Reg. No. : | | | | | | | | | | | | |

Question Paper Code: 1044065

B.E. / B.Tech. DEGREE EXAMINATIONS, NOV / DEC 2024
Fourth Semester
Computer Science and Engineering
U20CS401 – SOFTWARE ENGINEERING
(Regulation 2020)

Time: Three Hours | Maximum: 100 Marks

Answer ALL questions

PART – A (10 x 2 = 20 Marks)

1. List the phases of the Waterfall model.

2. Name the key features of the Object-Oriented model.

3. Define functional requirements in software engineering.

4. What is the purpose of user interface prototyping?

5. What are real-time systems, and how do they differ from other software systems?

6. Discuss the role of risk management in software design.

7. State the testing boundary conditions by giving an example.

8. Construct the test case for greatest of three numbers with all possible outcomes.

9. Describe the Delphi method and its application.

10. Explain the concept of program evolution dynamics.

PART – B (5 x 16 = 80 Marks)

11. (a) Explain the Incremental model with a neat diagram and list out its phases, advantages, and disadvantages by suitable example. (16)

(OR)

(b) Discuss the Agile Manifesto with the terms Scrum, kanban and Extreme Programming. (16)

12. (a) Discuss the significance of feasibility studies in software development. List the key factors considered during feasibility analysis with suitable examples. (16)

(OR)

(b) Explain the importance of data, functional, and behavioral models in understanding and representing system requirements. (16)

13. (a) Compare and contrast modular software design and architectural design in software engineering, highlighting their key characteristics and purpose. (16)

(OR)

(b) Explain Software Configuration Management (SCM) in software development with version control, Extreme Programming (XP) and risk management. (16)

14. (a) Compare black-box testing and white-box testing. Discuss the advantages and disadvantages of each approach. (16)

(OR)

(b) Discuss the challenges and considerations involved in testing large-scale software systems. Explain how testing in the large differs from traditional testing approaches. (16)

15. (a) Describe in detail COCOMO model for software cost estimation. Use it to estimate the effort required to build software for a simple ATM that produces 12 screens, 10 reports and has 80 software components. Assume average complexity and average developer maturity. (16)

(OR)

(b) Explain the concept of architectural evolution in software project management. Discuss how architectural changes impact project planning, development, and maintenance activities. (16)

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