspect-** Design a data flow diagram for the system. **3. Application Aspect-** Identify the processes, data sources and entities in the system. **Student Evaluation -** 1. Construct DFD at context level, level 1 and level2.	
Module 4	**Chapter 4 Modeling System Requirements**	Object Oriented Approach to Requirement: Object Oriented Requirements, The System Activities, Identifying Input and Outputs, Identifying Object	**Purpose** – To model the system by using object oriented methods. Drawing a class diagram and use case diagram for the given system. Construct behavioral diagrams sequence diagram state chart diagram. **Scope –** **1. Academic Aspects-** Identify the classes, use cases and actors based on the requirements.	1. Describe various phases of UML **(R).** 2 Determine system proposals for any given system **(AN).** 3.To Identify the classes and use cases from given problem definition. **(AN)**

		Behavior, Integrating Object Oriented Models.	**2. Technology Aspect-** Design a class diagram, use case diagram and interaction diagram for the system. **3. Application Aspect-** Identify the classes, attribute, methods and relationship between the classes from the system to draw class diagram. Identify the use cases, actors and involvement of actors in use cases from the system to draw use case diagram. Elaborate each use case for various interaction diagram such as sequence diagram and collaboration diagram. **Student Evaluation -** 1. Construct class diagram, Use case diagram, interaction diagram**.**	4.Interpret the requirements and accordingly model in form of class diagram. **(AN)** 5.Understand the inputs and outputs and apply it to the class diagram **(A)** 6.Describe the behavior of system using interaction diagram(**E)**
Module 5	**Chapter 5 System Design**	Moving To Design The traditional Approach to design the Object-Oriented Approach to design: Use Case REaliztion Designing Database, Designing the User Interface, Designing System Interfaces, Controls and security	**Purpose** – To design the system by using object oriented design user interface design and database design. **Scope –** **1. Academic Aspects-** Identify the tables and content of user interface. **2. Technology Aspect-** Learn prototyping tools to design interfaces and database tools to design databases. **3. Application Aspect-** 1. Design UI and database for particular application. **Student Evaluation -** 1. Evaluate usability of designed user interfaces.	1. Describe various aspects of user interface design **(R).** 2 Determine system proposals for any given system **(AN).** 3.To Identify the various components of user interface and tables of database.**(AN)** 4.Interpret the requirements and accordingly model in form of User Interface. **(AN)** 5.Understand the GUI design guidelines and apply it to design User Interface**(A)**

				6.Describe the Controls and security for the system.(**E**)
Module 6	**Chapter 6 Application Architecture** .	IT Architecture, Application Architecture Strategies, Modeling Application Architecture for Information System. Deployment using UML diagrams, Component and deployment diagram for various architectures	**Purpose** – To prototype the system by using objects oriented methods by drawing component and deployment diagram. **Scope –** **1. Academic Aspects-** Identify the various software files and system nodes based on the requirements. **2. Technology Aspect-** Design a component and deployment diagram for the system. **3. Application Aspect-** Identify the various software components such as source files, doc files and exe files to configure the component diagram. Identify the entities that can be deployed on different nodes. **Student Evaluation -** 1. Construct component and deployment diagram**.**	1. Describe various aspects of system prototyping **(R).** 2 Determine system proposals for any given system **(AN).** 3.To Identify the various software components from system functionality.**(AN)** 4.Interpret the requirements and accordingly prototype the system. **(AN)** 5. Understand the guidelines for system prototyping and apply it to form system prototype. **(A)** 6.Describe the prototype of the system using component and deployment diagram. (**E)**