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MCS-014

**MASTER OF COMPUTER
APPLICATIONS/BACHELOR OF
COMPUTER APPLICATIONS
[MCA (REVISED)/BCA (REVISED)]**

Term-End Examination

December, 2025

MCS-014 : SYSTEM ANALYSIS AND DESIGN

Time : 3 Hours

Maximum Marks : 100

Weightage : 70%

***Note :** Question No. 1 is compulsory. Attempt
any **three** questions from the rest.*

1. (a) Explain the Waterfall Model and discuss its advantages and disadvantages in system development. Draw suitable diagram. 10
- (b) What is structured analysis ? How does it differ from object-oriented analysis ? Illustrate with examples. 8
- (c) Describe the importance of system testing. Discuss different types of testing methods used during system implementation. 8
- (d) Explain the process of requirements gathering and analysis in systems development. What challenges might arise during this process ? 7

- (e) What is a Data Flow Diagram (DFD) ?
Create DFD for an online banking system upto level-2. 7
2. (a) Discuss the role of a systems analyst in the development of information systems. What are the essential skills required for this role ? 10
- (b) Explain the importance of user involvement in system development. How does user feedback impact the design and implementation of a system ? 10
3. (a) Describe the prototyping approach in systems development. What are its advantages and limitations ? 10

- (b) Compare and contrast the top-down design and bottom-up design approaches. Provide scenarios where each approach is suitable. 10
4. (a) Explain the process of system conversion. Compare and contrast the following conversion strategies : 10
- (i) Direct
 - (ii) Parallel
 - (iii) Phased
 - (iv) Pilot
- (b) What is a feasibility study ? Discuss the different types of feasibility (Technical, operational, economic) and their importance in system development. 10

5. Write short notes on the following : 5×4=20

- (a) CASE tools and their role in system development
- (b) Coupling and cohesion in system design
- (c) Management Information Systems (MIS) and their role in organizations
- (d) Audit Trails and their importance in system security

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