



**B.E/B.TECH DEGREE EXAMINATIONS: NOV/DEC 2023**

(Regulation 2018)

Fifth Semester

**B.E COMPUTER SCIENCE AND ENGINEERING**

U18CST5002: Agile Software Development

**COURSE OUTCOMES**

- CO1: Apply design principles and refactoring to achieve Agility  
 CO2: Analyze automated build tools, version control and continuous integration  
 CO3: Perform testing activities within an Agile project  
 CO4: Finding initial product backlog items as user stories, order your product backlog.  
 CO5: Choose the size of the backlog items and perform sprint planning.

**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 2 = 20 Marks)**

**(Answer not more than 40 words)**

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|--|-----|-------------------|
| 1. "Scrum encourages more frequent and smaller releases". Do you agree with this statement? Justify your answer. | CO5 | [K <sub>2</sub> ] |
| 2. List the disadvantages of Waterfall model.  | CO1 | [K <sub>1</sub> ] |
| 3. Define Product Backlog.   | CO4 | [K <sub>1</sub> ] |
| 4. List out the Agile Manifesto.   | CO1 | [K <sub>1</sub> ] |
| 5. Compare and contrast Risk mitigation and contingency.   | CO2 | [K <sub>2</sub> ] |
| 6. Outline the TDD mantra.   | CO3 | [K <sub>2</sub> ] |
| 7. What are the commonly used Agile Testing Methodologies?   | CO3 | [K <sub>1</sub> ] |
| 8. Examine the advantages of agile project implemented in cloud.   | CO2 | [K <sub>2</sub> ] |
| 9. Recall the functional units to calculate Functional Point.  | CO4 | [K <sub>1</sub> ] |
| 10. Define the Single Responsibility Principle in Agile design with an example.                                  | CO2 | [K <sub>1</sub> ] |

**Answer any FIVE Questions:-**

**PART B (5 x 4 = 20 Marks)**

**(Answer not more than 80 words)**

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|---|-----|-------------------|
| 11. Explain about any 4 Agile Principles.   | CO1 | [K <sub>2</sub> ] |
| 12. Outline the different phases of XP to develop a software project.   | CO1 | [K <sub>2</sub> ] |
| 13. Consider the given scenario and identify the most suitable option from the given choice with justification. | CO5 | [K <sub>3</sub> ] |

Lee joins a project team that attempts to build a consumer device with embedded software. The team is adopting 2-week sprint. Lee notices that the project must produce an outcome that will be highly adoptable by the users to become successful. After every Sprint Review, the

Product Owner keeps changing the Product vision and makes contradictory statements about user needs.

1. Apply design thinking first for initial phase and then bring in Agile later.
  2. More practices from Extreme Programming.
  3. Apply waterfall and have the Product Owner sign-off on the requirements.
14. Outline the risk assessment matrix with an example. CO3 [K<sub>2</sub>]
15. Create a user story for the provided scenario and associated acceptance criteria. CO4 [K<sub>3</sub>]  
A book publisher turning its operations digital. Users were first given individual logins. The user can search for an item by name after logging in.
16. Analyze what will happen when Open Closed Principle is not followed. CO2 [K<sub>4</sub>]

**Answer any FIVE Questions: -**  
**PART C (5 x 12 = 60 Marks)**  
**(Answer not more than 300 words)**

17. a) Explain any two design and development practices in detail. 6 CO1 [K<sub>2</sub>]  
b) Summarize the process Lean software Development. 6 CO1 [K<sub>2</sub>]
18. a) Suppose “SKS Software Pvt. Ltd.” is working on a Rs.15 lakh project for “Vasantha Textiles” for a project titled “Reduction of cloth waste”. Half-way through the project, the SKS company manager realizes that they are facing budget and human resource shortage. Analyze and find about the type of risk-based testing that the manager is going to perform to overcome the above problems. 4 CO3 [K<sub>4</sub>]  
b) Write a short note on Epics, Stories and Tasks. 8 CO4 [K<sub>3</sub>]
19. a) Analyze the best agile estimation techniques and find the best. 6 CO5 [K<sub>4</sub>]  
b) List out scrum roles with a detailed explanation. 6 CO5 [K<sub>1</sub>]
20. a) Explain the types of Automated Testing Frameworks. 6 CO3 [K<sub>3</sub>]  
b) List out the major four challenges in using Agile for Application development for Traffic Control in your city. Explain how you will overcome them 6 CO1 [K<sub>3</sub>]
21. a) Identify the essential facility of version control systems and explain with its types. 6 CO2 [K<sub>4</sub>]  
b) Outline the workflow of Continuous Integration. 6 CO2 [K<sub>2</sub>]
22. a) Explain in detail about the modules and four pillars of ALM. 6 CO1 [K<sub>2</sub>]  
b) Prove the statement with an explanation. “RAD is an agile software development approach that emphasizes adaptive processes”. 6 CO1 [K<sub>3</sub>]

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