

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY: PUTTUR-517583

(AUTONOMOUS)

QUESTION BANK (DESCRIPTIVE)
Subject with Code: Cloud Strategy planning and Management(23CS1211)
Year&Sem: IV Year & I Semester
Course&Branch: B.Tech–CSE(CCC)
Regulation: R23
UNIT –I**INTRODUCTION**

1	a	Define cloud computing. Name any two service paradigms.	[L1][CO1]	[2M]
	b	List any four security threats specific to cloud environments.	[L2][CO1]	[2M]
	c	Why is green computing important for modern cloud data centres? Give two reasons.	[L3][CO1]	[2M]
	d	List three principles of green computing that data centres follow to reduce energy consumption.	[L4][CO1]	[2M]
	e	What is self-service on-demand provisioning? How does it differ from managed provisioning?	[L1][CO1]	[2M]
2		Analyze the cloud paradigms..	[L4][CO1]	[10M]
3	a	Compare green computing and edge computing on the basis of goals, processing location, and benefits.	[L2][CO1]	[5M]
	b	Suggest the underlying principles of green computing and how they apply to data centres.	[L3][CO1]	[5M]
4		Explain the evolution of cloud security from early virtualization to modern zero-trust models.	[L2][CO1]	[10M]
5	a	Apply edge Computing principles in a cloud data center.	[L3][CO1]	[5M]
	b	Create the architecture of an edge computing system showing sensors, edge nodes, and cloud.	[L6][CO1]	[5M]
6	a	Differentiate between data security in traditional computing and cloud computing.	[L4][CO1]	[5M]
	b	Illustrate cloud characteristics with examples.	[L2][CO1]	[5M]
7	a	Differentiate Elasticity and Scalability	[L2][CO1]	[5M]
	b	Why has Cloud Security evolved over time?	[L3][CO1]	[5M]
8	a	Explain how elasticity works in cloud computing with a real-world scenario.	[L2][CO1]	[5M]
	b	Create a design plan for a green data centre incorporating edge computing nodes.	[L6][CO1]	[5M]
9		Analyze the major phases in the evolution of cloud security and their impact on modern enterprise cloud adoption.	[L4][CO1]	[10M]
10		Apply the concept of elasticity to design a cloud solution for an e-commerce site during a flash sale. Justify your design choices.	[L3][CO1]	[10M]
11	a	What is Cloud Computing? Evaluate the advantages of Cloud Computing.	[L1][CO1]	[5M]
	b	Illustrate the on-demand provisioning workflow from user request to resource allocation with a diagram.	[L3][CO1]	[5M]

