

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Bachelor of Technology (Computer Engineering) SEMESTER - 5 Winter 2025 (Regular)

Course :Bachelor of Technology (Computer Engineering) Branch : Engineering and Technology

Semester : SEMESTER - 5

Subject Code & Name: BTCOC503 - SOFTWARE ENGINEERING

Time : 3 Hours]

[Total Marks : 60

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. Use of non-programmable scientific calculators is allowed.
 5. Assume suitable data wherever necessary and mention it clearly.
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Q1. Objective type questions. (Compulsory Question)

12

1. _____ is not defined in a good Software Requirement Specification (SRS) document.
 - a. Functional Requirement.
 - b. Non-Functional Requirement.
 - c. Goals of implementation.
 - d. Algorithm for software implementation.
2. Software engineers should not use their technical skills to misuse other people's computers. Here the term misuse refers to:
 - a. Unauthorized access to computer material
 - b. Unauthorized modification of computer material.
 - c. Dissemination of viruses or other malware
 - d. All of the mentioned
3. _____ is a behavioral diagram with emphasis on time ordering of events.
 - a. Activity diagram
 - b. Sequence Diagram
 - c. Use case diagram
 - d. State Chart Diagram
4. Which is the most important feature of spiral model?
 - a. Quality Management
 - b. Risk Management
 - c. Schedule Management
 - d. Performance Management
5. Alpha and Beta Testing are forms of _____.
 - a. User Testing
 - b. System Testing
 - c. Integration Testing
 - d. Unit Testing

- 6 Which software process activity ensures the system meets customer needs and works as intended?
 - a. Specification
 - b. Validation and Verification
 - c. Design and Implementation
 - d. Evolution
- 7 _____ testing checks if the changes done to the program have not introduced new bugs in the system.
 - a. Intergration
 - b. Development
 - c. Acceptance
 - d. Regression
- 8 Which of the following model in system modelling depicts the static nature of the system.
 - a. Structural Model
 - b. Data model
 - c. Context Model
 - d. Interaction Model
- 9 Configuration management in software engineering primarily deals with :
 - a. Writing efficient code
 - b. Managing changes to software artifacts
 - c. Designing user interfaces
 - d. Software testing
- 10 In use case diagram which relationship indicates that the dependent use case is always executed during the base use case execution.
 - a. Association
 - b. Extends
 - c. Generalization
 - d. Includes
- 11 A startup wants an e-commerce app but is unsure about key features like product search, cart, and checkout flow. The team fears that jumping straight into coding will cause repeated requirement changes. Which process model is best suited for development here?
 - a. Waterfall Model
 - b. Prototyping Model
 - c. Rapid application development Model
 - d. Spiral Model
- 12 Who is responsible for maintaining the product backlog?
 - a. Developer
 - b. Scrum Master
 - c. Product Owner
 - d. Stakeholder

Q2. Solve the following.

- A) Discuss Functional and Non-Functional Requirements. 6
- B) What is prototyping? Explain its usage, along with advantages and disadvantages. 6

Q3. Solve the following.

- A) Justify this statement.” Requirement Gathering is the most critical process in Software development lifecycle.“ What characteristics of a good requirement ? 6

- B) Explain incremental model and elaborate on how it supports change tolerance. 6
- Q4. Solve Any Two of the following.
- A) What is software reuse? Explain software reuse levels. 6
 - B) Explain how the principles underlying agile methods lead to the accelerated development and deployment of software. 6
 - C) Write a note on Open-Source Development and Open-Source Licensing. 6
- Q5. Solve Any Two of the following.
- A) Discuss MVC Architectural pattern. 6
 - B) Compare software inspection and testing. 6
 - C) What is a Design Pattern? Describe essential elements of Design patterns. 6
- Q6. Solve Any Two of the following.
- A) Define software testing. Explain the types of software testing. Create the test cases for an ecommerce websites login page. 6
 - B) Discuss the principal dependability properties with suitable examples and challenges. 6
 - C) An e-commerce company plans to develop an online shopping system. Draw the Use Case diagram of the system to be developed and Activity diagram for order placement process. 6

*** End ***