Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

End - Term Examinations – December 2025

Date: 23-12- 2025 **Time:** 09:30am –12:30pm

School: SOCSE	**Program:** B.Tech	
Course Code :CDV2000	**Course Name:** Devops Foundation	
Semester: III	**Max Marks**: 100	**Weightage**: 50%

CO – Levels	CO1	CO2	CO3	CO4	CO5
Marks	26	26	24	24	

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.	**Outline** the benefits of adopting DevOps	2 Marks	L1	CO1
2.	**Define** DevOps	2 Marks	L1	CO1
3.	**Name** any two tools used in monitoring under DevOps toolchain	2 Marks	L1	CO1
4.	**List** any two basic Git commands.	2 Marks	L1	CO2
5.	**Define** a CI/CD pipeline	2 Marks	L1	CO2
6.	**Differentiate** between Continuous Delivery and Continuous Deployment.	2 Marks	L1	CO2
7.	**State** the purpose of a Docker Daemon.	2 Marks	L1	CO3
8.	**Lis**t two benefits of Kubernetes.	2 Marks	L1	CO3
9.	**Mention** any two advantages of using Ansible in DevOps.	2 Marks	L1	CO4
10.	**State** one industry use case where IaC has improved deployment efficiency.	2 Marks	L1	CO4

Part B

Answer the Questions. **Total Marks 80M**

11.	**a.**	**Compare** and contrast Dev vs Ops mindset with real-world scenarios.	10 Marks	L2	CO1
		Or			
12.	**a.**	**Extend** the DevOps lifecycle with a neat diagram.	10 Marks	L2	CO1

13.	**a.**	**Explain** the four key DevOps metrics (Lead time, Deployment frequency, Change failure rate, MTTR).	10 Marks	L2	CO1
		Or			
14.	**a.**	**Demonstrate** the CALMS framework and discuss its importance in DevOps culture.	10 Marks	L2	CO1

15.	**a.**	**Evaluate** the working of Maven and Gradle with comparison	10 Marks	L2	CO2
		Or			
16	**a.**	**Explain** the architecture and working of Jenkins pipelines with examples	10 Marks	L2	CO2

17.	**a.**	**Summarize** the concept and process of Continuous Integration (CI)	10 Marks	L2	CO2
		Or			
18.	**a.**	**Explain** Git basics and branching strategies with suitable examples.	10 Marks	L2	CO2

19.	**a.**	**Explain** the architecture of Docker with a neat diagram. Discuss the roles of Docker Daemon, Client, and Registry.	20 Marks	L3	CO3
	b.	**Extend** the advantages and challenges of using Docker containers in enterprise applications.		L2	CO3
		Or			
20.	**a.**	**Elaborate** on Kubernetes architecture with a neat diagram, highlighting the role of the master and worker nodes.	20 Marks	L2	CO3
	b.	**Identify** the structure of a Dockerfile and explain each major instruction with examples.		L2	CO3

Or

21.	**a.**	**Compare** manual infrastructure provisioning with automated provisioning using IaC tools in terms of time, cost, and error reduction.	20 Marks	L2	CO4
	b.	**Discuss** the challenges and best practices for implementing Infrastructure as Code and Monitoring in hybrid cloud environments.		L2	CO4
		Or			
22.	**a.**	**Describe** the workflow of Terraform with suitable examples of initialization, planning, and applying infrastructure changes.	20 Marks	L3	CO4
	b.	**Explain** the cloud provisioning process in AWS, GCP, and Azure, highlighting key differences.		L2	CO4