

Code No: R22A0505

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

II B.Tech I Semester Supplementary Examinations, June/July 2024**Software Engineering**

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

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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)**

- 1
 - A What characterizes a layered technology in the context of Software Engineering? [1M]
 - B What distinguishes the Agile methodology from the Spiral model in software development? [1M]
 - C Define the software requirements document. [1M]
 - D What is the purpose of requirements management in software development? [1M]
 - E What is the role of software architecture in the development process? [1M]
 - F Mention one example of an architectural style or pattern commonly used in software design. [1M]
 - G What is the significance of software measurement in the development process? [1M]
 - H Briefly explain the purpose of the art of debugging in software engineering. [1M]
 - I What are the primary objectives of Software Quality Assurance? [1M]
 - J Briefly describe ISO 9000 quality standards in software engineering. [1M]

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

- 2
 - A Discuss the significance of having a process framework in Software Engineering. Illustrate its importance in managing software development projects effectively. [5M]
 - B Explain the concept of a generic view of the software engineering process. How does it facilitate understanding and management of software development activities? [5M]

OR

- 3
 - A Evaluate the significance of the Capability Maturity Model Integration (CMMI) in improving software development processes for organizations. Highlight its levels and the benefits associated with each level. [5M]
 - B Discuss the key phases/stages involved in the Spiral model of software development and how these phases mitigate risks throughout the project lifecycle. [5M]

SECTION-II

- 4
 - A Discuss the significance of functional requirements in software engineering. Provide examples to illustrate their importance in software development. [5M]
 - B Explain the key characteristics of non-functional requirements. How do they differ from functional requirements, and why are they essential in software development? [5M]

OR

- 5 A Describe the process of requirements elicitation and analysis in software engineering. Highlight its challenges and methods to mitigate them. [5M]
B Discuss the importance of feasibility studies in the requirements engineering process. Provide examples of how feasibility studies influence software project outcomes. [5M]

SECTION-III

- 6 A Draw and explain any two UML diagrams for library management systems. [5M]
B Explain the process of creating an architectural design in software engineering. Discuss the essential components involved, such as software architecture, data design, and component diagrams. Provide examples to support your explanation. [5M]

OR

- 7 A Discuss the conceptual model of UML (Unified Modeling Language) in detail. Explain its significance and how it aids in the architectural design phase of software engineering. [5M]
B Compare and contrast different types of UML diagrams (e.g., class diagrams, sequence diagrams, collaboration diagrams, use case diagrams, component diagrams). Highlight their specific uses and discuss how they contribute to the software design process. [5M]

SECTION-IV

- 8 A How does the art of debugging impact the software development process? Explain the importance of effective debugging techniques in delivering high-quality software products. [5M]
B Explain the concept of software measurement and its role in improving software development processes. Provide examples of commonly used software metrics and their significance in assessing software quality. [5M]

OR

- 9 A Compare and contrast white box testing with black box testing. [5M]
B Compare and contrast different software testing metrics used to evaluate the effectiveness of test cases. Discuss their relevance in improving the overall software testing process and ensuring product quality. [5M]

SECTION-V

- 10 A Describe the ISO 9000 quality standards and their relevance to software engineering practices. [5M]
B Discuss the significance of RMMM (Risk Mitigation, Monitoring, and Management) in handling software risks, and outline its key components. [5M]

OR

- 11 A Explain about Reactive Risk versus proactive Risk strategy. [5M]
B Elaborate on the fundamental concepts of software quality and its importance in software engineering. [5M]
