

Time:(2 Hours)

[Total Marks: 60]

N. B.:

- All questions are **compulsory**.
- Make **suitable assumptions** wherever necessary and **state the assumptions** made.
- Answers to the **same question** must be **written together**.
- Numbers to the **right** indicate **marks**.
- Draw **neat labelled diagrams** wherever **necessary**.
- Use of **Non-programmable** calculators is **allowed**.

**Q1. Attempt three of the following.**

**12 Marks**

- a. What is monolith application? Enlist and explain its disadvantage
- b. Enlist and explain the safety-aligned benefits of microservice architecture
- c. Explain microservice system design process
- d. Enlist and explain the operating principles of UNIX.

**Q2. Attempt three of the following**

**12 marks**

- a. What is Independent Deployability?
- b. Why we need for More Servers?
- c. What are Docker and Microservices?
- d. Discuss the Need for an API Gateway

**Q3. Attempt three of the following.**

**12 marks**

- a. Explain the steps to build a console based web application using ASP.NET Core.
- b. What is Docker? Explain the Docker terminology. Explain Docker installation process.
- c. Explain the steps to build a console based web application using ASP.NET Core and Docker.
- d. Explain the process of continuous integration using CircleCI.

**Q4. Attempt three of the following.**

**12 marks**

- a. Describe the database context
- b. Describe Rabbit MQ
- c. What is Redis cache
- d. How do you run the services

**Q5. Attempt three of the following.**

**12 marks**

- a. Define Real Time Systems
- b. Describe the web socket protocol
- c. How do you build the proximity monitor
- d. Describe Composite Microservices

\*\*\*\*\*