TCET | THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE & Govt. of Maharashtra | Affiliated to University of Mumbai (UoM)
• Conferred Autonomous Status by UGC for 10 years w.e.f. A.Y. 2019-20
• Accredited with 'A' Grade by National Assessment & Accreditation Council (NAAC)
• Programmes Accredited by National Board of Accreditation (NBA)
• Empowered Autonomous Status Conferred by University of Mumbai for 10 years w.e.f. A.Y. 2025-26

IN-SEMESTER EXAMINATION-I

BE (Semester-VII)

SUBJECT – PE-II (DEVOPS)

Branch: IT
Div.: ALL
Duration: 60 Minutes

Date:14/07/2026
Timing: 12.00 TO 01.00 PM
Maximum Marks: 20

Instructions –

1. All questions are compulsory.
2. Assume suitable data wherever necessary and state the assumptions made.
3. Diagrams / sketches should be given wherever necessary.
4. Use of logarithmic table, drawing instruments and non-programmable calculators is permitted.
5. Figures to the right indicate full marks.

Q.1		Answer any 5 of the following questions	Marks	Course Outcomes	Learning Levels
	a.	List stages in a standard DevOps pipeline.	2	CO1	A
	b.	Outline core values linked to DevOps philosophy.	2	CO1	AN
	c.	Classify deployment models aligned with DevOps in cloud environments.	2	CO1	A
	d.	State actions performed in version control branching.	2	CO2	A
	e.	Recognize suitable file types managed by version control tools.	2	CO2	AN
	f.	List two characteristics of distributed version control systems.	2	CO3	A
	g.	Identify two key differences between Git and CVS.	2	CO3	AN
Q.2	a.	Describe the steps in establishing a version control workflow in a team.	5	CO2	AN
		OR			
	b.	Choose tools for implementing configuration management in hybrid infra.	5	CO2	A
Q.3	a.	Describe Git's role in modern software development pipelines.	5	CO3	AN
		OR			
	b.	Demonstrate the usage of Git commands to clone, commit, push, and pull from a repository.	5	CO3	A

TCET/EXAM/FRM/IP-03/06

REVISION: B

END SEMESTER EXAMINATION, October 2026

16 OCT 2026

B.E. SEMESTER VII (CBCGS-HME 2023)

Branch:	IT	Q.P. Code:	E7C4P21D63-1
Subject:	PE-II (DevOps)	Duration:	2 hours
Subject Code:	PEC- IT 7013	Max. Marks:	60

Instructions:
1. All sections are compulsory
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary and state the assumptions clearly.

Section-I Short Answer Questions (Answer any 05 questions out of 06) (Fundamental, Core Types) (10 Marks)

Q. No.		Marks	CO	RBT Level	PI
1	Choose an appropriate automation tool for build phase and justify its fit.	2	CO1	A	2.5.2
2	Recognize suitable file types managed by version control tools.	2	CO2	AN	3.4.2
3	Classify commands under local and remote operations in Git.	2	CO3	AN	2.4.1
4	Identify two CI tools other than Jenkins used in industry environments.	2	CO4	AN	2.5.2
5	Compare containers and virtual machines based on resource usage.	2	CO5	AN	4.5.1
6	Mention commands used to execute a test case in Selenium.	2	CO6	A	4.5.1

Section-II Descriptive Answer Questions (Answer any 04 out of 06) (Descriptive, Comprehension Types) (20 Marks)

1	Illustrate typical transitions observed in teams shifting from Agile to DevOps.	5	CO1	AN	2.5.1
2	Map each monitoring layer with appropriate feedback metrics.	5	CO2	A	3.5.1
3	Describe Git's role in modern software development pipelines.	5	CO3	AN	1.7.1
4	Illustrate Jenkins architecture including master-agent model and plugin system.	5	CO4	AN	1.7.1
5	Describe the process of container instantiation using Docker CLI.	5	CO5	A	2.5.2
6	Evaluate differences in configuration approaches of Ansible and Chef with real cases.	5	CO6	E	2.5.1

Section-III Long Answer Question (Answer any 03 out of 05) (Application, Analytical, Evaluation, Design Type) (30 Marks)

1	Build a version control structure for a distributed DevOps team with branching logic.	10	CO2	C	2.5.2
2	Formulate a migration plan to switch from CVS to Git in a legacy enterprise system.	10	CO3	C	3.6.4
3	Justify the role of CI/CD in increasing developer productivity and product stability.	10	CO4	E	4.6.3
4	Analyze resource isolation in containers using Linux namespaces and cgroups.	10	CO5	AN	4.5.1
5	Justify the transition from traditional configuration scripting to tool-based provisioning models.	10	CO6	E	2.5.3

IN SEMESTER EXAMINATION II

BE (Semester-VII)

SUBJECT PE-II: DevOps

Timing:
Ma

Branch: IT
Div.: ALL
Duration: 60 Minutes
Instructions –

1. All questions are compulsory.
2. Assume suitable data wherever necessary and state the assumptions made.
3. Diagrams / sketches should be given wherever necessary.
4. Use of logarithmic table, drawing instruments and non-programmable calculato
5. Figures to the right indicate full marks.

		Answer any 5 of the following questions	Marks	Course Outcomes
Q.1				
	a.	Match CI/CD stages with corresponding DevOps goals.	2	CO4
	b.	Classify build failure types observed in Jenkins console output.	2	CO4
	c.	State key benefits achieved through automation in CI/CD pipelines.	2	CO4
	d.	Name two Docker platforms used in modern infrastructure.	2	CO5
	e.	Identify two benefits that containerization offers in DevOps practices.	2	CO5
	f.	Classify configuration management tools based on agent/agentless operation.	2	CO6
	g.	List two phases involved in the agile testing life cycle.	2	CO6
Q.2	a.	Demonstrate the steps for creating a custom container using a Dockerfile.	5	CO5
		OR		
	b.	Describe the process of container instantiation using Docker CLI.	5	CO5
Q.3	a.	Illustrate the structure and features of a Puppet manifest with an example.	5	CO6
		OR		
	b.	Compare manual testing life cycle with continuous testing practices in agile delivery.	5	CO6