



PRAGATI ENGINEERING COLLEGE

(Autonomous)

B.Tech

Computer Science and Engineering

R-20

Continuous Integration and Continuous Delivery using DevOps CSE, IT

Course Category	Skill Oriented	Course Code	20IT5S05
Course Type	Laboratory	L-T-P-C	1-0-2-2
Prerequisites		Total Marks	50

COURSE OBJECTIVES

The objectives of the course is to

1	To understand the concept of DevOps with associated technologies and methodologies.
2	To be familiarized with Jenkins, which is used to build & test software Applications & Continuous integration in Devops environment.

COURSE OUTCOMES

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

		Cognitive level
CO1	Remember the importance of DevOps tools used in software development life Cycle	K1
CO2	Understand the importance of Jenkins to Build, Deploy and Test Software Applications	K2
CO3	Examine the test results of a java program in Jenkins	K2

K1: Remember, K2: Understand, K3: Apply, K4: Analyze, K5: Evaluate, K6: Create.

Contribution of Course Outcomes towards achievement of Program Outcomes (1 – Low, 2 - Medium, 3 – High)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	2	1	3	-	-	-	-	-	-	-	0	3	2
CO2	1	1	2	1	3	-	-	-	-	-	-	-	0	3	2
CO3	1	1	2	1	3	-	-	-	-	-	-	-	0	3	2

COURSE CONTENT

0	Prerequisite: To Understand the Concept of DevOps with related technologies which are used to Code, Build, Test, Configure & Monitor the Software Applications.
1	Installation of Jenkins
2	Configuration of Jenkins i.e. creating a first admin user and installing required plugins.
3	To Create a Freestyle project in Jenkins to test, and deploy Java or Web



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	Applications using Netbeans or eclipse.
4	To Create a Pipeline project in Jenkins to test, and deploy Java or Web Applications using Netbeans or eclipse.
5	To do Source code management from GIT in Jenkins while developing a Java application
6	To do a Controller test in Jenkins while developing a Java application

TEXT BOOKS

1.	John Ferguson Smart, “Jenkins, The Definitive Guide”, O'Reilly Publication.
2.	Learn to Master DevOps by StarEdu Solutions.

REFERENCE BOOKS

1.	Sanjeev Sharma and Bernie Coyne, “DevOps for Dummies”, Wiley Publication
2.	Httermann, Michael, “DevOps for Developers”, A press Publication.
3.	Joakim Verona, “Practical DevOps”, Pack publication

WEB RESOURCES

1.	https://www.udacity.com/course/intro-to-devops--ud611 - Good online course with sample exercises.
2.	http://www.edureka.co/devops - Online Training covering high level process and tools. (Needs Registration)
3.	https://www.edx.org/course?search_query=devops – Has no. of courses from MS and Redhat.
4.	https://www.codementor.io/devops/tutorial - Basic Tutorial on DevOps.