A   Reg. No. :

Question Paper Code: 99C04

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024

Elective

Computer Science and Business Systems

19UCB904 - CLOUD MICROSERVICES AND APPLICATION

(Regulations 2019)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Cloud computing is a concept that involves pooling physical resources   CO1-U
   and offering them as which sort of resource?

   (a) cloud   (b) real   (c) virtual   (d) none of the mentioned

2. Which one of the following is Cloud Platform by Amazon?   CO1- U

   (a) Azure   (b) AWS   (c) Cloudera   (d) All of the mentioned

3. _____helps a user to have remote access to an application from a server.   CO1- U

   (a) Application virtualization   (b) Network virtualization

   (c) Desktop virtualization   (d) Storage virtualization

4. Creating more logical IT resources, within one physical system is   CO1- U
   called _____

   (a) Load balancing   (b) Hypervisor   (c) Virtualization   (d) None of these

5. Which of the following is not the type of an Http requests?   CO1- U

   (a) GET   (b) HEAD   (c) PATCH   (d) OPTION

6. Complexity of developing testing and deploying distributed system and   CO1- U
   handling partial failures account to the disadvantage of _____

   (a) Monolithic   (b) Micro services   (c) both of the above   (d) none of the above

7. A Docker registry is a place to store and distribute Docker...............   CO1- U

   (a) Codes   (b) Images   (c) Files   (d) All of the above

8. _____ Command is used for stopping a running container.　　　CO1- U

    (a) $docker kill　　　(b) $docker rm　　　(c) $docker stop　　　(d) $docker start

9. Kubernetes Network proxy runs on which node ?　　　CO1-U

    (a) Master Node　　　(b) Worker Node　　　(c) CIDR Node　　　(d) Both (a) & (b)

10. Kubernetes cluster data is stored in _____　　　CO1- U

    (a) Etcd　　　(b) Kubelet　　　(c) Kube-apiserver　　　(d) None of them

PART – B (5 x 2= 10 Marks)

11. Mention what is the difference between elasticity and scalability in cloud computing?　　　CO1- U

12. List out the benefits of virtualization in the context of cloud computing?　　　CO1- U

13. Why is continuous integration/continuous deployment (CI/CD) important in microservices development for the cloud?　　　CO1- U

14. Distinguish between serverless and container-based microservices in the cloud?　　　CO1- U

15. How do you plan for disaster recovery in a Kubernetes environment, ensuring that critical applications can be restored quickly in case of failures?　　　CO1- U

PART – C (5 x 16= 80 Marks)

16. (a) Describe the service and deployment models of a cloud computing environment with illustrations.　　　CO2-App　　　(16)

                                  Or

    (b) Explain in detail about Elasticity in Cloud and On-demand Provisioning　　　CO2-App　　　(16)

17. (a) Illustrate how virtualization technology supports the cloud computing?　　　CO2-App　　　(16)

                                    Or

    (b) Give the virtualization structure for Hypervisor and Xen Architecture and Explain in detail about the types of virtualization　　　CO2-App　　　(16)

18. (a) Explain in detail about the Challenges, Advantages and disadvantages of Microservices architecture　　　CO1-U　　　(16)

                                    Or

    (b) Analyze how API provides a single point entry for all requests?　　　CO1-U　　　(16)

19. (a) Explain in detail about the '12 factor app'.　　　CO1-U　　　(16)

                                    Or

    (b) Describe in detail about containerization using Docker　　　CO1-U　　　(16)

99C04

20. (a) Explain in detail about the architecture of Master and worker CO1-U (16)
nodes in kubernetes

Or

(b) Write a brief note on Building blocks of kubernetes CO1-U (16)

99C04