Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

End - Term Examinations – December 2025

Date: 10- 12- 2025 **Time:** 1.00pm to 04.00pm

School: SOCSE	**Program:** B.Tech. – CSE (DevOps)	
Course Code : CDV2501	**Course Name :** DevOps Tools Internals	
Semester: V	**Max Marks**: 100	**Weightage**: 50%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Marks	**22**	**22**	**28**	**28**	**-**

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **10Q x 2M=20M**

1	Define Version Control and provide one tool for the same.	**2 Marks**	**L1**	**CO1**
2	What is tag in Docker and name the purpose of tag.	**2 Marks**	**L1**	**CO2**
3	Name two features of Ansible that make it different from other tools	**2 Marks**	**L1**	**CO3**
4	How does Ansible achieve agentless architecture?	**2 Marks**	**L1**	**CO3**
5	What is an Inventory file in Ansible?	**2 Marks**	**L1**	**CO3**
6	List the purposes of the handlers in Ansible?	**2 Marks**	**L1**	**CO3**
7	What are the different types of build triggers available in Jenkins?	**2 Marks**	**L1**	**CO4**
8	What is a freestyle job in Jenkins?	**2 Marks**	**L1**	**CO4**
9	Name the two types of Jenkins pipelines?	**2 Marks**	**L1**	**CO4**
10	What are the key benefits of using Jenkins for software development projects?	**2 Marks**	**L1**	**CO4**

Part B

Answer the Questions **Total 80 Marks.**

11.	**a.**	Explain the architecture of GIT with a neat diagram.	**10 Marks**	**L2**	**CO1**
	b.	Develop the step by step procedure with proper syntax to copy all the files in your local directory of your system to your github account.	**10 Marks**	**L3**	**CO1**

Or

12.	**a.**	Jane is a Project Manager in an organization. A new project for developing a portal for a bank using DevOps is given to her with the required resources. Help her understand by listing all the Advantages & Disadvantages of DevOps.	**10 Marks**	**L2**	**CO1**
	b.	Joe created a new repository in Git by adding 2 new source files 'Search.java' and 'AddToCart.java'. This directory must be uploaded onto the GitHub link 'https://github.com/thara/Amazon.git' for further sharing with all team members. Explain all the necessary steps and commands used for this task.	**10 Marks**	**L3**	**CO1**

13.	**a.**	Demonstrate the process of building an image with Dockerfile and pushing the image to DockerHub.	**10 Marks**	**L3**	**CO2**
	b.	i. Compare image and containers in Docker. ii. Explain briefly on Docker Daemon.	**10 Marks**	**L2**	**CO2**

Or

14.	**a.**	Construct the procedure to for building a docker container from an docker image with proper command and syntax.	**10 Marks**	**L3**	**CO2**
	b.	i. Explain the docker life cycle with neat diagram ii. Explain the Docker terms Registry, Repository and Tag	**10 Marks**	**L2**	**CO2**

15.	**a.**	Explain Push-based and Pull-based Architecture of Ansible with neat diagram	**10 Marks**	**L2**	**CO3**
	b.	Discuss the importance of playbooks in Ansible. Write a sample playbook to install and start the Apache web server.	**10 Marks**	**L2**	**CO3**

Or

16.	**a.**	How can you optimize Ansible performance for large-scale deployments? Discuss techniques and best practices.	**10 Marks**	**L2**	**CO3**
	b.	What is Ansible Vault? How can it be used to manage sensitive information? Provide an example.	**10 Marks**	**L2**	**CO3**

17.	**a.**	Explain Jenkins architecture with neat diagram.	**10 Marks**	**L2**	**CO4**
	b.	What are the different types of Jenkins Jobs? Explain each type with a scenario.	**10 Marks**	**L2**	**CO4**

Or

18.	**a.**	Explain how Jenkins can be integrated with containerization technologies like Docker?	**10 Marks**	**L2**	**CO4**
	b.	What are the factors to be considered for Jenkins Management? Explain briefly on each factor.	**10 Marks**	**L2**	**CO4**