100 marks   180 minutes

Instructions

Read the instructions provided for every question properly before attempting the answer.

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1. Section - A

5 marks per question   6 display questions   6 maximum answerable

Q1   MCQ - Single Answer   **5** marks   [CO1]

In regards to monolithic applications, they are

○ Required to rebuild & redeploy in case of any changes

○ Packaged as a single logical executable

◉ Both of the above

○ None of the above

Rubrics

Q2   MCQ - Single Answer   **5** marks   [CO4]

A web application firewall (WAF) helps to

○ Protect a web application against malicious HTTP traffic

○ Filters, monitors and blocks HTTP traffic to and from a web application

◉ Both of the above

○ None of the above

Rubrics

Q3   MCQ - Single Answer   **5** marks   [CO1]

Which of the following is True regarding SOA?

○ Follows tight coupling design

◉ SOA applications are independent of any product, vendor or technology

○ Both of the above

○ None of the above

Rubrics

Q4   MCQ - Single Answer   **5** marks   [CO2]

What are the principles of SOA?

○ Loose Coupling

○ Service Autonomy

Q5 MCQ - Single Answer **5** marks CO3

In microservices approach , applications are structured as

○ service where each service is self-contained

○ single business capability

○ a collection of loosely-coupled service

● All of the above

Rubrics

Q6 MCQ - Single Answer **5** marks CO4

Data is confidential when only people who are authorized to access it can do so?

● TRUE

○ FALSE

Rubrics

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2. Section - B

10 marks per question **5** display questions **5** maximum answerable

Q1 Scan and/or Upload **10** marks CO3

Illustrate different building blocks of domain-driven design and mention different steps to leverage domain driven design in building microservices.

Rubrics

Q2 Scan and/or Upload **10** marks CO2

Illustrate the Microservices Architecture and its different principles.

Rubrics

Q3 Scan and/or Upload **10** marks CO1

Describe Service Oriented Architecture with its different components/roles. Also, describe SOA principles.

Rubrics

Q4 Scan and/or Upload **10** marks CO4

Describe the following Security Risks and Vulnerabilities:
a. Injection
b. Broken Authentication
c. Cross-Site Scripting
d. Sensitive Data Exposure

Rubrics

Q5 Scan and/or Upload **10** marks CO2

Explain the Monolithic Architecture with monolithic application components with diagram. Also, describe monolithic application strengths and weaknesses.

3. Section - C

20 marks per question   **1** display questions   **1** maximum answerable

Q1   Scan and/or Upload   **20** marks   [CO3]

Explain the different Microservice Architecture Components – Clients, Identity Providers, API Gateway, Messaging Formats, Databases, Static Content, and Management with diagram. Analyze the UBER's Microservice Architecture in detail by providing the problem statement and solution applied.
OR
Describe Business Process Modelling and its different notations. Analyze the Rainy Day Grocer Microservice Architecture in detail by providing the problem statement and solution applied.

Rubrics