JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
(Established by Govt. of A.P., ACT No.30 of 2008)
ANANTHAPURAMU – 515 002 (A.P) INDIA

MASTER OF COMPUTER APPLICATIONS

Course Code	DEV OPS & AGILE PROGRAMMING LABORATORY	L	T	P	C
21F00308		0	0	4	2
	Semester	III			

Course Objectives:

To understand the concept of DevOps with associated technologies and
- methodologies.
- To be familiarized with Jenkins, which is used to build & test software Applications
- & Continuous integration in Devops environment. To understand different Version
- Control tools like GIT, CVS or Mercurial
- To understand Docker to build, ship and run containerized images
- To use Docker to deploy and manage Software applications running on Container.
- To be familiarized with concept of Software Configuration Management &
- provisioning using toolslikePuppet,Chef, Ansible or Saltstack.

Course Outcomes (CO):

- Understand and Implement the Integration and Continuous deployment.
- Can implement anatomy of continuous delivery pipeline.
- Understands and implement static code analysis.

List of Experiments:

Agile Laboratory Programs:

1. Understand the background and driving forces fortaking an Agile Approach to Software Development.
2. Understand the business value of adopting agile approach.
3. Understand agile development practices
4. Drive Development with Unit Test using Test Driven development.
5. Apply Design principle and Refactoring to achieve agility
6. To study automated build tool.
7. To study version control tool.
8. To study Continuous Integration tool.
9. Perform Testing activities within an agile project.

Dev Ops Laboratory Programs:

1. Build & TestApplicationswithContinuousIntegration - To Install and Configure Jenkins to test, anddeploy Java or Web Applications usingNetBeans or eclipse.
2. VersionControl - To Perform Version Control on websites/Software's using different Version control toolslike RCS/ CVS/GIT/Mercurial (Any two)
3. Virtualization&Containerization - To Install and Configure Docker for creatingContainers of different Operating SystemImages
4. Virtualization&Containerization - To Build, deploy and manage web orJava application on Docker
5. SoftwareConfigurationManagement - To install and configure Software ConfigurationManagement using Chef/Puppet/Ansible orSaltstack.
6. Provisioning - To Perform Software ConfigurationManagement and provisioning usingChef/Puppet/Ansible or Saltstack.