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Question Paper Code : 20418

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2022.

Fourth/Fifth Semester

Computer Science and Engineering

CS 8494 — SOFTWARE ENGINEERING

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

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Software Engineering.
2. Differentiate process and product.
3. Give two examples for functional and non-functional requirements.
4. What do you mean by data dictionary?
5. Define coupling and cohesion.
6. State the difference between internal design and external design.
7. Define regression testing.
8. What is refactoring?
9. Bring the importance between COCOMO I and II.
10. State any two project scheduling techniques.

PART B — (5 × 13 = 65 marks)

11. (a) (i) With a neat diagram, explain about spiral process model. (7)
(ii) Discuss on the pros and cons of Agile software development. (6)

Or

- (b) (i) Software Engineering is a layered approach. Justify. (7)
(ii) Discuss about the various practices of Extreme programming. (6)

12. (a) (i) With examples state the difference between user requirements and system requirements. (7)
(ii) What is feasibility study? What are the feasibilities to be analyzed in software development? (6)

Or

- (b) (i) What are the components of software requirement specification document? Explain. (7)
(ii) Write a brief note on Petri Nets and its application. (6)

13. (a) (i) Describe the golden rules for designing user interface design. (7)
(ii) Discuss the need for component level design. Give examples. (6)

Or

- (b) Bring out the importance of architectural design. Explain any two software architectural styles with suitable examples. (13)

14. (a) (i) Explain the various levels of software testing with suitable example. (7)
(ii) With suitable example, explain boundary value analysis. (6)

Or

- (b) (i) State the types on software maintenance and its importance. (7)
(ii) Compare and contrast Reverse Engineering and Reengineering. (6)

15. (a) (i) Brief out the impact of LOC and FP in cost estimation. (7)
(ii) What are the risks in software development? Explain how risk is identifies? (6)

Or

- (b) (i) Explain COCOMO model for software cost estimation. (7)
(ii) Discuss about any one project scheduling technique. (6)

PART C — (1 × 15 = 15 marks)

16. (a) What is purpose of Data Flow Diagram (DFD)? What are the notations used for constructing DFD. Draw three levels of DFD for Railway Reservation System. (15)

Or

- (b) What is requirement elicitation? What are techniques used for requirement elicitation. For developing student information system, how do you prepare software requirement specification document. Discuss in detail. (15)