



CBCS SCHEME

17CS45

Fourth Semester B.E. Degree Examination, July/August 2021 Software Engineering

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

1. a. What are the essential attributes of good software? (05 Marks)
b. Discuss spiral model with its block diagram. (08 Marks)
c. With a diagram, explain the Rational Unified Process. (07 Marks)
2. a. Why the understanding of requirements from stake holder is difficult task? Explain the requirements elicitation and analysis process. (10 Marks)
b. Explain the IEEE standard structure of Software Requirement Document. (05 Marks)
c. Explain the different checks to be carried out during requirement validation process. (05 Marks)
3. a. With a neat diagram, explain the 2 approaches to interaction modeling. (10 Marks)
b. Explain class diagram and generalization. (05 Marks)
c. Explain data driven modeling with example. (05 Marks)
4. a. What are the things to be done for a design of Object Oriented System? Discuss how the objects are identified and design models. (10 Marks)
b. What is design pattern? Explain 4 elements of design pattern. (05 Marks)
c. Explain 3 general models of Open Source Licensing. (05 Marks)
5. a. Explain development testing, with 3 levels of granularity in testing. (10 Marks)
b. Explain the benefits of test driven development process. (05 Marks)
c. Explain the stages of acceptance testing process. (05 Marks)
6. a. List and explain Lehman's law. (06 Marks)
b. Explain the software reengineering process with suitable diagram. (10 Marks)
c. Explain the legacy system assessment with example. (04 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.

- 7 a. Draw the activity bar chart and staff allocation chart for the following set of tasks shown below.

Task	Duration (days)	Dependencies
T ₁	10	–
T ₂	15	–
T ₃	15	T ₁ (M ₁)
T ₄	10	–
T ₅	10	T ₂ , T ₄ (M ₃)
T ₆	5	T ₁ , T ₂ (M ₄)
T ₇	20	T ₁ (M ₁)
T ₈	25	T ₄ (M ₂)
T ₉	15	T ₃ , T ₆ (M ₅)
T ₁₀	15	T ₇ , T ₈ (M ₆)
T ₁₁	10	T ₉ (M ₇)
T ₁₂	10	T ₁₀ , T ₁₁ (M ₈)

- (10 Marks)
- b. Explain the COCOMO – II estimation model. (06 Marks)
- c. List and explain the factors affecting software pricing. (04 Marks)
- 8 a. Explain how reviews and inspections are used to check the quality of project delivery. (10 Marks)
- b. List and mention the importance of product and process standards. (06 Marks)
- c. Explain the process of product measurement. (04 Marks)
- 9 a. Explain the practices involved in the extreme programming. (10 Marks)
- b. State the principles of agile methods. (05 Marks)
- c. Write a note on pair programming. (05 Marks)
- 10 a. How the agile methods are scaled. How they cope with large systems engineering and the difficulties to introduce agile methods into large companies. (10 Marks)
- b. Explain plan-driven and agile development approach for software development. (05 Marks)
- c. Explain the scrum process. (05 Marks)

* * * * *