

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Supplementary Summer Examination – 2025

Course: B. Tech

Branch: Computer Engineering

Semester: V

Subject Code & Name: Software Engineering (BTCOC503)

Max Marks: 60

Date:23/07/25

Duration: 3 Hr.

Instructions to the Students:

1. Each question carries 12 marks.
2. Question No. 1 will be compulsory and include objective-type questions.
3. Candidates are required to attempt any four questions from Question No. 2 to Question No. 6.
4. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.
5. Use of non-programmable scientific calculators is allowed.
6. Assume suitable data wherever necessary and mention it clearly.

	(Level/CO)	Marks
Q. 1 Objective type questions. (Compulsory Question)		12
1 Which Agile method uses 'Sprints' as its core unit of work? a. Extreme b. Scrum c. Kanban d. Lean Programming (XP)	CO1	1
2 Non-functional requirements include a User b. System c. Use case d. Database authentication scalability diagrams schema	CO2	1
3 The 'Model-View-Controller (MVC)' is an example of: a. A software b. An c. A testing d. A process model architectural technique requirement pattern specification	CO2	1
4 Test-Driven Development (TDD) involves: a. Writing tests b. Writing tests c. Skipping d. Manual after before unit tests testing only implementation implementation	CO3	1
5 Which diagram is used for behavioral modeling in UML? a. Class b. State c. Deployment d. Component diagram diagram diagram diagram	CO2	1
6 Safety-critical systems prioritize: a. High b. Fault c. Low cost d. User performance tolerance interface design	CO4	1

7	The Rational Unified Process (RUP) divides the lifecycle into:	CO1	1
	a. Sprints b. Phases c. Waterfall d. Ad-hoc (Inception, stages iterations Elaboration, etc.)		
8	Open-source development emphasizes:	CO4	1
	a. Proprietary b. Community c. Closed d. High-cost licensing collaboration development licensing teams		
9	Extreme Programming (XP) focuses on:	CO3	1
	a. Extensive b. Pair c. Rigid d. Hierarchical documentation programming planning team structure		
10	Which testing phase involves end-users validating the system?	CO3	1
	a. Unit testing b. Integration c. User testing d. Regression testing testing		
11	Requirements validation ensures:	CO2	1
	a. Compliance b. Feasibility c. Fast coding d. Low budget with non- and functional consistency requirements		
12	Coping with change in software processes is a key feature of:	CO1	1
	a. Waterfall b. Spiral model c. Agile d. V-Model model models		
Q.2 Solve the following.			12
A)	Explain the Agile Manifesto's core values and how they differ from traditional plan-driven development.	CO1	6
B)	Discuss the challenges in Requirements Elicitation with examples.	CO2	6
Q.3 Solve the following.			12
A)	Compare structural vs. behavioral models in UML with diagrams.	CO2	6
B)	Describe the role of architectural patterns using the 'Layered Architecture' pattern.	CO2	6
Q.4 Solve Any Two of the following.			12

A) Analyze the advantages and risks of Test-Driven Development (TDD) in large-scale projects.	CO3	6
B) Explain Extreme Programming (XP) practices and their impact on software quality.	CO3	6
C) Define dependability properties (availability, reliability, safety) with real-world examples.	CO4	6
Q.5 Solve Any Two of the following.		12
A) How does Model-Driven Engineering (MDE) improve system design?	CO4	6
B) Discuss ethical issues in software engineering with case studies.	CO5	6
C) Explain UML's role in object-oriented design with examples.	CO2	6
Q. 6 Solve Any Two of the following.		12
A) Compare Waterfall vs. Spiral models in terms of flexibility and risk management.	CO1	6
B) What are key activities in software testing? Differentiate between release and user testing.	CO3	6
C) Describe requirements management challenges in large-scale projects.	CO2	6

*** End ***