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Uni. Roll No. ....

Program: B.Tech. (Batch 2018 onward)

Semester: 6th

Name of Subject: DevOps: Software Architecture

Subject Code: PCIT-115

Paper ID: 17207

EVENING

2 1 JUN 2023

Max. Marks: 60

Time Allowed: 03 Hours

NOTE:

1) Parts A and B are compulsory
2) Part C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
3) Any missing data may be assumed appropriately

Part – A

[Marks: 02 each]

Q1.

a) What are docker images and docker containers?

b) List various Devops Tools and their corresponding phases.

c) What is the difference between staged and unstaged resources?

d) How do Git and GitHub contribute to the software development process?

e) Differentiate between containerization and virtualization.

f) Differentiate between continuous delivery and continuous deployment.

Part – B

[Marks: 04 each]

Q2. What is the GIT commit lifecycle, and what are its main stages?

Q3. What is Jenkins pipeline? Explain the multibranch pipeline.

Q4. How DevOps uses key aspects of Agile Methodology in software development. (Justify with a suitable diagram and example)

Q5. What do you know about pulling and pushing repositories? Compare and explain them in detail.

Q6. What is docker? How can you create your first container?

Q7. Elaborate implementation of DevOps with an example.

P.T.O.

[Marks: 12 each]

Part – C

Q8. a) Describe the essential components and architecture of Jenkins, highlighting how it enables automation and scalability in software development.

b) Explain the process of configuring Jenkins and how they help in building projects?

OR

Describe the Docker architecture. Also, discuss the various steps used in the docker container life cycle and how to stop and remove containers in Docker.

Q9. Explain the GIT installation steps. How does working with the Bourne Again Shell (BASH) contribute to command-line interaction and scripting in Unix-like environments?

OR

What is the purpose of GIT clone? How to clone the repository to system? Write the workflow of branching and merging with suitable examples.

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