H. N. G. University , Patan
M.C.A(5 Years Integrated Programme) – Semester - III
302: System Analysis and Design

Unit: 1 [30%]

System Analysis Fundaments: Introduction to System, System Analysis and Design, Types of System: TPS, MIS, DSS, Need for System Analysis and Design, Role of the System Analyst.

System Development Strategies: SDLC, Structured Analysis Development Method, System Prototype Method.

Case Tools: Benefits of Computer-Assisted Tools, Categories of Automated Tools, Case Components.

Organizations as System: Interrelatedness and Interdependence of System, System Process, Boundaries, System Feedback, Managing Project Review and Selection.

Fact-Fining Techniques: Interview, Questionnaire, Record Review, Observation.

Data Flow Diagram: Advantages, Notations, Rules, Leveling, Logical and Physical DFD.

Data Dictionary: Importance, Data Elements, Describing Process Specification.

Structured Decisions: Decision Tree, Decision Tables, Structured English

Unit: 2 [25%]

The Essentials of Design
Designing Effective Output:
Objectives, Types of Output, Method, Factors to consider,
Designing Effective Input:
Objectives, Guideline for Form design, Screen and Web Forms,
Designing User Interface:
Objectives, Types of user interface, Designing Accurate Data-Entry
Procedures: Objectives, Effective coding, Data-Entry Method, Ensuring data quality through input validation

Unit: 3 [25%]

Quality Assurance through Software Engineering
Design of Software, Software design and documentation:
Structured Flowcharts, HIPO, Warnier/Orr Diagrams
Managing Quality Assurance:
Level of Assurance, Level of Test
Implementation of Information System:
Training Strategies, Conversion, Post Implementation Review

Unit: 4 [20%]

Case Studies:
- Financial Accounting System
- Payroll System
- Library System
- Inventory System
- Online Banking System
- Railway Reservation system
  (Input, Output, DFD)

Text Books:
1. Analysis and Design of Information System,James A.Senn
2. System Analysis & Design, S. Parthasarthy & B.W. Khalkar

Reference Books:
1. Introduction to SAD by lee
2. System Analysis & Design by kendall and kendall