

Code No: R22A0505

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

II B.Tech I Semester Supplementary Examinations, June 2025**Software Engineering**

(CSE, IT, CSE-AIML & B.Tech-AIML)

| Roll No | | | | | | | | | |
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Time: 3 hours**Max. Marks: 60****Note:** This question paper contains two parts A and B

Part A is compulsory which carries 10 marks and Answer all questions.

Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

PART-A (10 Marks)**(Write all answers of this part at one place)**

| | | | BCLL | CO(s) | Marks |
|----------|---|---|-------------|---------------|--------------|
| 1 | A | What are some common myths about software development, and why are they incorrect? | L2 | CO-I | [1M] |
| | B | Discuss the main differences between the Waterfall model and the Agile methodology. | L2 | CO-I | [1M] |
| | C | Explain the difference between functional and non-functional requirements with examples. | L2 | CO-II | [1M] |
| | D | Mention the purpose of feasibility studies in the requirements engineering process | L2 | CO-II | [1M] |
| | E | Describe the key design concepts used in software development. | L2 | CO-III | [1M] |
| | F | Explain the role of UML in software design and modeling. | L2 | CO-III | [1M] |
| | G | Describe the concept of validation testing and its role in the software testing process | L2 | CO-IV | [1M] |
| | H | Summarize the key techniques used in debugging software. | L2 | CO-IV | [1M] |
| | I | Describe the process of risk identification in software development. | L2 | CO-V | [1M] |
| | J | What are the ISO 9000 quality standards, and why are they important in software quality management? | L2 | CO-V | [1M] |

PART-B (50 Marks)**SECTION-I**

| | | | | | |
|-----------|---|---|-----------|-------------|-------------|
| 2 | A | How can process frameworks improve software development efficiency? Provide a practical example. | L3 | CO-I | [5M] |
| | B | How does Spiral Model address the limitations of traditional process models like Waterfall with examples? | L3 | CO-I | [5M] |
| OR | | | | | |
| 3 | A | How would you handle software development myths in a team that believes in them? Provide a strategy. | L3 | CO-I | [5M] |
| | B | Explain a layered software engineering technology plan for a given project. | L3 | CO-I | [5M] |

SECTION-II

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|---|---|--|----|-------|------|
| 4 | A | Evaluate the effectiveness of different requirements elicitation techniques (e.g., interviews, surveys) in gathering accurate software requirements. | L4 | CO-II | [5M] |
| | B | Demonstrate how you would conduct a feasibility study for a startup project that aims to develop an online learning platform. | L3 | CO-II | [5M] |

OR

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|---|---|---|----|-------|------|
| 5 | A | Analyze the process of requirements validation and discuss its role in preventing software project failures. | L4 | CO-II | [5M] |
| | B | Apply requirements validation techniques to ensure the accuracy of system requirements in a healthcare management system. | L3 | CO-II | [5M] |

SECTION-III

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|---|---|--|----|--------|------|
| 6 | A | Analyze the strengths and limitations of using class diagrams to represent the structure of an object-oriented system. | L4 | CO-III | [5M] |
| | B | How would you structure usecase diagram for a hospital management system? Provide an example | L3 | CO-III | [5M] |

OR

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|---|---|---|----|--------|------|
| 7 | A | How do architectural patterns influence the maintainability and reusability of software? Provide an analysis. | L3 | CO-III | [5M] |
| | B | How would you design a sequence diagram for a user login process in a web application? | L3 | CO-III | [5M] |

SECTION-IV

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|---|---|---|----|-------|------|
| 8 | A | Evaluate the importance of software quality metrics in the context of any software project. | L4 | CO-IV | [5M] |
| | B | Design a validation testing strategy for an e-commerce application's checkout process. | L4 | CO-IV | [5M] |

OR

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|---|---|--|----|-------|------|
| 9 | A | Examine the various system testing techniques to a banking application and describe how you would test for integration issues. | L4 | CO-IV | [5M] |
| | B | Evaluate the strengths and weaknesses of white-box testing in ensuring code coverage and detecting logic errors. | L4 | CO-IV | [5M] |

SECTION-V

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|----|---|---|----|------|------|
| 10 | A | How do statistical software quality assurance techniques contribute to improving software reliability? Analyze with examples. | L3 | CO-V | [5M] |
| | B | How would you project risks for a project that involves the integration of third-party APIs? Provide steps. | L3 | CO-V | [5M] |

OR

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|----|---|--|----|------|------|
| 11 | A | Design a process for conducting formal technical reviews for a mobile application development project. | L4 | CO-V | [5M] |
| | B | Analyze the advantages and limitations of reactive risk strategies and proactive risks. | L4 | CO-V | [5M] |
