

**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**  
(AUTONOMOUS)

**B.Tech. II Year II Semester Regular Examinations July/August-2025**

**SOFTWARE ENGINEERING**

(Common to CSIT & CSE)

Time: 3 Hours

Max. Marks: 70

**PART-A**

(Answer all the Questions **10 x 2 = 20 Marks**)

- |            |   |            |           |           |
|------------|---|------------|-----------|-----------|
| <b>1 a</b> | What is a software development project?         | <b>CO1</b> | <b>L1</b> | <b>2M</b> |
| <b>b</b>   | Explain the importance of software engineering. | <b>CO1</b> | <b>L1</b> | <b>2M</b> |
| <b>c</b>   | Compare formal and informal SRS.                | <b>CO2</b> | <b>L2</b> | <b>2M</b> |
| <b>d</b>   | Describe the role of a project manager.         | <b>CO2</b> | <b>L2</b> | <b>2M</b> |
| <b>e</b>   | List types of user interfaces.                  | <b>CO3</b> | <b>L3</b> | <b>2M</b> |
| <b>f</b>   | Define cohesion and coupling.                   | <b>CO3</b> | <b>L3</b> | <b>2M</b> |
| <b>g</b>   | Explain significance of white-box testing.      | <b>CO4</b> | <b>L4</b> | <b>2M</b> |
| <b>h</b>   | List two debugging tools.                       | <b>CO4</b> | <b>L4</b> | <b>2M</b> |
| <b>i</b>   | Demonstrate how CASE supports design.           | <b>CO5</b> | <b>L5</b> | <b>2M</b> |
| <b>j</b>   | Define maintenance cost estimation.             | <b>CO5</b> | <b>L5</b> | <b>2M</b> |

**PART-B**

(Answer all Five Units **5 x 10 = 50 Marks**)

**UNIT-I**

- |            |  |            |           |           |
|------------|--|------------|-----------|-----------|
| <b>2 a</b> | Explain software life cycle with an example.   | <b>CO1</b> | <b>L1</b> | <b>5M</b> |
| <b>b</b>   | Illustrate and explain the phases of the Spiral Model using a clear labeled diagram. | <b>CO1</b> | <b>L2</b> | <b>5M</b> |

**OR**

- |            |   |            |           |           |
|------------|---|------------|-----------|-----------|
| <b>3 a</b> | Which software development life cycle model would you recommend for a high-risk project? Explain your answer. | <b>CO1</b> | <b>L1</b> | <b>5M</b> |
| <b>b</b>   | Apply the waterfall model to a college admission system.  | <b>CO1</b> | <b>L1</b> | <b>5M</b> |

**UNIT-II**

- |            |                                     |            |           |           |
|------------|-------------------------------------|------------|-----------|-----------|
| <b>4 a</b> | Describe COCOMO model with example. | <b>CO2</b> | <b>L2</b> | <b>5M</b> |
| <b>b</b>   | Evaluate estimation techniques.     | <b>CO2</b> | <b>L2</b> | <b>5M</b> |

**OR**

- |            |   |            |           |           |
|------------|---|------------|-----------|-----------|
| <b>5 a</b> | A client changes requirements frequently. How would you structure the SRS to accommodate this?  | <b>CO2</b> | <b>L2</b> | <b>5M</b> |
| <b>b</b>   | Tom was assigned to manage a large-scale e-commerce application project. Identify the key risks in the project and outline a risk mitigation plan using risk management techniques. | <b>CO2</b> | <b>L2</b> | <b>5M</b> |

- 6 a** Explain layered architecture in software design.

- 7
  - a Evaluate cohesion and coupling with suitable examples. How do they impact maintainability?
  - b Explain in detail about the Characteristics of a good user interface.

- 8 a** Evaluate the importance of code documentation in large software testing phases.
- b** Describe SEI-CMM levels.

- 9
  - a Explain testing strategies in detail.
  - b Software developing team is following Agile development and wants to conduct frequent testing for a food delivery app. Propose a testing strategy that includes smoke testing and explain how it supports Agile practices.

UNIT-V

Documentation and testing.

OR

The logo of Siddharth Institute of Technology is a shield-shaped emblem. It features a central figure of a person with arms raised in a 'V' shape, set against a blue background. Below this figure is an open book. The text 'SIDDHARTH INSTITUTE OF TECHNOLOGY' is written in a banner at the bottom of the shield. The entire emblem is flanked by decorative golden laurel wreaths.

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|----|---|---|-----|----|----|
| 10 | a | Compare CASE tools for documentation and testing. | C05 | L5 | 5M |
|    | b | Explain types of software reuse.                  | C05 | L5 | 5M |

- |    |  |            |           |           |
|----|--|------------|-----------|-----------|
| 11 | <p><b>a</b> Apply the concept of reuse to reduce development time in a student portal project.</p> <p><b>b</b> An organization XYZ is adopting CASE tools to automate software engineering tasks. Discuss the impact of CASE tools on software quality and productivity using a real-life example.</p> | <b>C05</b> | <b>L5</b> | <b>5M</b> |
|----|--|------------|-----------|-----------|

\*\*\* **END** \*\*\*