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B.E. (Artificial Intelligence and Machine Learning)
DEVOPS IN MACHINE LEARNING
(2019 Pattern) (Semester-VII) (Elective-IV) (418545 C)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:
1) *Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right side indicate full marks.*
4) *Assume suitable data if necessary.*

Q1) a) Define Continuous deployment. What are its benefits? Explain how continuous Deployment is different from Continuous Monitoring? **[9]**

b) What is Test Driven Deployment? Explain different steps involved in TDD? **[8]**

OR

Q2) a) Explain various deployment pipeline practices and Commit stage with suitable case studies. **[8]**

b) What is Behaviour Driven Development (BDD)? Explain different steps involved in BDD? How BDD is different than TDD? **[9]**

Q3) a) Differentiate between: **[8]**

i) Micro-services and containerization

ii) Orchestration and automation

b) Explain containerization using Dockers. **[9]**

OR

Q4) a) Explain Continuous integration with Jenkins. **[8]**

b) Explain Continuous deployment using Ansible. **[9]**

Q5) a)   Explain with suitable eg. solutions and Future trends in MLOPs.   **[9]**

b)   Enlist and explain various tools to create ML pipelines.   **[9]**

OR

Q6) a)   Explain MLOPs maturity model levels with suitable diagram/case study.**[9]**

b)   Explain with suitable diagram components of MLOPs   **[9]**

Q7) a)   Explain the process of creating and deploying ML models with and without MLOPs.   **[9]**

b)   Explain with suitable case study how data quality and integrity is maintained in MLOPs.   **[9]**

OR

Q8) Write short notes on (Any 3):   **[18]**

a)   JIRA

b)   Different roles involved in MLOPs.

c)   Git

d)   Machine learning life cycle.

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