DEVOPS LAB

Course	B.Tech.-VI-Sem.	L	T	P	C
Course Code	22CSPC66	-	-	2	1

Course Outcomes (COs) & CO-PO Mapping (3-Strong; 2-Medium; 1-Weak Correlation)

COs	Upon completion of course the students will be able to	PO4	PO5	PO9	PSO2
CO1	identify DevOps workflow	3	3	3	3
CO2	use eclipse and Jenkins for DevOps	3	3	3	3
CO3	develop docker image	3	3	3	3
CO4	take part in grid deployment	3	3	3	3
CO5	make use of monitoring, operations tools in DevOps	3	3	3	3

List of Experiments

Week	Title/Experiment
1	Start DevOps with a workflow that includes four phases: to do, in progress, code review, and done.
2	Setup Eclipse for DevOps.
3	Jenkins Setup on AWS.
4	Build WAR file in DevOps.
5	Ansible Setup and SSH keys.
6	Deploy the artifact on the Test Server.
7	Perform automation using Jenkins.
8	Build and deploy a grid for Chrome and Firefox based testing.
9	Create deployment resource using Kubernetes.
10	Create a docker image for any application using Docker file and push it to Docker hub.
11	Setup Grafana for Devops.
12	Setup Prometheus for Devops.

References

1. DevOps Lab Manual, Department of CSE, CMRIT, Hyd.
2. https://www.udemy.com/course/practical-devops-for-beginners/

Micro-Projects: Student should submit a report on one of the following/any other micro-project(s) approved by the lab faculty before commencement of lab internal examination.

1. Deploy a Containerized Web Application.
2. Develop a Version Control System/Tool: GIT.
3. Create a Monitoring Dashboard for any Application.
4. Implement a Continuous Integration/Continuous Delivery (CI/CD) Pipeline for an application.
5. Implement DevOps Lifecycle with Amazon Web Services (AWS).
6. Build a Scalable Application with Docker.
7. Create a Jenkins project that connects to a remote Jenkins server and controls it.
8. Deploy an application (with high availability) with a database
9. Create a Continuous Delivery of a Java Web Application.
10. Build and execute a selenium project.