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15CS42

Fourth Semester B.E. Degree Examination, Feb./Mar. 2022 Software Engineering

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What is Software Engineering? What are the fundamental Software Engineering activities? (05 Marks)
- b. Explain the requirements engineering process with neat block diagram. (05 Marks)
- c. List the requirements discovery techniques and explain usecases for the (MHC-PMS) Mental Health Care Patient Monitoring System. (06 Marks)

OR

- 2 a. Explain the ways of writing system requirement specification. (05 Marks)
- b. Explain requirement elicitation and analysis process. (06 Marks)
- c. Write a short note on requirements management planning. (05 Marks)

Module-2

- 3 a. Explain use case modeling with example. (05 Marks)
- b. Draw the sequence diagram for view patient information. (05 Marks)
- c. Explain class diagrams. Give classes and associations in MHC-PMS. (06 Marks)

OR

- 4 a. Explain dynamic models and give the weather station state diagram. (06 Marks)
- b. What is a design pattern? Explain four elements of design patterns. (06 Marks)
- c. Write a note on software reuse. (04 Marks)

Module-3

- 5 a. State advantages of software inspection over testing. (04 Marks)
- b. Explain release testing process of testing in detail. (07 Marks)
- c. Write a short note on user testing. (05 Marks)

OR

- 6 a. State and explain different types of software maintenance. (03 Marks)
- b. Explain most appropriate strategy for evolving legacy systems. (08 Marks)
- c. With neat diagram, explain Rajlich and Bennett's alternate view of software evolution. (05 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

**Module-4**

- 7 a. Briefly explain plan driven development approach to software engineering. (08 Marks)
b. Draw a bar chart showing the project schedule for tasks, durations and their dependencies shown in below table.

Task	Duration (days)	Dependencies
T ₁	10	
T ₂	15	
T ₃	15	T ₁ (M1)
T ₄	10	
T ₅	10	T ₂ , T ₄ (M3)
T ₆	5	T ₁ , T ₂ (M4)
T ₇	20	T ₁ (M1)
T ₈	25	T ₄ (M2)
T ₉	15	T ₃ , T ₆ (M5)
T ₁₀	15	T ₇ , T ₉ (M6)
T ₁₁	10	T ₉ (M7)
T ₁₂	10	T ₁₀ , T ₁₁ (M8)

(08 Marks)

OR

- 8 a. Explain the software quality review process. (08 Marks)
b. Give reasons why software standards are important. Explain product and process standards. (08 Marks)

Module-5

- 9 a. List and explain principles of agile methods. (06 Marks)
b. Explain extreme programming and practices. (10 Marks)

OR

- 10 a. Explain SCRUM. Draw and explain block diagram for SCRUM process. (10 Marks)
b. Write a short note on pair programming. (06 Marks)

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