

Seat No.
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**MAR\_APR 2025 SUMMER EXAMINATION****11731 Bachelor of Technology (NEP-2.0)****Sub. Name: DevOps in Machine Learning****Sub. Code: 56526/109776****Day and Date: MAY ,15-05-2025****Total Marks: 70****Time: 10:30 AM To 01:00 PM**

**Instructions:**

1. Assume suitable data wherever necessary and mention it boldly
2. Draw neat labelled diagrams wherever necessary
3. Figures to the right indicate full marks
4. Use Sketches/Diagrams wherever necessary

**Special Inst.:**

- + The question number Q6) is COMPULSORY.
- + Solve ANY 4 QUESTIONS from Q1) to Q5)
- + Read & follow the instructions carefully.
- + Write question numbers properly.

**Q1) Attempt ALL of the following questions. (Solve ALL) [15]**

- a. Demonstrate a developer's responsibilities in a DevOps environment using examples. [8]
- b. Analyse how an ML pipeline simplifies the machine learning workflow. [7]

**Q2) Attempt ALL of the following questions. (Solve ALL) [15]**

- a. Evaluate the role of Version Control in CI. How does it help in collaborative development? [8]
- b. Compare and contrast CI & CD, illustrating differences with examples. [7]

**Q3) Attempt ALL of the following questions. (Solve ALL) [15]**

- a. Analyse the differences and similarities between SRE & DevOps. [8]
- b. Apply the key components of Jenkins architecture to explain distributed build management. [7]

**Q4) Attempt ALL of the following questions. (Solve ALL) [15]**

- a. Evaluate virtualization versus containerization, focusing on their strengths & weaknesses. [8]
- b. Analyse the key changes in a deployment pipeline process. [7]

**Q5) Attempt ALL of the following questions. (Solve ALL) [15]**

- a. How do ML Engineers & DevOps Engineers collaborate in MLOps? [8]
- b. Explain Git and demonstrate how Git supports version control in software development. [7]

**Q6) Write a short note. (ANY TWO) [10]**

- a. Compare white-box and black-box monitoring approaches. [5]
- b. Analyse & list important factors considered while deploying ML models in production? [5]
- c. Evaluate how CI/CD improves speed & reliability in ML model releases. [5]

## **End Of Question Paper**

**Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -**

This Question Paper may be distributed for following Subjects as common code.

सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.

1] (1154) B.Tech. CBCS (56526) DevOps in Machine Learning Part 4 SEM 8