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(AY:2024-25) May 2025 (ENDSEM) EXAM
Third Year (SEMESTER - II)

COURSE NAME: SOFTWARE ENGINEERING **Branch: E&TC** **COURSE CODE: ETUA32204A**

T.Y PATTERN 2020R1

Time: [1Hr 30 Min]

[Max. Marks: 40]

(* Instructions to candidates:

- 1) **Figures to the right indicate full marks. Use of scientific calculator is allowed**
- 2) **Use suitable data wherever required**
- 3) **All questions are compulsory. Solve any two sub question each from Questions 1 , 2 ,3 and 4**

Q. No.	Question Description	Max. Marks	CO mapped	BT Level
Q.1	Compare the waterfall model with the incremental process model in terms of their advantages and disadvantages.	[5]	1	Analyze
a)				
b)	A government organization is working on a census data management system with well-defined requirements, minimal changes, and a strict deadline. Choose the most appropriate process model for this project and justify your decision.	[5]	1	Analyze
c)	Compare the nature of software development challenges with traditional product development challenges.	[5]	1	Analyze
Q.2	Identify the challenges faced while transitioning from plan-driven development to agile methods.	[5]	2	Apply
a)				
b)	Use the concept of testing in XP to explain how continuous testing is integrated into the development lifecycle.	[5]	2	Apply
c)	Identify the role of a Scrum Master in JIRA and explain how they utilize the tool to facilitate agile project management.	[5]	2	Apply
Q.3	Dissect the main components of architectural design in software engineering.	[5]	3	Analyze
a)				
b)	Classify functional and non-functional requirements in an SRS with examples.	[5]	3	Analyze
c)	Examine the relationship between SRS and software design principles.	[5]	3	Analyze
Q.4	Apply the phases of testing to a simple calculator application and explain their role	[5]	4	Apply
a)				
b)	Plan a risk management strategy for handling project delays and failures.	[5]	4	Apply
c)	Construct a diagram that illustrates the key principles of software testing and provide a brief explanation of each principle.	[5]	4	Apply

QUESTION BANK
UNIT - 1

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

1. All questions are compulsory. Do not use question bank from Controller's Office.
2. The suitable data wherever required.
3. Figures to the right indicate full marks. Use of suitable calculator is allowed.
4. Answers to be handwritten.

| Q. No. | Question Description | Marks | CO | EB |
|--------|--|-------|----|----|
| Q1 | Compare the waterfall model with the incremental process model in terms of their advantages and disadvantages. | [2] | | 1 |
| a) | A government organization is working on a central data management system with well-defined requirements, functional changes and a single location. Choose the most appropriate process model for this project and justify your decision. | [3] | 1 | 1 |
| b) | Compare the nature of software development challenges with traditional product development challenges. | [2] | 1 | 1 |
| Q2 | Identify the challenges faced when transitioning from plan-driven development to agile methods. | [2] | 2 | 1 |
| a) | Discuss the concept of testing in SD to explain how continuous testing is integrated into the development lifecycle. | [2] | 2 | 1 |
| b) | Identify the role of a System Analyst in UBA and explain how they utilize the tool to facilitate software development. | [2] | 1 | 1 |
| Q3 | Discuss the main components of architectural design in software engineering. | [2] | 2 | 1 |
| a) | Explain functional and non-functional requirements in SD? with examples. | [2] | 2 | 1 |
| b) | Examine the relationship between SRS and software design principles. | [2] | 2 | 1 |
| c) | Apply the phases of testing in a simple electronic medical record system. Explain their role. | [2] | 4 | 1 |
| d) | Give a risk management strategy for handling project delays and failures. | [2] | 1 | 1 |
| e) | Compare a diagram that illustrates the key activities of software testing and provide a brief explanation of each activity. | [2] | 4 | 1 |