



# Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri(West), Mumbai 400058-India  
(An Autonomous Institute Affiliated to University of Mumbai)

## End Semester Examination

**Max. Marks: 100**

**Class: FYMCA**

**Course Code: MC520**

**Course: DevOps**

**Duration: 3 Hrs**

**Semester: II**

**Date: 31/5/24**

**Time: 10 to 1**

### Instructions:

- (1) All Questions are Compulsory.
- (2) Draw neat diagrams.
- (3) Assume suitable data if necessary.

No	Question	Max. Marks	CO	BL
Q1 A	Illustrate DevOps stages with the help of an example. List which tool is required for each stage.	10	1	2
Q1 B	Define the relation between Docker and Kubernetes. Describe how Kubernetes will be used for the company who aims to distribute the workloads with the help of trending technologies.	10	2	3
Q2 A	Illustrate the components of a Docker Container with the help of an example.	10	2	2
Q2 B	Justify how manual testing is used over automation testing for the following scenario. Consider a website that requires a username, password and a captcha for the user to log in. Your colleague suggests that this test execution can be redirected to the manual testing team? Do you agree with them? If yes, why? <b>OR</b> A company is launching a new e-commerce website that will handle sensitive customer information such as credit card details and personal addresses. What security testing strategies would you employ to ensure the website is secure against potential threats?	10	3	4
Q3 A	Build the steps to create a Docker Image for a Python application. List and describe the commands used for the same.	10	2	3
Q3 B	Illustrate Git Workflow with the help of an example. List the commands used for each stage.	10	1	2
Q4 A	Illustrate the role of Cloud in DevOps.	10	4	2
Q4 B	Describe the components of Ansible Playbook. Create a playbook in YAML to install Apache 2 package.	10	1	3
Q5 A	You are working as a DevOps Engineer in a company named ABC Pvt Ltd. You have been asked by your manager to create a Maven Project using Jenkins and build a war file of that project. As a proof of concept, you have been given a web application to build. Identify which steps would be required for the pipeline and design a delivery	10	1	3

	pipeline for the same.			
Q5	Explain how does Nagios work?	10	4	2
B	<p style="text-align: center;"><b>OR</b></p> <p>An e-commerce platform experiences intermittent outages during peak shopping hours, leading to a loss in revenue. The IT team suspects that the issue might be related to database performance. How would you use Nagios to monitor database metrics and identify potential bottlenecks?</p>			