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Question Paper Code	13882
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**B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2025**

Third Semester

**Information Technology**

**20ITPC302 - SOFTWARE ENGINEERING**

Regulations - 2020

Duration: 3 Hours

Max. Marks: 100

**PART - A (MCQ) (10 × 1 = 10 Marks)**

Answer ALL Questions

	<i>Marks</i>	<i>K – Level</i>	<i>CO</i>
1. Agile Software Development is based on (a) Incremental Development                      (b) Iterative Development (c) Linear Development                              (d) Both Incremental and Iterative Development	1	K2	CO1
2. The primary tool used in structured design is a: (a) structure chart                      (b) data-flow diagram                      (c) program flowchart                      (d) module	1	K1	CO1
3. Which of the following is not a diagram studied in Requirement Analysis? (a) Use Cases    (b) Entity Relationship Diagram (c) State Transition Diagram                      (d) Activity Diagram	1	K2	CO2
4. Requirements Analysis is an Iterative Process. (a) True                      (b) False	1	K1	CO2
5. Which of the following is not included in Architectural design decisions? (a) type of application                      (b) distribution of the system (c) architectural styles                      (d) testing the system	1	K2	CO3
6. Architectural design is a creative process satisfying only the functional requirements of a system. (a) True                      (b) False	1	K1	CO3
7. Which of the following is true about software testing? (a) Testing only focuses on functional requirements (b) Software testing guarantees that the software is bug-free (c) Software testing is an ongoing activity throughout the development lifecycle (d) Software testing is not needed after deployment	1	K2	CO4
8. What is white-box testing? (a) Testing done by external users (b) Testing the user interface design (c) Testing the security features of the software (d) Testing based on the internal structure of the software	1	K1	CO4
9. What is the primary goal of project management? (a) To satisfy all stakeholders (b) To maximize profits (c) To ensure the project is the most innovative (d) To complete the project on time and within budget	1	K1	CO5
10. What is risk management in project management? (a) The process of identifying, assessing, and mitigating risks (b) The process of training team members (c) The process of increasing the project budget (d) The process of controlling project scope changes	1	K1	CO6

**PART - B (12 × 2 = 24 Marks)**

Answer ALL Questions

11. What are the challenges for software engineers?	2	K1	CO1
12. Define Agile Process Model.	2	K1	CO1

*K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create*

**13882**

13. Summarize the features of SRS.	2	K2	CO2
14. Recall the activities of requirement elicitation process.	2	K1	CO2
15. Summarize the flow oriented modeling.	2	K2	CO3
16. Illustrate the principles of user interface design.	2	K2	CO3
17. Illustrate the advantages and disadvantages of software testing.	2	K2	CO4
18. Outline the performance testing.	2	K2	CO4
19. Explain the need for software project management.	2	K2	CO5
20. Classify software metrics.	2	K2	CO5
21. Explain Schedule Performance Index.	2	K2	CO6
22. Explain software process improvement.	2	K2	CO6

**PART - C (6 × 11 = 66 Marks)**

Answer ALL Questions

23. a) Explain in detail about incremental process model and spiral model.	11	K2	CO1
<b>OR</b>			
b) Illustrate the specialized process model and distinguish it with agile model.	11	K2	CO1
24. a) Explain in detail the requirement engineering process.	11	K2	CO2
<b>OR</b>			
b) Compare Scenario-based elements and Class-based elements with an example.	11	K2	CO2
25. a) Design the application for e-commerce system by making use of flow-oriented modeling.	11	K3	CO3
<b>OR</b>			
b) Design a user interface design and pattern-based design for hospital management system.	11	K3	CO3
26. a) Develop white box and black box testing suites for airline ticket booking system.	11	K3	CO4
<b>OR</b>			
b) Develop a complete test strategy for the SafeHome system.	11	K3	CO4
27. a) Explain in detail about project scheduling with suitable examples.	11	K2	CO5
<b>OR</b>			
b) Summarize the software measurement and explain any two metrics in detail.	11	K2	CO5
28. a) Define the term Risk. Explain the types of risk in detail with examples for each.	11	K2	CO6
<b>OR</b>			
b) Explain the phases in risk management.	11	K2	CO6