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M.C.A. SEM –I ,PAPER -II
SYSTEM ANALYSIS AND DESIGN

1. **Introduction**
   - Systems and computer based systems, types of information system
   - System analysis and design
   - Role, task and attribute of the system analyst

2. **Approaches to System development**
   - SDLC
   - Explanation of the phases
   - Different models their advantages and disadvantages
     - Waterfall approach
     - Iterative approach
     - Extreme programming
     - RAD model
     - Unified process
     - Evolutionary software process model
       - Incremental model
       - Spiral model
       - Concurrent development model

3. **Analysis : Investigating System Requirements**
   - Activities of the analysis phase
   - Fact finding methods
     - Review existing reports, forms and procedure descriptions
     - Conduct interviews
     - Observe and document business processes
     - Build prototypes
     - Questionnaires
     - Conduct jad sessions
   - Validate the requirements
     - Structured walkthroughs

4. **Feasibility Analysis**
   - Feasibility Study and Cost Estimates
   - Cost benefit analysis
   - Identification of list of deliverables

5. **Modeling System Requirements**
   - Data flow diagram logical and physical
   - Structured English
   - Decision tables
   - Decision trees
   - Entity relationship diagram
   - Data dictionary

6. **Design**
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     - Transaction Analysis
     - Transform Analysis

   Software design and documentation tools
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   Designing databases
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   - Relationships
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   - Normalization

7. **Designing input, output and interface**
   - Input design
   - Output design
   - User interface design

8. **Testing**
   - Strategic approach to software testing
   - Test series for conventional software
   - Test strategies for object – oriented software
   - Validation testing
   - System testing
   - Debugging

9. **Implementation and Maintenance**
   - Activities of the implementation and support phase

10. **Documentation**
    Use of case tools,
    Documentation – importance, types of documentation

Books :

1. "Analysis and Design of Information Systems" : Senn, TMH.

2. System Analysis and Design : Howryskiewycz, PHI.

3. "System Analysis and Design" : Awad.

4. "Software Engineering A practitioners Approach" : Roger S. Pressman TMH.

5. "System Analysis and Design Methods : "Whitten, Bentley.

6. "Analysis and Design of Information Systems" : Rajaraman, PHI.

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