

Paper-IV(MCA-204) : Structured System Analysis and Design

Unit I

Overview:

Introduction, The System Development Life Cycle, System Development Methodologies, Project team roles and skills.

Planning Phase: Identifying business value, Feasibility Analysis, creating the work plan, staffing the project, controlling and directing the project.

Unit II

Analysis Phase:

System Analysis - analysis process, business process automation, business process improvement, business process reengineering, developing the analysis plan.

Gathering Information – interviews, joint application design, questionnaires, document analysis, observation, selecting the appropriate technique.

Process Modeling – data flow diagrams, Use cases.

Data Modeling – ER diagram.

Unit III

Design Phase:

System Design – design strategies, developing the design plan, moving from logical to physical model.

Architecture Design – computing architectures, infrastructure design, global issues, security.

User Interface(UI) – principles of UI design, UI design process, navigation design, input design, output design.

Data Storage Design – data storage formats, optimizing data storage.

Program Design – structure chart, program specification.

Unit IV

Implementation Phase:

Construction - managing programming,

Designing tests - Test Plan, Unit Tests, Integration Tests, System Test, Acceptance Tests

Developing Documentation- Types of Documentation, Designing Documentation Structure , Writing Documentation Topics

Installation – Conversion- Style, Location and Modules, change management,

Post implementation activities- System Support, System Maintenance, Project Assessment.

Unit V

Hardware and Software Selection: Procedure for Hardware and Software Selection, Financial considerations in selection – Rent, Lease, Purchase

Security , Disaster/ Recovery and Ethics in System Development : Threats to System Security, Control Measures, Disaster/ recovery planning, Ethics, Codes and Standards of Behavior

Modern Trends: The object approach, use case diagram, sequence diagram, class diagram, statechart diagram.

Recommended Books :

- 1) Alan Dennis, Barabara Haley Wixom : Systems Analysis and Design- An Applied Approach.
- 2) Elias M Awad : Systems Analysis and Design.