

**INTRODUCTION TO DEVOPS**  
**(2019 Pattern) (Semester - VII) (414445B) (Elective - IV)**

**Time : 2½ Hours]**

**[Max. Marks : 70**

**Instructions to the candidates:**

- 1) Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.**
- 2) Neat diagrams must be drawn wherever necessary.**
- 3) Figures to the right side indicate marks.**
- 4) Assume suitable data, if necessary.**

- Q1) a) What is Continues Integration? What are the benefits of CI? [6]**
- b) What are the most important characteristics of CI/CD pipeline? [6]**
- c) What is build stage? Write step wise process to generate builds? [6]**

**OR**

- Q2) a) How CI helps to improve the time to market aspect for business and development teams? [6]**
- b) What are continues strategy scenarios? [6]**
- c) What is the use of code repository server? How to select a good repository server? [6]**
- Q3) a) Explain in details about Automated Acceptance Test Best Practices. [5]**
- b) Explain the components of continuous testing. [4]**
- c) What are the key stages of a deployment pipeline? What are the primary objectives of each stage? [8]**

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- Q4)** a) Explain in details about Trade-offs in the deployment pipeline. [5]  
b) How does integration testing differ from unit testing? [4]  
c) Write Short note on : [8]  
i) Commit Stage.  
ii) Automated acceptance test gate.

- Q5)** a) What is a Monitoring System? What are key requirements of our monitoring system? [6]  
b) Differentiate between white box monitoring and black box monitoring. [6]  
c) What is Site Reliability Engineering? What does a Site Reliability Engineer do? [6]

**OR**

- Q6)** a) What main components must be considered when building a monitoring system? [6]  
b) What is SRE? What are some common tools used by SREs? Give one example of each? [6]  
c) What are the different sources of collecting data for a monitoring system? [6]

- Q7)** a) How can serverless orchestration help streamline the deployment of serverless applications? [6]  
b) What are some common challenges faced when using Bug tracking tools and the ELK stack and how can they be addressed? [6]  
c) Write a note on Jenkins and its role in Continuous Integration. [5]

**OR**

- Q8)** a) Write a note on Selenium and its role in Continuous testing. [6]  
b) What is version control system? Explain its types. [6]  
c) What is the role of Kubernetes in modern DevOps workflows and how does it integrate with other tools in the pipeline? [5]
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