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Question Paper Code	13080
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B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2024

Third Semester

Computer Science and Business Systems

(Common to M.Tech - Computer Science and Engineering(5 years Integrated))

20CBPC303 - SOFTWARE ENGINEERING

Regulations - 2020

Duration: 3 Hours

Max. Marks: 100

PART - A (MCQ) (20 × 1 = 20 Marks)

Answer ALL Questions

- | | Marks | K-Level | CO |
|--|-------|---------|-----|
| 1. What is the first step in the software development lifecycle?
(a) System Design (b) Coding
(c) System Testing (d) Preliminary Investigation and Analysis | 1 | K1 | CO1 |
| 2. Arrange the following activities to form a general software engineering process model.
1.Manufacture
2.Maintain
3.Test
4.Design
5.Specification
(a) 13425 (b)54132 (c)35124 (d)42153 | 1 | K1 | CO1 |
| 3. What does SDLC stand for?
(a) System Design Life Cycle (b) Software Design Life Cycle
(c) Software Development Life Cycle (d) System Development Life cycle | 1 | K1 | CO1 |
| 4. Agile Software Development is based on which of the following type?
(a) Iterative Development (b) Incremental Development
(c) Both Incremental and Iterative Development (d) Linear Development | 1 | K1 | CO1 |
| 5. Quality planning is the process of developing a quality plan for _____.
(a) customers (b) project manager (c) team (d) project | 1 | K1 | CO2 |
| 6. In agile software development estimation techniques focus on the time required to complete each _____.
(a) increment (b) scenario (c) task (d) use-case | 1 | K1 | CO2 |
| 7. Effective software project management focuses on _____.
(a) people, performance, payoff, product (b) people, product, performance, process
(c) people, product, process, project (d) people, process, payoff, product | 1 | K1 | CO2 |
| 8. The first step in project planning is to
(a) Determine the budget (b) Select a team organizational model
(c) Determine the project constraints (d) Establish the objectives and scope | 1 | K1 | CO2 |
| 9. Which core element of UML is being shown in the figure? | 1 | K1 | CO3 |



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|---|---|----|-----|
| (a) Node (b) Interface (c) Class (d) Component | | | |
| 10. Which of the following UML diagrams has a static view?
(a) Collaboration (b) Use case (c) State chart (d) Activity | 1 | K1 | CO3 |

11. What is encapsulation? 1 K1 CO3
 (a) Hiding the complexity of the object from the user
 (b) Hiding the object from the user
 (c) Hiding the methods of the object from the user
 (d) Hiding the Collaboration from the user
12. _____ diagram is time-oriented? 1 K1 CO3
 (a) Sequence (b) Collaboration (c) Activity (d) Object
13. What are the different levels of Testing? 1 K1 CO4
 (a) Integration testing (b) Unit testing (c) System testing (d) Para testing
14. Which of the following is not a part of STLC (Software Testing Life Cycle)? 1 K1 CO4
 (a) Testing Planning (b) Requirement Gathering (c) Test Design (d) Testing closure
15. White box testing techniques are? 1 K1 CO4
 (a) Statement coverage testing (b) Decision coverage testing
 (c) Data flow testing (d) Error flow testing
16. What is error guessing in software testing? 1 K1 CO4
 (a) Test control management techniques
 (b) Test verification techniques
 (c) Test execution techniques
 (d) Test case design/ data management techniques
17. Mean Time To Repair (MTTR) is the time needed to repair a failed hardware module. 1 K1 CO5
 (a) True (b) False
18. _____ the first quality model developed. 1 K1 CO5
 (a) ISO 9000 (b) McCall model (c) Boehm model (d) ISO 9126
19. Reputation of a firm brings the market to them and fetches them more customers. 1 K1 CO5
 (a) True (b) False
20. What is the full form of CMMI? 1 K1 CO5
 (a) Capability Maturity Modification integration
 (b) Capability Managed Maturity Integration
 (c) Capability Maturity Model Integrator
 (d) Capability Maturity Model Integration

PART - B (10 × 2 = 20 Marks)

Answer ALL Questions

21. Define Software Engineering. 2 K1 CO1
22. Compare programming in large and programming in small. 2 K2 CO1
23. Define LOC. 2 K1 CO2
24. What is software engineering economics? 2 K1 CO2
25. What is Data hiding? 2 K1 CO3
26. Define Refactoring. 2 K1 CO3
27. Show the purpose of verification process. 2 K1 CO4
28. What is grey box testing? 2 K1 CO4
29. List the software quality models. 2 K1 CO5
30. Define Software Reliability. 2 K1 CO5

PART - C (6 × 10 = 60 Marks)

Answer ALL Questions

31. a) Explain the basic steps involved in the software development life cycle models in detail. 10 K2 CO1

OR

- b) Illustrate Software Project Failures and importance of software quality and timely availability. 10 K2 CO1

32. a) Explain in detail about risk mitigation and its process. 10 K2 CO2
OR
 b) Explain in detail about the tasks involved in software configuration management. 10 K2 CO2
33. a) Explain about various Requirement Modeling techniques in detail. 10 K2 CO3
OR
 b) Classify the types of Inheritance with example in Object oriented concepts. 10 K2 CO3
34. a) Explain about the different types of Black box testing techniques. 10 K2 CO4
OR
 b) Compare the concept of Software testing and software inspection process in detail. 10 K2 CO4
35. a) Compare the concept of Internal Quality and External Quality in detail. 10 K2 CO5
OR
 b) Summarize in detail about the software reliability and its models. 10 K2 CO5
36. a) i) Compare the concepts of Black box testing and White box testing techniques. 5 K2 CO4
 ii) Explain in detail about Dromey's quality model. 5 K2 CO5
OR
 b) i) Demonstrate the concept of software inspection. 5 K2 CO4
 ii) Outline the concept of ISO 9126 in detail. 5 K2 CO5