BACHELORS WITH INFORMATION TECHNOLOGY AS MAJOR (CT – I)
6th SEMESTER
BIT622J1 INFORMATION TECHNOLOGY _ SYSTEM ANALYSIS AND DESIGN
CREDITS: THEORY-03; TUTORIAL-01
THEORY (3 CREDITS)

UNIT I

Basic Concept of Systems: The System: Definition and Concepts; Elements of a System: Input, Output Processor, Control, Feedback, Environment, Boundaries and Interface; Characteristics of a System; Types of systems - Physical and Abstract System, Open and Closed Systems, Man-made Systems; Information and its categories.
Information System and System Analyst: Information systems: TPS, OAS, MIS, DSS, ESS; System Analyst: Role and need of system analyst, System Analyst as an agent of change.

UNIT II

System Development Life Cycle: Introduction to SDLC, Various phases: study, analysis, design, development, testing, implementation, maintenance; System documentation: Types of documentation and their importance.
System Planning and Information Gathering: Initial Investigations, Identification of user needs, Project Identification and Selection; Needs of Information Gathering, Determination of requirements, Information gathering tools: interviews, group communication, questionnaires, presentations and site visits.
Feasibility Study: Definition, Importance of feasibility study, Types of feasibility study, System selection plan and proposal, Prototyping, Cost-Benefit Analysis: Tools and Techniques.

UNIT III

Tools for System Analysis: Data Flow Diagram (DFD), Logical and Physical DFDs, Developing DFD; System Flowcharts and Structured charts, Structured English, Decision trees and Decision tables.
System Design: Module specifications, Module Coupling and cohesion, Top-down and bottom-up design; Logical and Physical design, Structured design.
Input and Output Input design: Input data, Input media and devices; Output design; Form Design: Classification of forms, Requirements of Form design.
System Implementation and Maintenance: Need for System Testing, Types of System Testing, Quality Assurance; System Conversion, Conversion methods, procedures and controls, System evaluation and performance, Maintenance activities and issues.

TUTORIAL (1- CREDIT)

Note: The Practical Component shall be based on the Unit-I to Unit-III

RECOMMENDED BOOKS:

- Elias m. Awad: System Analysis and Design
- Perry Edwards: System Analysis & design Mc Graw Hill
- "Fundamentals of Data Structures by Ellis Horowitz and Sartaj Sahni, Galgotia Publications.