

**II/IV B. Tech. DEGREE EXAMINATIONS, FEB / MAR - 2023**

**First Semester**

**ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING  
SOFTWARE ENGINEERING**

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Time : **Three Hours**

Maximum : **70 Marks**

**Answer All Questions**

**Answer ONE question from each Unit.**

**5x14=70 M**

**UNIT - I**

1. a) What is Software Engineering ? Discuss the different types of software myths in detail.
- b) Describe in brief about Unified Process Model with neat diagram.

(OR)

2. a) Summarize the specific goals and specific practices of Capability Maturity Model Integration (CMMI).
- b) Discuss advantages and disadvantages of evolutionary and incremental models.

**UNIT - II**

3. a) Discuss need of software requirement ? Explain the functional requirements, non-functional requirements with examples.
- b) Distinguish between data models and object models in system with suitable examples.

(OR)

4. a) Explain in detail about IEEE definition for software requirement document.
- b) Discuss in detail about the process of requirement elicitation and analysis.

**UNIT - III**

5. a) Demonstrate in detail about architectural design with neat diagram.
- b) Describe the concepts of Component ? Draw component diagram for Banking system.

(OR)

**P.T.O.**

6. a) Explain the fundamental software design process and design quality in detail.
- b) What is UML ? Explain in detail about the Class Diagram.

**UNIT - IV**

7. a) Elaborate the concept of black box testing in a detailed view ?
- b) Describe in detail about the metrics of maintenance ?

(OR)

8. a) What do you mean by system testing ? Explain in detail.
- b) Summarize the different metrics for analysis and design model.

**UNIT - V**

9. a) Explain in detail about Risk Management with neat diagram.
- b) What is quality management ? How will you measure the software reliability ?

(OR)

10. a) What is the purpose of software measurement ? Explain in detail.
- b) Define software quality assurance ? Explain in detail.



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**Time: Three Hours****Maximum: 70 Marks****Answer ONE Question from each unit.****5 x 14 = 70 M****All Questions carry equal marks.****UNIT-I**

1. a) Explain the nature of Software with suitable examples.  
b) Describe in detail about process assessment options with neat sketch.

**(OR)**

2. a) Discuss the Personal Software Process (PSP) and Team Software Process (TSP) with examples.  
b) Illustrate the different phases involved in waterfall life cycle with neat diagram.

**UNIT-II**

3. a) Express the different types of check list that should be carried out for requirement validation process.  
b) What is Requirements Engineering? Explain in detail about requirement validation and management.

**(OR)**

4. a) Differentiate functional and non-functional requirements.  
b) Draw and explain the behavioural model in system with an example.

**UNIT-III**

5. a) Illustrate the various design concepts considered during design?  
b) What is use case diagram? Model a use case diagram for a Banking system with neat sketch.

**(OR)**

6. a) What is class diagram? Draw the class diagram for ATM system.
- b) Compare and contrast between sequence and collaboration diagram.

**UNIT-IV**

7. a) Discuss the differences between black box and white box testing.
- b) List and explain the metrics for the design model.

**(OR)**

8. a) Describe in detail about test strategies for conventional software?
- b) Define product metrics? Illustrate various attributes of quality software.

**UNIT-V**

9. a) Explain in detail about risk projection and risk refinement.
- b) Elaborate the concept of statistical software quality assurance.

**(OR)**

10. a) Write a short note on RMMM and RMMM plan.
- b) Define reviews in quality management? Discuss software reviews and formal technical reviews.

