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| LOGO.jpg | **GEETHANJALI INSTITUTE OF SCIENCE & TECHNOLOGY**  (**AN AUTONOMOUS INSTITUTION**)  **(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)**  **(Accredited by NAAC with “A” Grade, NBA (EEE,ECE &ME) & ISO9001:2008CertifiedInstitution)** |
| **QUESTION BANK(DESCRIPTIVE)**  **Agile Methodology**  **Subject Name with Code: 22A0535Ta** **Course & Branch: B. Tech & CSE(CS&DS) Year& Semester: IV-I Regulation: RG22**  **Name of Faculty:Ms.Apeksha Dhakde,Mr.V.Chaithanya** | |

**UNIT - III**

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| **UNIT-3. Agile Testing**  **The Agile lifecycle and its impact on testing, Test-Driven Development (TDD), Unit framework and tools for TDD, Testing user stories acceptance tests and scenarios, Planning and managing testing cycle, Exploratory testing, Risk based testing, Regression tests, Test Automation-Tools to support the Agile tester.** | | |
| **S. No.** | **Question** | **[BT Level] [CO][ Marks]** |
| **2 Marks Questions (Short)** | | |
|  | State test automation important in Agile testing? | L1,CO3,2M |
|  | Define factors which are considered when assessing risk in testing? | L1,CO3,2M |
|  | Write any two unit testing frameworks for JavaScript. | L1,CO3,2M |
|  | What is Test-Driven Development (TDD)? | L1,CO3,2M |
|  | What is the purpose of using a unit testing tool in TDD? | L1,CO3,2M |
|  | What are acceptance criteria in Agile? | L1,CO3,2M |
|  | State the purpose of writing scenarios for user stories? | L1,CO3,2M |
|  | Who is responsible for test planning in Agile projects? | L1,CO3,2M |
|  | Mention two test management tools used in Agile. | L1,CO3,2M |
|  | Name two benefits of exploratory testing. | L1,CO3,2M |
| **Descriptive Questions (Long)** | | |
|  | Explain how testing is integrated into each phase of the Agile lifecycle. | L2,CO3,12M |
|  | Describe how short iterations (sprints) impact test planning and execution. | L2,CO3,12M |
|  | Differentiate between unit testing and integration testing in the context of xUnit. | L2,CO3,12M |
|  | Explain how the xUnit framework supports TDD in Real Time Process? | L2,CO3,12M |
|  | Explain the role of continuous integration in Agile test planning. | L2,CO3,12M |
|  | Differentiate between acceptance tests and functional tests in Agile Methodology? | L2,CO3,12M |
|  | Explain the concept of session-based exploratory testing in Agile Methodology? | L2,CO3,12M |
|  | Explain the relationship between business risk and technical risk in testing. | L2,CO3,12M |
|  | Compare open-source and commercial automation tools in Real Time Process? | L4,CO3,12M |
|  | Describe strategies to manage a growing regression test suite in Agile Technology? | L2,CO3,12M |

