



R22 Regulation
TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A+' Grade)

Subject code:4P5GC&4E5HC

B.Tech V Semester Regular Examinations, December 2024

DEVOPS

(Common to CSE (AI & ML) & CSE(DS))

Maximum Marks: 60

Date:03.01.2025

Duration: 3 hours

- Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A		CO	Bloom Tx
All the following questions carry equal marks (10×1M=10 Marks)			
1.a)	What is Kanban?	1	L1
b)	Mention one benefit of Continuous Integration (CI) in DevOps.	1	L2
c)	Why is software architecture important?	2	L2
d)	Name one limitation of monolithic architecture.	2	L1
e)	What role is typically responsible for merging code changes in a project?	3	L1
f)	How does Docker support development environments?	3	L2
g)	What are Jenkins plugins?	4	L2
h)	Name one feature of Jenkins that supports CI/CD.	4	L1
i)	What is the first step in the TDD process?	5	L1
j)	What are backend integration points?	5	L1
Part-B			
Answer All the following questions. (5×10M=50Marks)		CO	Bloom Tx
2	a) Illustrate and identify bottle necks in DevOps. [5M] b) What is ITIL, and how does it align or conflict with DevOps practices? [5M]	1	L4 L2
OR			
3	a) Describe the Agile development model and how it differs from traditional models like Waterfall. [5M] b) Briefly explain the Scrum framework and its key components (e.g., sprint, roles, ceremonies)? [5M]	1	L2 L3
4	a) Describe the main phases of the DevOps lifecycle and their impact on rapid software delivery. [5M] b) Define software architecture and explain its importance in application development. [5M]	2	L2
OR			
5	a) What is a monolithic architecture, and how does it differ from microservices architecture? [5M] b) Explain the data tier in a microservices architecture. [5M]	2	L2

6	a) Explain the importance of source code control in software development projects. [5M] b) Describe the different roles involved in source code management and their responsibilities. [5M]	3	L3
	OR		
7	a) What are hosted Git servers, and how do they facilitate collaboration? [5M] b) Analyze the data migration and share authentication in Devops. [5M]	3	L1 L4
8	a) Explain about build slaves. [5M] b) Analyze the software on host in Devops. [5M]	4	L4
	OR		
9	a) Describe the typical file system layout for a Jenkins job and its significance. [5M] b) Explain the concept of triggers in Jenkins and their role in automation. [5M]	4	L1 ✓
10	a) Describe two different types of software testing and their purposes. [5M] b) What is Selenium, and what role does it play in automated testing? [5M]	5	L3
	OR		
11	a) Define Test-Driven Development (TDD) and explain its main principles. [5M] b) What is the role of the Puppet master in configuration management? [5M]	5	L2