

Dr. Babasaheb Ambedkar Open University
Term End Examination January – 2026

Course	: BSCCS	Date	: 23/02/2026
Subject Code	: BSCCS-302	Time	: 11:30pm to 01:45pm
Subject Name	: Software Engineering	Duration	: 2.15 Hour
		Max. Marks	: 70

Section A

Answer the following (Attempt any three) (30)

1. Explain the various Software Process Models. Discuss their advantages and disadvantages.
2. What is Requirement Engineering? Explain its process and types of requirements with examples.
3. Discuss Data Flow Diagrams (DFD) with suitable examples. Draw context-level and first-level DFD for a Library Management System.
4. Explain different Software Testing Life Cycle (STLC) phases with a neat diagram.
5. Describe Software Quality Assurance (SQA). Differentiate between Verification and Validation.

Section B

Answer the following (Attempt any four) (20)

1. Define Software Engineering. How is it different from traditional programming?
2. What is the difference between Functional and Non-Functional Requirements?
3. Write a short note on Cohesion and Coupling in software design.
4. Explain Entity Relationship Diagram (ERD) with an example.
5. Differentiate between Static and Dynamic Testing with examples.
6. What are the main goals of Software Testing?

Section C

Part – A (Multiple Choice Questions) (10)

- 1 The primary objective of software engineering is:
A Hardware design B Reliable software development
C Network architecture D Algorithm analysis
- 2 The Waterfall model is best suitable for:
A Large projects with unclear requirements B Small projects with well-defined requirements
C Agile projects D Spiral development
- 3 Which one is NOT a functional requirement?
A Login authentication B Performance
C Report generation D Data validation
- 4 DFD represents:
A Data structure B Data flow in the system
C Database tables D Class diagrams
- 5 ERD is used for:
A Process modeling B Data modeling
C Network modeling D Object modeling

- 6 In Verification we check:
 - A Whether we built the product right
 - B Whether we built the right product
 - C User satisfaction
 - D Implementation issues
- 7 Black-box testing is also called:
 - A White-box testing
 - B Functional testing
 - C Integration testing
 - D Static testing
- 8 Which SDLC model is iterative?
 - A Waterfall
 - B Spiral
 - C V-Model
 - D Linear
- 9 Coupling refers to:
 - A Degree of independence between modules
 - B Degree of interdependence between modules
 - C Module size
 - D Algorithm efficiency
- 10 Which is NOT a software quality characteristic?
 - A Reliability
 - B Efficiency
 - C Maintainability
 - D Resistance

Part – B (Do as Directed)

(10)

- 1 Software testing is the process of _____ errors.
- 2 True/False: Functional requirements describe “how” the system performs.
- 3 The divide and conquer principle is used in _____.
- 4 Match the following:
 - a) ERD – Data modeling
 - b) DFD – Process modeling
 - c) SRS – Requirement specification
 - d) QA – Process quality
- 5 Spiral model is mainly used for _____ projects.
- 6 True/False: Validation ensures that we built the product right.
- 7 In ERD, an oval shape represents _____.
- 8 The first stage of SDLC is _____.
- 9 _____ testing is performed without executing the code.
- 10 True/False: High cohesion in modules is desirable.
