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**G.PULLAIAH COLLEGE OF ENGINEERING AND TECHNOLOGY**  
(AUTONOMOUS)

**B.Tech IV Year II Semester Regular Examinations MAY 2023**

Subject Name: **DevOps**

Branch: **Computer Science and Engineering**

Time: 3 Hours

Max. Marks: 70

**Instructions:**

1. Answer all 10 questions from Part-A. Each question carries two marks
2. Answer one full question from each unit in Part-B. Each full question carries 10 marks

**PART-A**

- |   |   |   |    |     |    |
|---|---|---|----|-----|----|
| 1 | <input checked="" type="checkbox"/> List the features of DevOps?  | 3 | 2M | CO1 | L1 |
|   | <input checked="" type="checkbox"/> What is DevOps?   |   | 2M | CO1 | L1 |
|   | <input checked="" type="checkbox"/> What are the key components of DevOps?                              |   | 2M | CO2 | L2 |
|   | <input checked="" type="checkbox"/> Define Branch workflow in Git.                                      |   | 2M | CO2 | L1 |
|   | <input checked="" type="checkbox"/> What is the importance of Apache Maven?                             |   | 2M | CO3 | L1 |
|   | <input checked="" type="checkbox"/> What is difference between freestyle and pipeline in Jenkins?       |   | 2M | CO3 | L2 |
|   | <input checked="" type="checkbox"/> What is artifacts management?                                       |   | 2M | CO4 | L1 |
|   | <input checked="" type="checkbox"/> What is Continuous Delivery? Is continuous delivery part of DevOps? |   | 2M | CO4 | L1 |
|   | <input checked="" type="checkbox"/> List out the Tasks and Roles of Ansible?                            |   | 2M | CO5 | L2 |
|   | <input checked="" type="checkbox"/> What are the uses of Jinja templates?                               |   | 2M | CO5 | L1 |

**PART-B****UNIT-I**

- |   |   |   |    |     |    |
|---|---|---|----|-----|----|
| 2 | a | Explain about DevOps and its applications.  | 5M | CO1 | L1 |
|   | b | Illustrate about work management in DevOps? | 5M | CO1 | L2 |

**OR**

- |                                     |  |   |     |     |    |
|-------------------------------------|--|---|-----|-----|----|
| <input checked="" type="checkbox"/> |  | Explain the Principles of Agile Software Development. $A \frac{1}{2}$ | 10M | CO1 | L1 |
|-------------------------------------|--|---|-----|-----|----|

**UNIT-II**

- |                                     |   |  |    |     |    |
|-------------------------------------|---|--|----|-----|----|
| <input checked="" type="checkbox"/> | a | Discuss in detail about the differences between Centralized Version Control System and Distributed Version Control System. | 5M | CO2 | L2 |
|                                     | b | What is Git? Explain the features of Git. $5 \frac{1}{2}$  | 5M | CO2 | L1 |

**OR**

- |   |  |   |     |     |    |
|---|--|---|-----|-----|----|
| 5 |  | Elaborate the GitHub flow with example. | 10M | CO2 | L3 |
|---|--|---|-----|-----|----|

**UNIT-III**

- |                                     |   |   |    |     |    |
|-------------------------------------|---|---|----|-----|----|
| <input checked="" type="checkbox"/> | a | Write about Agile CI/CD pipeline. $7 \frac{3}{4}$ | 5M | CO3 | L2 |
|                                     | b | Explain about Jenkins master. $7 \frac{3}{4}$     | 5M | CO3 | L2 |

**OR**

- 7 a Discuss about the Importance of Gradle Automation tool? 5M CO3 L2  
b Describe the features of NPM/Node.js. 5M CO3 L2

**UNIT-IV**

- 8 Explain in detail about the JFrog Artifactory and Nexus? With simple example. 10M CO4 L1

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**OR**

- 9 What is continuous integration continuous deployment and continuous delivery how they work together in software delivery? Justify. 10M CO4 L2

**UNIT-V**

- 10 a Explain about continuous integration and continuous deployment. 5M CO5 L1  
b Discuss in detail about Containerization with Docker? 5M CO5 L2

**OR**

- ~~11~~ Discuss in detail about Docker Architecture? 10M CO5 L2

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