

**III B. Tech I Semester Regular Examinations, Dec/Jan – 2022-23**  
**DEVOPS**

CSE(AIML),CSE(AI),CSE(DS),CSE(AIDS),AIDS,AIML

Time: 3 hours

Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from **Each unit**

All Questions Carry Equal Marks

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**UNIT-I**

1. a) What is SDLC? Explain various phases involved in SDLC. [7M]
- b) “Agile methodologies apply four values in different ways to guide the development and delivery of high-quality working software” – Support this statement with an explanation of these four values. [7M]
- (OR)
2. a) “There are principles of agile methodology that describe the culture in which change is welcome and the customer is the focus of work” – Support this statement with a short description on the principles of agile methodology. [10M]
- b) What advantages does SDLC offer an organization? Explain. [4 M]

**UNIT-II**

3. a) Describe various components that constitute the DevOps architecture with a neat diagram. [7M]
- b) Write a short note on various categories of waste and hardship in implementing Lean S/W development. [7M]
- (OR)
4. a) What is a DevOps pipeline? Explain various stages involved in the DevOps pipeline. [7M]
- b) Explain the three ways of underpinning principles from which the DevOps behaviors and patterns are derived. [7M]

**UNIT-III**

5. a) Write a short note on the following terminology related to DevOps [10M]
  - i. Infrastructure as a code
  - ii. Containerization
  - iii. Microservices
  - iv. Cloud Infrastructure
  - v. Orchestration
- b) What is the difference between Agile and DevOps? [4M]

(OR)

6. a) “DevOps implementation strategy is based on six fundamental factors to operate and manage applications” – Support this statement with a proper explanation. [7M]
- b) Explain various factors that influence DevOps Adoption. [7M]

**UNIT-IV**

7. a) What is Continuous Integration? Explain a few benefits the software industry gets by incorporating Continuous Integration. [7M]
- b) Explain a minimum of seven metrics that must be monitored before implementing Continuous Delivery into our organization. [7M]

(OR)

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8. a) “The continuous integration process is a critical component of DevOps which involves a lot of challenges” – Support this statement with an explanation of various challenges and best practices that can help us to succeed. [7M]
- b) Differentiate between [7M]
- i. Continuous Integration and Continuous Delivery
  - ii. Continuous Integration and Continuous Deployment
  - iii. Continuous Delivery and Continuous Deployment
- UNIT-V**
9. a) “Different assessment providers are used at different stages for evaluating the DevOps maturity of an organization” – Support this statement with an explanation of various assessment metrics. [7M]
- b) What is DevOps maturity model? Explain various phases of DevOps maturity model with a neat sketch. [7M]
- (OR)
10. a) Describe the four key tenets of DevOps that all mature ecosystems need to be considered as a benchmark for assessing the maturity of DevOps practices. [10M]
- b) Write a short note on the business benefits of DevOps maturity. [4M]