UNIT-II

CLOUD ENABLING TECHNOLOGIES

1	a	Define GPU virtualization and state its primary objective	[L1][CO2]	[2M]
	b	What is a RESTful web service? List the HTTP methods used in REST.	[L1][CO2]	[2M]
	c	List the types of virtualization in cloud computing.	[L4][CO2]	[2M]
	d	Discuss cloud-native virtualization?	[L1][CO2]	[2M]
	e	Define 'System of Systems' (SoS). List its five defining characteristics.	[L1][CO2]	[2M]
2	a	How does Microservices Architecture improve scalability?	[L2][CO2]	[5M]
	b	Explain the characteristics of Microservices Architecture.	[L2][CO2]	[5M]
3		Apply NFV to replace traditional hardware firewalls, load balancers, and IDS in an ISP network.	[L3][CO2]	[10M]
4	a	Construct the NFV reference architecture with all three layers (VNF, NFVI, MANO) and their key interfaces.	[L6][CO2]	[5M]
	b	Illustrate the pub-sub message flow for a real-time ride-hailing system with publishers (drivers), topics, broker, and subscribers (passengers/dispatch).	[L3][CO2]	[5M]
5		How does a Type-1 (bare-metal) hypervisor manage hardware resources across multiple VMs?	[L2][CO2]	[10M]
6		Create block diagram comparing GPU pass-through, vGPU (mediated pass-through), and API remoting architectures.	[L6][CO2]	[10M]
7	a	Express the four GPU virtualization types (API Remoting, Para-virt, Full virt, SR-IOV) across isolation, performance overhead, VM density, and use case.	[L2][CO2]	[5M]
	b	Compare between Type-1 and Type-2 hypervisors with examples of each.	[L2][CO2]	[5M]
8	a	Apply multicore systems in virtualization.	[L3][CO2]	[5M]
	b	Differentiate between REST and SOAP web services across parameters protocol, format, performance, and state.	[L2][CO2]	[5M]
9	a	Illustrate the layered architecture of a Type-1 hypervisor showing hardware, VMM, guest OS, and guest applications.	[L3][CO2]	[5M]
	b	Analyze the evolution of web services from SOAP/WSDL/UDDI to RESTful APIs to GraphQL and gRPC. Evaluate what drove each transition and the trade-offs involved.	[L4][CO2]	[10M]
10		Identify cloud-native virtualization to design a serverless compute platform	[L2][CO2]	[10M]
11	a	Discriminate a disaster recovery architecture.	[L5][CO2]	[5M]
	b	Summarize virtualization improve disaster recovery?	[L2][CO2]	[5M]

UNIT-III

CLOUD ARCHITECTURE,SERVICES AND STORAGE

1	a	List the layers of cloud architecture.	[L1][CO3]	[2M]
	b	Express the characteristics of SAAS	[L6][CO3]	[2M]
	c	State the types of clouds with proper example	[L1][CO3]	[2M]
	d	Define cloud storage.	[L1][CO3]	[2M]
	e	Discuss the advantages of using cloud storage	[L2][CO3]	[2M]
2	a	Illustrate Layered Cloud Architecture with Diagram	[L3][CO3]	[5M]
	b	Discuss in detail about conceptual reference model of cloud	[L2][CO3]	[5M]
3		Apply NIST Cloud Reference Architecture to Build an Enterprise Cloud	[L3][CO3]	[10M]
4	a	Assess the suitability of a Container-as-a-Service (CaaS) platform for a microservices-based enterprise application, justifying your answer with relevant criteria.	[L5][CO3]	[5M]
	b	How does a Multi-Cloud architecture differ structurally and operationally from a Distributed Cloud architecture?	[L2][CO3]	[5M]
5		Evaluate various Layered cloud architectural development design for effective cloud computing environment	[L4][CO3]	[10M]
6	a	Compare Multi-Cloud vs Distributed Cloud	[L2][CO3]	[5M]
	b	Apply your understanding of CaaS to outline the steps for deploying a containerized application using a Kubernetes-based CaaS offering.	[L3][CO4]	[5M]
7		Demonstrate architectural design of compute and storage clouds	[L2][CO4]	[10M]
8	a	Analyze the differences among FaaS, CaaS, and SaaS in terms of control, scalability, pricing, and management overhead.	[L4][CO4]	[5M]
	b	Discuss in detail about saas with example	[L2][CO4]	[5M]
9	a	List out cloud storage provider	[L1][CO4]	[5M]
	b	Demonstrate the types of cloud storage and advantages.	[L2][CO4]	[5M]
10		Explain in detail about Amazon simple storage service(S3)	[L2][CO4]	[10M]
11	a	Identify the key features of S3	[L1][CO4]	[5M]
	b	Express pros and cons of cloud computing	[L2][CO4]	[5M]

