Course Name	Applied SDLC, Agile, Testing methodology
Required Software	**NA**
Syllabus	1. **SDLC:** **SDLC Phases** What is SDLC, Why and where it is used and how to implement it. Requirement Gathering – Functional, Non- Functional Design- UML, Structural, Behavioural Development Testing Deployment Maintenance **SDLC Models:** Waterfall, V-Model, Spiral, Iterative, Agile With the real-world application and where to use which model, advantages, limitations **Documentation:** SRS (Software Requirements Specification), Design Documents, Test Plans, User Manuals 2. **Software Testing Methodology:** Testing objective & Principles: STLC Testing process: Test Scenario, Test Suite, Test Plan, Test Cases Testing Level: Unit Testing, Integration Testing, System Testing, Acceptance Testing Testing Methodologies: Functional Testing, Non-Functional Testing Testing Techniques: Black-box, White-box, Grey-box Test Lifecycle: Planning, Design, Execution, Defect Reporting, Closure Automation Tools: Selenium, Junit, Postman, LoadRunner 3. **Agile Methodology** **Agile Principles** Traditional Vs Agile approach Phases in Agile Model Customer collaboration, Responding to change, Iterative delivery V-Model Vs Agile, Waterfall Vs Agile, Incremental Vs Iterative 12 Principles 4 Pillar of Agile Agile – Scrum Framework **Agile Frameworks** Scrum, Kanban, XP (Extreme Programming), SAFe (Scaled Agile Framework) **Scrum Components:** Roles: Product Owner, Scrum Master, Development Team Events: Sprint Planning, Daily Stand-ups, Sprint Review, Retrospective Artifacts: Product Backlog, Sprint Backlog, Burndown Charts 4. **CI/CD (Continuous Integration / Continuous Deployment) Topics** **CI/CD Concepts:** Continuous Integration, Continuous Delivery, Continuous Deployment, Traditional vs CI/CD **CI/CD Pipeline:** Code Commit, Build, Test, Deploy, Monitor **Tools:** Jenkins, GitHub Actions, Azure DevOps, GitLab CI/CD 5. **Code Quality:** **Unit testing, Code Coverage** **Static Code Analysis:** SonarQube, Linting tools
Mandatory Assignment	• Daily activities shared after the session needs to be submitted within timelines. • Complete this course and get the certification (Link to submit certificate will be shared separately) : **Agile for Beginners – Great Learning**: Covers SDLC basics, Agile principles, and comparisons with Waterfall.
End Module Assessment	MCQ based Hacker earth assessment with Camera enabled.
Additional Learning & Practice Resources	**TutorialsPoint SDLC Resources**: Tools, templates, and best practices. **GeeksforGeeks SDLC Use Cases**: Examples from healthcare, finance, gaming, IoT, and cloud apps. **Agile Manifesto & Scrum Guide PDFs**: Core principles and framework rules.