

- (d) All of the mentioned
- 1-e. In layered cloud design, which layer provides applications like Zoom, Salesforce, Office 365? (CO3, K2) 1
- (a) SaaS
- (b) IaaS
- (c) Middleware
- (d) PaaS
- 1-f. State the service model best suited for a startup seeking full control over OS, middleware, and applications, but not hardware. (CO3, K3) 1
- (a) SaaS
- (b) IaaS
- (c) PaaS
- (d) FaaS
- 1-g. Select the correct option for a deployment model (CO4, K1) 1
- (a) Public
- (b) Private
- (c) Hybrid
- (d) All of the mentioned
- 1-h. Cloud storage vendors manage capacity, security and ----- to make data accessible to your applications all around the world (CO4, K2) 1
- (a) Networking
- (b) Scalability
- (c) accessibility
- (d) Durability
- 1-i. In general, Select one type of cloud service provides the most areas of accountability for the customer. (CO5,K2) 1
- (a) Platform-as-a-Service (PaaS)
- (b) Security-as-a-Service
- (c) Infrastructure-as-a-Service (IaaS)
- (d) Software-as-a-Service (SaaS)
- 1-j. To find the best security-as-a-service offering for your organization: (CO5,K3) 1
- (a) Ask the vendor what they recommend
- (b) Assess your requirements, do a risk assessment and a cost/benefit analysis of the options
- (c) Find the cheapest monthly option and use whatever is offered with that service
- (d) Ask your peers and do exactly what they're doing
2. Attempt all parts:-
- 2.a. Differentiate between Public Cloud and Private Cloud.(CO1,K4) 2
- 2.b. Give one real-world example of “system of systems” in cloud. (CO2, K3) 2
- 2.c. Define Cloud Computing Reference Architecture (CCRA). (CO3, K1) 2
- 2.d. Identify a scenario where CCRA evolution becomes necessary. (CO4, K3) 2

2.e.	Classify different resource provisioning methods. (CO5, K2)	2
SECTION-B		30
3. Attempt all parts:-		
3.a. Answer any <u>one</u> of the following:-		
3.a.(i)	Explain in detail the different service models of Cloud Computing (IaaS, PaaS, SaaS) with examples.(CO1, K2)	6
3.a.(ii)	Define the Elasticity in Cloud Computing. Explain with real-life scenarios.(CO1,K2)	6
3.b. Answer any one of the following:-		
3.b.(i)	Describe the core principles of Service-Oriented Architecture (SOA). Explain three key principles (e.g., loose coupling, service contract, service reusability) and briefly describe what each means for system design. (CO2,K2)	6
3.b.(ii)	Analyze the advantages and disadvantages of application virtualization compared to server virtualization. (CO2,K4)	6
3.c. Answer any one of the following:-		
3.c.(i)	Describe the responsibilities of a cloud provider. (CO3,K2)	6
3.c.(ii)	Describe the importance of scalability and flexibility in cloud deployment. (CO3,K2)	6
3.d. Answer any one of the following:-		
3.d.(i)	Explain the importance of service management in ensuring performance. (CO4, K3)	6
3.d.(ii)	Assess cloud service management in improving resource utilization. (CO4, K4)	6
3.e. Answer any one of the following:-		
3.e.(i)	Relate inter-cloud resource management to multi-cloud deployments with suitable examples. (CO5, K3)	6
3.e.(ii)	Compare static and dynamic resource provisioning in terms of efficiency. (CO5, K3)	6
SECTION-C		50
4. Answer any <u>one</u> of the following:-		
4-a.	Define Cloud Computing in detail. Explain its evolution, key features, and advantages with real-life examples.(CO1,K1)	10
4-b.	Describe is Utility Computing? Discuss how it supports the growth of cloud-based business models.(CO1,K2)	10
5. Answer any <u>one</u> of the following:-		
5-a.	A company is building a public-facing API for e-commerce. Critique the use of an architecture based on SOAP versus one based on REST for this scenario and recommend the optimal choice, justifying your reasoning. (CO2, K5)	10
5-b.	Explain the different levels of implementation of virtualization with neat diagrams. Compare bare-metal hypervisors (Type-1) and hosted hypervisors (Type-2) with examples. (CO2, K3)	10
6. Answer any <u>one</u> of the following:-		
6-a.	Explain the deployment models (public, private, hybrid) with their advantages and limitations. (CO3,K2)	10

- 6-b. Discuss the benefits of CCRA for cloud adoption in enterprises. (CO3,K2) 10
7. Answer any one of the following:-
- 7-a. Summarize cloud taxonomy and show its classification of SaaS, PaaS, and IaaS. (CO4, K2) 10
- 7-b. Compare traditional IT reference models with IBM's CCRA. (CO4, K3) 10
8. Answer any one of the following:-
- 8-a. Describe the process of resource provisioning in cloud computing with a neat diagram. (CO5, K2) 10
- 8-b. Explain the working of routing in VPC with routing tables. (CO5, K2) 10

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