

TIME:3Hours

Total Marks: 80

- N.B.: (1) Question No. 1 is **compulsory**.
- (2) Solve any **three** questions from the remaining **five**
- (3) **Figures** to the **right** indicate **full** marks
- (4) Assume suitable data if necessary and mention the same in answer sheet.

- Q.1 Attempt any 4 questions [20]
- a) Discuss the role of middleware in cloud computing.
 - b) Analyze the advantages of Integrating Machine Learning with IoT?
 - c) What are the two goals of a data retention strategy for IoT data?
 - d) What are the benefits of using linked analytical datasets (LAD) for IoT analytics?
 - e) Explain Infrastructure as Code.
- Q.2 a) Compares and contrasts grid computing and service-oriented architecture as the direct technological ancestors of cloud computing. [10]
- b) Which on Cloud of Things Architecture would be best suitable for smart logistics application? [10]
- Q.3 a) What role can Machine Learning and IoT play in agriculture? [10]
- b) Explain the concept of constrained devices in IoT and how it affects the data quality and analytics challenges. [10]
- Q.4 a) Explain the OpenFog Reference Architecture in detail. [10]
- b) Which Fog topology is most suitable for smart city applications? [10]
- Q.5 a) Explain the principles and components of the Software-Defined Perimeter architecture. [10]
- b) Explain following cyberattacks [10]
- i. Phishing
 - ii. Password attack
 - iii. DDOS
 - iv. Man in the Middle (MITM)
 - v. Malvertising
- Q.6 a) What is source code management in DevOps? [10]
- b) Explain the DevOps frameworks. [10]
