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Question Paper Code : 10452

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2025.

Fourth/Fifth Semester

Computer Science and Engineering

CS 8494 – SOFTWARE ENGINEERING

(Common to : Computer and Communication Engineering/Computer Science and
Business System/Information Technology)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is agile development?
2. Define prototype.
3. What is meant by functional requirement? Give example.
4. Define petrinets.
5. Differentiate coupling and cohesion.
6. Define data abstraction.
7. Differentiate forward and reverse Engineering.
8. Define Refactoring.
9. What is Function Point?
10. Define Earned Value Analysis.

PART B — (5 × 13 = 65 marks)

11. (a) (i) With a neat diagram explain the spiral model for software development. (8)

- (ii) "Software Engineering is a layered approach" – Justify. (5)

Or

- (b) Explain the 12 practices followed in extreme programming. Bring out the impact of agility in XP.

12. (a) Discuss the components involved in SRS documents. Compare functional and non-functional requirement.

Or

- (b) What is requirement engineering? State its process and explain requirement elicitation problem.

13. (a) Describe in detail about architectural styles and compare its features and applications.

Or

- (b) Bring out the importance of user interface design and explain its components.

14. (a) Discuss in detail about test strategies for conventional software.

Or

- (b) What is black box testing? Explain the different types of black box testing strategies with example.

15. (a) Discuss on the various software cost estimation techniques.

Or

- (b) Describe steps involved in project scheduling process, project timeline chart and task network.

PART C — (1 × 15 = 15 marks)

16. (a) Consider that you are developing a software for railway reservation system. Which software process model do you choose and why? Justify your answer.

Or

- (b) Describe in detail COCOMO model for software cost estimation. Use it to estimate the effort required to build software for a simple ATM that produce 12 screens, 10 reports and has 80 software components. Assume average complexity and average developer maturity. Use application composition model with object points.
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