

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2024

Seventh Semester

Computer Science Engineering

(Common to Electronics and Communication Engineering, Electronics and Electrical Engineering,
Information Technology & Artificial Intelligence and Data Science)

20EIEL902 - PRODUCT DEVELOPMENT PROCESS

Regulations - 2020

Duration: 3 Hours

Max. Marks: 100

PART - A (MCQ) (20 × 1 = 20 Marks)

Answer ALL Questions

- | | <i>Marks</i> | <i>K-
Level</i> | <i>CO</i> |
|---|--------------|---------------------|-----------|
| 1. What does the "S" in SCAMPER stand for?
(a) Simplify (b) Substitute (c) Standardized (d) Systematize | 1 | K1 | CO1 |
| 2. What is the first step in writing a marketing plan?
(a) Conducting Market Research (b) Designing Advertisement
(c) Hiring Staff (d) Launching the Product | 1 | K1 | CO1 |
| 3. Which of the following is an essential factor when evaluating potential vendors?
(a) Vendor's Financial Stability (b) Vendor's Personal Life
(c) Vendor's Office Décor (d) Vendor's Fashion Sense | 1 | K1 | CO1 |
| 4. Which of the following is a method to validate a product?
(a) Prototype Testing (b) Ignoring Feedback (c) Random Selection (d) Blind Testing | 1 | K1 | CO1 |
| 5. Which of the following is a coding standard in software development?
(a) Variable naming conventions (b) Sales forecast analysis
(c) Market research techniques (d) Financial reporting guidelines | 1 | K1 | CO2 |
| 6. What is a Design Document?
(a) A document outlining project goals (b) A detailed description of the product's design
(c) A marketing plan (d) A financial report | 1 | K1 | CO2 |
| 7. Which of the following is a structural design pattern?
(a) Builder (b) Command (c) Decorator (d) Strategy | 1 | K1 | CO2 |
| 8. What is a Proof of Concept (PoC)?
(a) A complete product (b) A detailed design document
(c) A prototype to demonstrate feasibility (d) A final product ready for market | 1 | K1 | CO2 |
| 9. What is unit testing?
(a) Testing the whole system (b) Testing small parts of a program
(c) Testing user feedback (d) Testing how the system performs under stress | 1 | K1 | CO3 |
| 10. Which tool is commonly used for debugging?
(a) Apache JMeter (b) GDB (GNU Debugger) (c) Selenium (d) Jenkins | 1 | K1 | CO3 |
| 11. Which type of testing ensures changes don't affect other parts of the system?
(a) Regression testing (b) Unit testing (c) Integration testing (d) Functional testing | 1 | K1 | CO3 |
| 12. What is the key difference between functional and non-functional testing?
(a) Functional testing checks what the system does, non-functional testing checks how well it does it
(b) Functional testing checks performance, non-functional testing checks security
(c) Functional testing is done first, non-functional testing is done last
(d) Functional testing focuses on user experience, non-functional testing focuses on code quality | 1 | K1 | CO3 |
| 13. Which of the following is a key difference between Agile and Waterfall methodologies?
(a) Agile is linear; Waterfall is iterative (b) Agile is iterative; Waterfall is linear
(c) Agile requires less documentation (d) Waterfall is more flexible | 1 | K1 | CO4 |

14. What is the primary role of a Scrum Master? 1 K1 CO4
 (a) To manage the team (b) To ensure the team follows Scrum practices
 (c) To define the product backlog (d) To write user stories
15. What does the Product Backlog contain? 1 K1 CO4
 (a) Completed tasks (b) All planned releases
 (c) List of tasks for the current sprint (d) List of project requirements and features
16. What defines a distributed team? 1 K1 CO4
 (a) A team located in one geographic area (b) A team that works in the same office
 (c) A team spread across multiple locations (d) A team working on different projects
17. Which of the following is an advantage of using an Integrated Development Environment (IDE)? 1 K1 CO5
 (a) Supports only one programming language
 (b) Requires no configuration
 (c) Provides tools like debuggers and code editors
 (d) Cannot be used for team collaboration
18. Dynamic code analysis involves: 1 K1 CO5
 (a) Testing the code after deployment (b) Checking the code during execution
 (c) Evaluating comments and documentation (d) Monitoring design patterns
19. Which of the following best defines DevOps? 1 K1 CO5
 (a) A software development lifecycle model
 (b) A methodology for managing databases
 (c) A cultural and technical approach to improve software delivery speed
 (d) A tool for tracking project progress
20. What does IaaS stand for? 1 K1 CO5
 (a) Internet as a Service (b) Infrastructure as a Service
 (c) Instance as a Service (d) Integration as a Service

PART - B (10 × 2 = 20 Marks)

Answer ALL Questions

21. Define Product Development. 2 K1 CO1
22. Compare Business plan and business case. 2 K2 CO1
23. Classify the types of database integration. 2 K2 CO2
24. List the phases of unified process model. 2 K1 CO2
25. Contrast the differences between Black box testing vs White Box testing. 2 K2 CO3
26. List the advantages of non-functional testing. 2 K1 CO3
27. What is meant by product increment? 2 K1 CO4
28. What is meant by Agile ceremony? 2 K1 CO4
29. Summarize the different Cloud deployment models. 2 K2 CO5
30. Define IaaS. 2 K1 CO5

PART - C (6 × 10 = 60 Marks)

Answer ALL Questions

31. a) Summarize the steps to write a marketing plan. 10 K2 CO1
OR
 b) Explain in detail the product definition stage of Product development process. 10 K2 CO1
32. a) Outline the different coding standards in detail and mention the advantages of coding guidelines. 10 K2 CO2
OR
 b) Describe the Proof of Concept in detail. 10 K2 CO2

33. a) Summarize the different Non-Functional testing parameters in detail. 10 K2 CO3
OR
b) Outline Regression testing process. 10 K2 CO3
34. a) Describe in detail about JIRA. 10 K2 CO4
OR
b) Explain in detail about Agile scrum artifacts. 10 K2 CO4
35. a) Explain CI/CD Pipeline in detail. 10 K2 CO5
OR
b) Summarize the different Cloud solutions. 10 K2 CO5
36. a) i) Outline the challenges in implementing Distributed Scrum team. 5 K2 CO4
ii) Explain in detail about Static code Analysis techniques. 5 K2 CO5
OR
b) i) Summarize the different Scrum Roles. 5 K2 CO4
ii) Describe briefly about Software Configuration Management Process. 5 K2 CO5