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Question Paper Code : 40999

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2021.

Fifth Semester

Civil Engineering

OCS 551 — SOFTWARE ENGINEERING

(Common to : Automobile Engineering/Biomedical Engineering/Electronics and Communication Engineering/Electronics and Telecommunication Engineering/ Medical Electronics/Bio Technology/Food Technology/Pharmaceutical Technology)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

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PART A — (10 × 2 = 20 marks)

1. Outline the need for system analysis.
2. What is system design?
3. Outline the need for requirements elicitation.
4. Define risk.
5. What are functional requirements? Give example.
6. Write a note on UML.
7. Define modularity.
8. Outline the need for walk throughs.
9. Define verification and validation.
10. What is debugging?

PART B — (5 × 13 = 65 marks)

11. (a) Elaborate the spiral model for software life cycle with a diagram. (13)

Or

- (b) (i) What is Prototyping? Outline the advantages and disadvantages of prototyping. (5)
- (ii) Elaborate evolutionary prototyping and throwaway prototyping with an example. (8)

12. (a) Elaborate the COCOMO cost estimation model. (13)

Or

- (b) What is Gantt chart? Outline the steps to model a Gantt chart with an example. (13)

13. (a) What is a software requirements specification document? Outline the structure of a software requirement specification document. (13)

Or

- (b) What is a data flow diagram? Outline the steps to model a data flow diagram with an example. (13)

14. (a) What is cohesion? Outline the types of cohesion with an example. (13)

Or

- (b) (i) Explain the importance of data abstraction and encapsulation with an example. (7)

- (ii) Present an outline of coding standards. (6)

15. (a) (i) What is the need for both White box and Black box testing? (3)

- (ii) Elaborate system testing with an example. (10)

Or

- (b) (i) Discuss the importance of Unit Testing with an example. (5)

- (ii) What is integration testing? Outline the types of integration testing with an example. (8)

PART C — (1 × 15 = 15 marks)

16. (a) Prepare a software requirements specification document for a “Library Management System”. (15)

Or

- (b) Present a comparison of the different life cycle models. (15)