ANURAG ENGINEERING COLLEGE

(An Autonomous Institution)

III Year B.Tech. CSE - I Sem

L	T	P	C
0	0	2	1

(CS505PC) DEVOPS LAB

Course Objectives:

The objectives of this course are to provide:

- Develop a sustainable infrastructure for applications and ensure high scalability.
- To understand shortening the software development lifecycle to provide continuous delivery with high quality.
- Understand project management concepts
- Understand integration and development tools
- Perform automation on quality control and risk management.

List of Experiments

1. Write code for a simple user registration form for an event.
2. Explore Git and GitHub commands.
3. Practice Source code management on GitHub. Experiment with the source code in exercise 1.
4. Jenkins installation and setup, explore the environment.
5. Demonstrate continuous integration and development using Jenkins.
6. Explore Docker commands for content management.
7. Develop a simple containerized application using Docker.
8. Integrate Kubernetes and Docker
9. Automate the process of running containerized application for exercise 7 using Kubernetes.
10. Install and Explore Selenium for automated testing.
11. Write a simple program in JavaScript and perform testing using Selenium.
12. Develop test cases for the above containerized application using selenium.

Text Books:

1. Joakim Verona., Practical DevOps, Packt Publishing, 2016.

Reference Books:

1. Deepak Gaikwad, Viral Thakkar. DevOps Tools from Practitioner's Viewpoint. Wiley publications.
2. Len Bass, Ingo Weber, Liming Zhu. DevOps: A Software Architect's Perspective. Addison Wesley.

Course Outcomes:

Upon the successful completion of this course, the student will be able to:

1. Understand the need of DevOps tools
2. Understand the environment for a software application development
3. Apply different project management concepts.
4. Understand integration and development tools
5. Use Selenium tool for automated testing of application

CO-PO-PSO Mapping:

	PO-1	**PO-2**	**PO-3**	**PO-4**	**PO-5**	**PO-6**	**PO-7**	**PO-8**	**PO-9**	**PO-10**	**PO-11**	**PO-12**	**PSO-1**	**PSO-2**
CO-1	M	M											M	H
CO-2	M	H		H		M				M			M	H
CO-3	M	M	H	M	H					M			M	H
CO-4	L	M	H	M	H								M	H
CO-5	L	M	M	M	H								M	H

H-HIGH **M**-MODERATE **L**-LOW