UNIT-IV
RESOURCE MANAGEMENT AND SECURITY IN CLOUD

1	a	What are the security challenges in cloud computing?	[L1][CO5]	[2M]
	b	Define security governance	[L1][CO5]	[2M]
	c	Discuss change management	[L2][CO5]	[2M]
	d	Express security monitoring	[L6][CO5]	[2M]
	e	Show the uses of application security	[L1][CO5]	[2M]
2	a	Explain in detail with neat diagram in detail about intercloud resource management	[L2][CO5]	[5M]
	b	Discuss different types of Resource Provisioning	[L2][CO5]	[5M]
3		Analyze in detail cloud Global Exchange of Cloud Resources	[L4][CO5]	[10M]
4		Illustrate the following in detail i.Demand-Driven Resource Provisioning ii.Event-Driven Resource Provisioning iii.Popularity-Driven Resource Provisioning	[L3][CO5]	[10M]
5		Summarize the Following i.Security Governance ii.Security monitoring iii Risk management	[L2][CO5]	[10M]
6		Describe the secure software development life cycle with neat diagram	[L1][CO5]	[10M]
7	a	What are the cloud security challenges?Explain	[L1][CO5]	[5M]
	b	Apply the application security in detail	[L3][CO5]	[5M]
8	a	Discuss virtual machine creation and Management in detail with suitable diagram	[L2][CO5]	[5M]
	b	Create a model to provide resource management among multiple cloud providers.	[L6][CO5]	[5M]
9		Express in detail software as a service security.	[L6][CO5]	[10M]
10	a	Explain the baseline identity and access Management(IAM) factors to be practiced by the stackholders of cloud services and common privacy issues likely to happen in the environment	[L2][CO5]	[5M]
	b	Differentiate between Security Overview and Cloud Security Challenges	[L2][CO5]	[5M]
11		Remember the following in detail i.Data security ii.Application security iii.virtual machine security	[L1][CO5]	[10M]

UNIT-V
CLOUD TECHNOLOGIES AND ADVANCEMENTS

1	a	Discuss about OpenStack	[L2][CO6]	[2M]
	b	List the four levels of cloud federation	[L1][CO6]	[2M]
	c	State and discover the core components of AppEngine	[L1][CO6]	[2M]
	d	Express the Functional models of GAE	[L2][CO6]	[2M]
	e	Name the different modules in Hadoop framework	[L1][CO6]	[2M]
2	a	Describe in detail about it Map reduce techniques	[L1][CO6]	[5M]
	b	Explain the open-source software environment- Hadoop in detail with appropriate diagram	[L2][CO6]	[5M]
3	a	Remember in detail about the Hadoop code	[L1][CO6]	[5M]
	b	Demonstrate HDFS concepts with suitable illustrations	[L2][CO6]	[5M]
4	a	Express in detail about the phases of map and reduce	[L2][CO6]	[10M]
	b	What are the programming supports of Google app engine?	[L1][CO6]	[5M]
5	a	Illustrate in detail about the Google File system	[L3][CO6]	[5M]
	b	Summarize the Following i. Google cloud infrastructure ii. GAE Architecture	[L2][CO6]	[5M]
6	a	State the functional Modules of GAE	[L1][CO6]	[5M]
	b	Discuss in detail future of federation.	[L2][CO6]	[5M]
7	a	Explain in detail about the working process in Google app engine	[L2][CO6]	[5M]
		Discuss in detail about on Hadoop Framework	[L2][CO6]	[10M]
8	a	Analyze the security and privacy challenges anticipated as federation scales to include billions of IoT and edge devices.	[L2][CO6]	[5M]
	b	How does federation enable interoperability between services and applications owned by different, independent organizations?	[L2][CO6]	[5M]
9	a	List out the basic file system operations in Hadoop and Tabulate the Hadoop File System in detail.	[L1][CO6]	[5M]
	b	Compare and contrast Google app engine and Amazon AWS	[L2][CO6]	[5M]
10	a	Explain in detail about federation levels	[L2][CO6]	[5M]
	b	Evaluate federation in the cloud, benefits and implementation with neat diagram	[L4][CO6]	[5M]
11		Identify and explain the programming languages and development tools supported by Google App Engine.	[L1][CO6]	[5M]