

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

Course	: BSCIT	Date	: 18/02/2026
Subject Code	: BSCIT-303	Time	: 03:00pm to 05:15pm
Subject Name	: Software Engineering	Duration	: 02.15 Hours
		Max. Marks	: 70

Section A

Answer the following (Attempt any three) (30)

1. List and explain the different phases of the Software Development Life Cycle (SDLC).
2. Explain Gantt Chart and PERT Chart with figure.
3. Explain V-Process Model with figure.
4. Explain Software Testing Life Cycle with figure.
5. Explain various types of System Testing.

Section B

Answer the following (Attempt any four) (20)

1. Explain Classical and Iterative Waterfall Model with figure.
2. Explain Spiral Model with figure.
3. List roles of Software Project Manager.
4. Explain Data Flow Diagram (DFD) with various symbols used in DFD.
5. Define Entity Relationship Diagram.
6. Write difference between Black box testing and White box testing.

Section C

Part – A (Multiple Choice Questions) (10)

Q-1 Which of the following best describes software engineering?

- A) Writing code quickly
- B) Applying engineering principles to software development
- C) Installing software
- D) Debugging errors only

Q-2 The main purpose of the feasibility study in SDLC is to:

- A) Design system architecture
- B) Check technical, economic, and operational viability
- C) Write source code
- D) Test the software

Q-3 In the Waterfall model, the next phase begins:

- A) Before the current phase ends
- B) Only after the current phase is completed
- C) Simultaneously with the current phase
- D) Randomly

Q-4 Which estimation technique uses historical data from similar projects?

- A) Expert judgment
- B) Delphi method
- C) Analogy-based estimation
- D) Function point analysis

Q-5 The process of gathering and defining what the system should do is called:

- A) Design
- B) Requirement engineering
- C) Testing
- D) Coding

Q-6 In DFDs, processes are represented by:

- A) Rectangle
- B) Circle or rounded rectangle
- C) Arrow
- D) Diamond

Q-7 Which UML diagram shows interactions over time between objects?

- A) Class diagram
- B) Sequence diagram
- C) Use-case diagram
- D) Component diagram

Q-8 The degree to which a module performs only one task is called:

- A) Coupling
- B) Cohesion
- C) Complexity
- D) Modularity

Q-9 Black-box testing focuses on:

- A) Internal logic of the program
- B) External functionality without knowing code
- C) Compiler optimization
- D) Network performance

Q-10 Which type of testing checks if the system meets user requirements?

- A) Unit testing
- B) Integration testing
- C) Acceptance testing
- D) System testing

Part – B (State whether the following statements are true or false)

(10)

- 1 Software engineering focuses only on coding.
- 2 The SDLC provides a structured approach to software development.
- 3 In the Waterfall model, phases can overlap.
- 4 Expert judgment is an estimation technique in software project management.
- 5 Requirement specification is part of the requirement engineering process.
- 6 In a DFD, data stores are represented by open-ended rectangles.
- 7 Use-case diagrams represent the dynamic behavior of the system.
- 8 Low coupling and high cohesion are desirable in software design.
- 9 White-box testing is concerned with the internal logic of code.
- 10 Acceptance testing is performed by end users.