**UNIT - IV**

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| **UNIT-4. Agile Software Design and Development**  **Agile design practices, Role of design Principles including Single Responsibility Principle, Open Closed Principle, Liskov Substitution Principle, Interface Segregation Principles, Dependency Inversion Principle in Agile Design, Need and significance of Refactoring, Refactoring Techniques, Continuous Integration, Automated build tools, Version.** | | |
| **S. No.** | **Question** | **[BT Level] [CO][ Marks]** |
| **2 Marks Questions (Short)** | | |
|  | Why is simplicity important in Agile design? | L2, CO4, 2M |
|  | List any four Refactoring techniques in Agile design. | L1, CO4, 2M |
|  | In Agile design, what is the benefit of substituting derived classes without altering functionality? | L2, CO4, 2M |
|  | Why are design principles important in Agile development? | L2, CO4, 2M |
|  | Why is minimizing code modification important in Agile, and how does open closed principle contribute to it? | L2, CO4, 2M |
|  | What is Continuous Integration (CI), and how does it support Agile design practices? | L1, CO4, 2M |
|  | Why is refactoring important for sustainable pace in Agile development? | L2, CO4, 2M |
|  | **Why is version control important in Agile development?** | L2, CO4, 2M |
|  | Name two automated build tools commonly used in Agile projects and briefly state their role. | L1, CO4, 2M |
|  | Name a version control system commonly used in Agile and state one benefit of using it. | L1, CO4, 2M |
| **Descriptive Questions (Long)** | | |
|  | Explain the concept of Agile design. How does it differ from traditional design approaches? | L2, CO4, 12M |
|  | Define the Single Responsibility Principle. Why is it important in Agile projects? | L2, CO4, 12M |
|  | List and explain the significance of refactoring in maintaining code quality. | L2, CO4, 12M |
|  | Explain the Open/Closed Principle with a suitable example in Agile Methodology? | L2, CO4, 12M |
|  | Describe the key Agile design practices and their importance in software development. | L2, CO4, 12M |
|  | Explain how build automation supports frequent releases in Agile Methodology? | L2, CO4, 12M |
|  | Explain with example Interface segregation Principle in Agile design. | L2, CO4, 12M |
|  | Explain the Dependency Inversion Principle (DIP) and discuss its significance in Agile software development. Provide examples to illustrate how applying DIP can improve code flexibility and maintainability in Agile projects. | L2, CO4, 12M |
|  | Differentiate between centralized and distributed version control systems. | L2, CO4, 12M |
|  | Define the Liskov’s Substitution Principle. Why is it crucial for polymorphism explain with real time example. | L2, CO4, 12M |

**UNIT - V**

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| **UNIT-5. Industry Trends**  **Market Scenario and adoption of Agile, Agile ALM, Roles in an Agile project, Agile applicability, Agile in Distributed teams, Business benefits, Challenges in Agile, Risks and Mitigation, Agile projects on cloud, Balancing Agility with Discipline, Agile rapid development technologies.** | | |
| **S. No.** | **Question** | **[BT Level] [CO][ Marks]** |
| **2 Marks Questions (Short)** | | |
|  | What factors have contributed to the widespread adoption of Agile methodologies in the industry? | L1,CO5,2M |
|  | What role does Agile Application Lifecycle Management play in managing requirements? | L1,CO5,2M |
|  | List any two tools commonly used to support distributed Agile teams. | L1,CO5,2M |
|  | Mention one key advantage Agile offers that appeals to businesses in the current market. | L1,CO5,2M |
|  | What challenge arises from inadequate customer involvement in Agile? | L1,CO5,2M |
|  | State one risk associated with Agile project management. | L1,CO6,2M |
|  | What mitigation strategy helps manage scope creep in Agile? | L1,CO6,2M |
|  | What role does scalability play in Agile cloud projects? | L1,CO6,2M |
|  | What role do automated testing tools play in Agile rapid development? | L1,CO6,2M |
|  | Write an example of a discipline that complements Agile flexibility. | L1,CO6,2M |
| **Descriptive Questions (Long)** | | |
|  | Discuss the key business benefits and challenges of adopting Agile methodologies. Support your answer with relevant examples. | L2/CO5/12M |
|  | Explain the use of automated testing frameworks in rapid Agile development. Discuss the benefits and challenges of using these technologies to support Agile development with relevant examples. | L2/CO5/12M |
|  | Discuss the applicability of Agile methodologies in different types of projects. highlight situations where Agile is most effective and where it may not be the ideal choice explain with examples. | L2/CO5/12M |
|  | Describe how cloud computing supports Agile software development. What are the key benefits and challenges of managing Agile projects in a cloud environment? Explain with examples. | L2/CO5/12M |
|  | Compare Agile adoption trends in IT versus non-IT industries with an Example? | L4/CO5/12M |
|  | How can inadequate testing become a risk in Agile, and how is it addressed?Explain? | L2/CO6/12M |
|  | How has Agile transformed traditional project management approaches?Explain? | L2/CO6/12M |
|  | Explain Agile Application Lifecycle Management (ALM). Discuss the key components of Agile ALM and how it supports the successful delivery of Agile projects. Provide examples to illustrate your answer. | L2/CO6/12M |
|  | Explain how Agile methodologies can be applied in distributed teams. Discuss the challenges faced and the strategies used to overcome them, with relevant examples. | L2/CO6/12M |
|  | Discuss how Agile teams can balance agility with discipline. Explain with example of practices that maintain this balance. | L2/CO6/12M |