**UNIT I INTRODUCTION**

Introduction, Agile development model, DevOps, and ITIL. DevOps process and Continuous Delivery, Release management, Scrum, Kanban, delivery pipeline, bottlenecks, examples.

**UNIT II SOFTWARE DEVELOPMENT MODELS AND DEVOPS**

**Software development models and DevOps:** DevOps Lifecycle for Business Agility, DevOps, and

Continuous Testing. The separation of concerns, Handling database migrations, Microservices, and the data tier, DevOps, architecture, and resilience.

**UNIT III INTRODUCTION TO PROJECT MANAGEMENT**

The need for source code control, The history of source code management, Roles and code, source code management system and migrations, Shared authentication, Hosted Git servers, Different Git server implementations, Docker intermission, Gerrit, The pull request model, GitLab.

**UNIT IV INTEGRATING THE SYSTEM**

Build systems, Jenkins build server, Managing build dependencies, Jenkins plugins, and file system layout, The host server, Build slaves, Software on the host, Triggers, Job chaining and build pipelines, Build servers and infrastructure as code,

**UNIT V TESTING AND DEVELOPMENT**

Testing Tools and automation: Various types of testing, Automation of testing Pros and cons, Selenium - Introduction, Selenium features, JavaScript testing, Testing backend integration points, Test-driven development,