

(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

<b>Course Code</b>	<b>2</b>	<b>2</b>	<b>C</b>	<b>S</b>	<b>6</b>	<b>3</b>	<b>1</b>
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# DEVOPS

**Max. Marks: 100**

**2. Missing data, if any, may be suitably assumed**

**Note: (RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI- Performance Indicator)**

	b.	Summarize the process and considerations involved in migrating between different source code management systems.	06	(2:3:5.4.1)
	c.	Describe the distinguishing features of GitHub, GitLab, and BitBucket, and Illustrate how each serves different project needs.	08	(2:3:5.4.1)
		(OR)		
6.	a.	Illustrate how Docker integrates with source code management to streamline the creation, packaging, and deployment of applications.	06	(2:3:5.4.1)
	b.	Illustrate with a figure, the working of Gerrit architecture.	06	(2:3:5.4.1)
	c.	Summarize GitLab's integrated DevOps features, including source code management, CI/CD, issue tracking, and project management.	08	(2:3:5.4.1)
		<b><u>Module-4</u></b>		
7.	a.	Describe the various build systems used in modern software development and Discuss their primary functions.	06	(2:4.3.5.1)
	b.	Describe the main features of Jenkins. Discuss how it facilitates continuous integration and delivery within DevOps, including its advantages and potential challenges	06	(2:4.3.5.1)
	c.	Describe the role of build slaves in a distributed build environment and how they contribute to build efficiency.	08	(2:4.3.5.1)
		(OR)		
8.	a.	Discuss how Jenkins plugins enhance its capabilities for tasks such as code analysis, testing, and deployment, providing examples of widely used plugins.	06	(2:4.3.5.1)
	b.	Discuss the role of triggers in build automation, detailing the types available in Jenkins and how they initiate builds under different scenarios.	06	(2:4.3.5.1)
	c.	Discuss the concept of Infrastructure as Code (IaC) concerning build servers, and describe how it aids in provisioning, configuration, and management, highlighting the advantages of using IaC tools.	08	(2:4.3.5.1)
		<b><u>Module-5</u></b>		
9.	a.	Discuss the types of testing used in DevOps and describe how they contribute to software quality.	06	(3:5.5.5.1)
	b.	Describe the key features of Selenium and discuss its role in automated web application testing.	06	(3:5.5.5.1)
	c.	Compare test-driven development with REPL-driven development and discuss how each approach supports the software development process.	08	(3:5.5.5.1)
		(OR)		
10.	a.	Describe different deployment strategies used in DevOps, such as continuous deployment and delivery, and provide examples of systems that implement them.	06	(3:5.5.5.1)
	b.	Describe how client-side code is executed in modern applications. List out the benefits and challenges of deploying such code in a DevOps setting.	06	(3:5.5.5.1)
	c.	Discuss the features and use cases of deployment tools such as Puppet, Ansible, Chef, SaltStack, and Docker, highlighting how they help automate deployment and infrastructure in DevOps.	08	(3:5.5.5.1)

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