

Misc. 2nd part - I (Sem II) 75/25 d/t. 13/01/2025

(2½ Hours)

[Total Marks: 75]

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.

15 Marks

- a. What is monolith application? Enlist and explain its disadvantage
- b. What is microservice architecture? Explain the characteristics in detail.
- c. Enlist and explain the safety-aligned benefits of microservice architecture
- d. Enlist and explain the operating principles of UNIX.
- e. Write a short note on "Goals for the microservices way".

Q2. Attempt three of the following

15 marks

- a. What are Docker and Microservices?
- b. Discuss the Need for an API Gateway
- c. Write a note on Microservices Culture Guidance.
- d. How many bug fixes/features should be included in a single release?
- e. Explain with example Monitoring and Alerting.

Q3. Attempt three of the following.

15 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. Describe Microservices Ecosystem
- d. Describe Integration Testing in Microservices
- e. Explain the process of continuous integration using CircleCI

Q4. Attempt three of the following.

15 marks

- a. What is Redis cache
- b. How do you run the services
- c. What are ASP.Net Core basics
- d. Describe Cloud-Native Web Applications
- e. What is DNS and Platform Supported Discovery?

Q5. Attempt three of the following.

15 marks

- a. Define Real Time Systems
- b. Describe the web socket protocol
- c. Describe Environment Variables of Docker.
- d. Write a note on Security in the cloud.
- e. How you secure a service with client credentials?
