

Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2020

Course: Cloud Computing Architecture	Semester: III
Programme: B Tech CCVT	Code: CSVT3001
Time: 03 hrs	Max. Marks: 100

SECTION A

1. Each Question will carry 5 Marks

2. Instruction: Complete the statement / Select the correct answer(s)

S.No.		CO
Sec A Q 1.	Give specific examples of services available to a Cloud Consumer IaaS Consumer: i. _____, ii. _____, iii. _____ PaaS Consumer: iv. _____, v. _____, vi. _____ and SaaS Consumer: vii. _____, viii. _____, ix. _____, x. _____	CO5
Sec A Q 2.	In Cloud Computing Reference Architecture following are the function of a Cloud Service Provider. Select all correct answers. a. Service Consumption b. Privacy c. Service Arbitrage d. Performance Audit e. Service Management f. Service Deployment g. Security h. Service Aggregation i. Service Intermediation j. Service Orchestration	CO5
Sec A Q 3.	Select the technologies that are responsible for evolution of cloud: a. AC and Cooling – Water and gas based cooling systems b. Systems management - autonomic computing, data center automation c. Containerization – Dockers and Kubernetes d. Hardware - virtualization, multi-core chips e. Power and Energy – Long battery life and Solar Energy f. Distributed computing - clusters, grids g. Internet technologies - Web services, service oriented architectures, Web 2.0 h. AI and ML – Automatic fault prediction and NLP	CO1
Sec A Q 4.	List the various Deployment and Delivery models: a. _____, b. _____, c. _____, d. _____, e. _____	CO1
Sec A Q 5.	In Cloud Computing Reference Architecture list the five main Cloud Computing Actors: a. _____, b. _____, c. _____, d. _____, e. _____	CO5
Sec A Q 6.	Fill in the blank the type of the service the given examples belong to: a. AWS EC2 _____ b. Google App Engine _____ c. Sales Force _____ d. Blackboard _____ e. Google Analytics _____	CO1

SECTION B

- 1. Each question will carry 10 marks**
2. Instruction: Write short / brief notes

Sec B Q 1.	Use Pizza-as-a-Service as analogy to differentiate IaaS, PaaS and SaaS services. Explain using diagram.	CO1
Sec B Q 2.	Analyze different considerations for using PaaS, such as Business Considerations, Technical/Integration Considerations, Risk Management Considerations, Development and Operations.	CO2
Sec B Q 3.	Compare the three types/categories of SaaS and describe each. Give examples of each category.	CO2
Sec B Q 4.	Explain how load balancing works. List load balancing algorithms. Describe one of the load balancing algorithms.	CO3
Sec B Q 5.	a. Analyze the issues involved, and, illustrate and describe the Cloud Computing Architecture for Global server load balancing. OR b. Analyze the issues involved, and, illustrate and describe, the Cloud Computing Architecture for Database resiliency.	CO3

SECTION-C

- 1. Each Question carries 20 Marks.**
2. Instruction: Write long answer.

Sec C Q 1.	a. You are Chief Solution Architect for GlobalKirneKiDukan.com, a multinational eCommerce company with a very large employee base of more than 50,000 employees. You are asked to migrate your complete operations from companies own data center to cloud environment. Illustrate diagrammatically, and, describe your solution design for either e-commerce or Enterprise Social Collaboration operations. Detail the cloud components and their positioning and relationship in public network/user network, provider cloud and enterprise network. OR b. You are a Consultant Solution Architect for DudeOnTheMove.com a social platform for travel enthusiasts. The management has decided to have a cloud based mobile application that is integrated with Big Data Analytics application that enables them to post advertisements on the application. They have hired you as a consultant to submit a solution architecture either for their cloud based mobile application or Big Data Analytics solutions in the cloud for getting data for their advertisers. Illustrate diagrammatically, and, describe your solution design detailing the cloud components and their positioning and relationship in public network, provider cloud and enterprise network.	CO4
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