

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 2025***Sixth Semester**Computer Science and Engineering***CCS342 - DevOps***Regulations - 2021**Duration : 3 Hrs**Maximum : 100 Marks***PART - A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	Define DevOps how does it benefit software development?	L2	1	2
2.	Name any two cloud platforms introduced in DevOps essentials.	L1	1	2
3.	State the difference between local, central, and global Maven repositories.	L2	2	2
4.	Recall the term Gradle and how does it differ from Maven?	L1	2	2
5.	What is the purpose of creating a Jenkins job?	L1	3	2
6.	What is the function of the Parameter plugin in Jenkins?	L1	3	2
7.	Classify the difference between Ansible master and slave configuration.	L2	4	2
8.	Give an example of an Ansible module and its purpose.	L1	4	2
9.	What is Azure DevOps, and how does it support DevOps pipelines?	L2	5	2
10.	Mention the role of YAML in Azure pipelines.	L1	5	2

PART - B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a In a DevOps lifecycle, version control plays a key role in streamlining development processes. Discuss the role of Git and GitHub, focusing on how they help teams manage code efficiently in a distributed environment.	L2	1	16
	Or			
	b Explain in detail the features and tools offered by AWS, GCP, and Azure that support DevOps practices. Provide examples of how these tools can be used to automate deployments and manage infrastructure.	L2	1	16
12.	a i Explain the Maven build lifecycle and describe the role of each phase in the lifecycle (compile, test, package).	L2	2	8
	ii Discuss the structure of a POM (Project Object Model) file and explain the importance of each section.	L2	2	8
	Or			
	b i How does Maven handle dependency management, and why is it important in large projects?	L2	2	8
	ii Discuss the steps involved in the installation of Gradle and how Gradle is used to build and manage projects.	L2	2	8

13.	a	Explain the detailed steps involved in installing and configuring Jenkins on both Windows and Linux systems. Include installation prerequisites, necessary configurations, and how Jenkins can be accessed through a web browser.	L3	3	16	
		Or				
	b	Discuss how Jenkins can be used to set up a Continuous Integration pipeline for a Java project. Include steps to configure Java, Maven, and Git in Jenkins, and explain how Jenkins can automate the process from code commit to deployment.	L3	3	16	
14.	a	i	Explain the structure and syntax of YAML. How is it used to define Ansible playbooks?	L2	4	8
		ii	What is the purpose of Ansible modules? Describe at least three commonly used Ansible modules with examples.	L2	4	8
			Or			
	b	i	How does Ansible work with roles? Explain how roles help organize playbooks and make them more reusable.	L2	4	8
		ii	Discuss the benefits of using ad-hoc commands in Ansible compared to writing full playbooks. Provide examples of situations where ad-hoc commands are useful.	L2	4	8
15.	a	Provide a step-by-step guide on how to create a GitHub account, set up a new repository, and integrate it with Azure DevOps for continuous integration. Explain each step involved in configuring the repository and pipeline.	L3	5	16	
		Or				
	b	Discuss the different ways you can trigger builds in Azure DevOps pipelines, such as manual triggers, commit-based triggers, and scheduled triggers. How would you configure these triggers to suit different environments like staging, production etc?	L3	5	16	