BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - V CS&BS : WINTER : 2024
SUBJECT: CLOUD, MICRO SERVICES & APPLICATION

Day : Monday | Time : 02:30 PM-05:30 PM
Date : 16/12/2024 | W-24173-2024 | Max. Marks : 60

N.B.:
1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Use of **CALCULATOR** is allowed.
4) Draw neat and labeled diagrams **WHEREVER** necessary.

Q.1 Discuss the various applications of cloud computing in today's business and technology landscape. Provide real-world examples of how organizations leverage cloud services to achieve their objectives. **(10)**

OR

Compare and contrast the three primary cloud deployment models: public cloud, private cloud and hybrid cloud. Highlight their advantages and disadvantages and provide scenarios where each is best suited. **(10)**

Q.2 Define and compare key cloud computing terminologies, such as IaaS, PaaS. Discuss the use cases and advantages of each service type and provide real-world examples for clarity. **(10)**

OR

Describe the core security solutions and best practices for securing data and applications in the cloud. Include elements such as encryption, identity and access management and network security. **(10)**

Q.3 Describe Azure App service and its role in cloud application development. Discuss the key features and use cases of Azure App service and explain how it simplifies the deployment and scaling of web and mobile applications. **(10)**

OR

Explain the significance of container orchestration in modern cloud computing. Discuss Azure Kubernetes services (AKS) and its role in managing containerized applications. How does AKS simplify the deployment and scaling of container workloads in Azure? **(10)**

Q.4 Discuss the Significance of cloud-native design patterns in the development of modern applications. Provide an overview of some common cloud- native design patterns and describe their use cases. **(10)**

OR

Define the concept of cloud-native applications and their fundamental principles. How do cloud-native applications differ from traditional **(10)**

monolithic applications and what benefits do they offer in terms of agility and scalability.

Q.5 Explain the key stages in the API lifecycle, from design and development to testing and deployment. Discuss the importance of each stage and the challenges that organizations may face when managing APIs. **(10)**

OR

Discuss the role of Swagger in API documentation and specification. What are the key components od Swagger document and how does it enhance the development and consumption of APIs. **(10)**

Q.6 Explain the fundamentals of application security and its importance in a cloud environment. Discuss common threats and vulnerabilities that applications face and describe strategies for securing applications in the cloud. **(10)**

OR

Provide an overview of Azure security features and services. Discuss how Azure helps organizations protects their cloud resources, manage identities and enforce security policies. **(10)**

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