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| **CSDV 3101** | CONTINUOUS INTEGRATION AND CONTINUOUS DEPLOYMENT | L | T | P | C |
| **Version 1.0** |  | 2 | 0 | 0 | 2 |
| **Pre-requisites/Exposure** | Build and Release management | | | | |
| **Co-requisites** | Development Automation | | | | |

**Course Objectives**

1. To study the anatomy of continuous delivery
2. To achieve continuous integration

Course Outcomes :

At the end of this course student should be able to learn:

CO.1. Interpret advantages of using continuous integration and continuous development in Agile.

CO.2. Explain anatomy of continuous delivery pipeline to automate the testing within minimum constraints.

CO.3. Outline continuous integration by using various tools for continuous integration and automation.

CO.4 Understand static code analysis like data flow analysis, taint analysis, lexical analysis.

List of Experiments:

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| Experiment No 1 | Installation of Jenkins and Execution of a simple Job in Jenkins |
| Experiment No 2 | Jenkins Integration with GitHub |
| Experiment No 3 | Jenkins Integration with GitHub and Maven |
| Experiment No 4 | Static Code Analysis using SonarQube |
| Experiment No 5 | Jenkins Integration with Sonarqube |
| Experiment No 6 | Create Pipeline using Jenkinsfile |
| Experiment No 7 | Create Pipeline using Blue Ocean Plugin |
| Experiment No 8 | Implementing Master/Slave Architecture in Jenkins |
| Experiment No 9 | Uploading Artifacts on Nexus Server using Command Line |
| Experiment No 10 | Nexus Integration with Jenkins |
| Experiment No 11 | Integration of Docker with Jenkins to generate an image of generated build |
| Experiment No 12 | Deployment of Docker Image on Cloud/ Local server (Nexus) using Jenkins |

Note: Newly added experiments are highlighted by yellow color.