# MODEL QUESTION PAPER: 2024-25

# VIDYAVARDHAKA COLLEGE OF ENGINEERING

**Autonomous Institute, Affiliated to Visvesvaraya Technological University, Belagavi**
**Gokulam, 3rd Stage, Mysuru 570 002**
**Fifth Semester B.E. Examinations**
**COURSE NAME: DevOps**

Duration: 3 hours                                                                                                    Max. Marks: 100

## INSTRUCTION TO STUDENTS

1) Answer <u>One Full</u> question from each module.

2) Three module questions are compulsory and the remaining two modules will have internal choice.

3) Each module carries 20 marks.

| Q. No. | Module-I | Marks | BL | CO/PO |
|---|---|---|---|---|
| 1. (a) | Explain Continuous Integration workflow with a neat diagram. | 10 | L2 | CO1/PO1 |
| 1. (b) | Illustrate scripting and declarative types with respect to IaC. | 10 | L3 | CO2/PO1 |
| | OR | | | |
| 2.(a) | Explain Continuous Delivery workflow with neat a diagram. | 10 | L2 | CO1/PO1 |
| 2.(b) | Illustrate the process of packer installation by using manual and scripting types. | 10 | L3 | CO2/PO1 |
| | **Module-II** | | | |
| 3.(a) | Describe the following git terminologies:<br>1.Repository    2. Clone    3. Commit    4. Branch    5. Merge<br>6. Checkout    7. Pull    8. Add    9. Push    10. Fetch | 10 | L2 | CO1/PO1 |
| 3.(b) | Illustrate the process of Git installation and configuration. | 10 | L3 | CO2/PO1 |
| | **Module-III** | | | |
| 4.(a) | Illustrate the process of Continuous Integration and configuring Github Webhook. | 10 | L3 | CO2/PO1 |
| 4.(b) | Analyze the process of creating Continuous Integration pipeline using GitLab. | 10 | L4 | CO3/PO2 |
| | **Module-IV** | | | |
| 5.(a) | Illustrate the prerequisites for installing Docker. | 10 | L3 | CO2/PO1 |
| 5.(b) | Analyze the process of Building a Docker image by writing a Docker file for java / python application. | 10 | L4 | CO3/PO2 |

| | OR | | | |
|---|---|---|---|---|
| 6.(a) | Illustrate the Docker file instructions used to create Docker image. | 10 | L3 | CO2/PO1 |
| 6.(b) | Analyze the process of instantiating a new container and pushing a Docker image. | 10 | L4 | CO3/PO2 |
| | **Module- V** | | | |
| 7.(a) | Illustrate the process of installing Kubernetes. | 10 | L3 | CO2/PO1 |
| 7.(b) | Analyze the process of creating new instance of a Docker image in a cluster pod for Kubernetes application deployment. | 10 | L4 | CO3/PO2 |