Roll No. …………………..

BCA–502(DE-2)

B. C. A. (Fifth Semester) EXAMINATION, 2024-25

CLOUD COMPUTING

Time : 2$\frac{1}{2}$ Hours

Maximum Marks : 60

Note : Attempt all questions.

Section—A

(Multiple Choice Questions)

1. Attempt all questions. 1 each

    (a) In the NIST cloud computing reference model, which role is responsible for using services provided by the cloud ? (CO1, BL-1)

    (i) Cloud Service Provider

    (ii) Cloud Auditor

    (iii) Cloud Consumer

    (iv) Cloud Broker

P. T. O.

(b) Which of the following is not an advantage of using Google App Engine ? (CO3, BL-2)

   (i)   No need to manage servers

   (ii)   Automatic scaling of applications

   (iii) Full control of the infrastructure

   (iv) High availability

(c) Which Google Cloud Service allows the deployment and running of containers ?

                                  (CO3, BL-1)

   (i)   Google Compute Engine

   (ii)   Google Kubernetes Engine

   (iii) Google Cloud Functions

   (iv) Google App Engine

(d) In this type of cloud, the cloud is composed of multiple internal or external cloud :

                                    (CO2, BL-2)

   (i)   Private

   (ii)   Public

   (iii) Protected

   (iv) Hybrid

(e) Which cloud characteristic refers to the ability to scale resources up or down as needed ?

(CO4, BL-2)

(i) Elasticity

(ii) Virtualization

(iii) Scalability

(iv) Cost-efficiency

(f) Which of the following is the primary goal of Green Cloud Computing ? (CO5, BL-1)

(i) Maximizing network speed

(ii) Minimizing environmental impact

(iii) Increasing user data storage

(iv) Enhancing data privacy

(g) Which of the following subject areas deals with pay-as-you-go usage model ?

(CO1, BL-2)

(i) Accounting Management

(ii) Compliance

(iii) Data Privacy

(iv) All of the mentioned

(h) In cloud computing, what does "multi-tenancy" refer to : (CO4, BL-4)

   (i)   A single user accessing multiple clouds

   (ii) Multiple users sharing the same cloud resources

   (iii) Using multiple VMs for one application

   (iv) Storing data in multiple locations

(i) Which of the following cloud providers is known for integrating renewable energy into its data centers ? (CO3, BL-1)

   (i)   IBM Cloud

   (ii) Microsoft Azure

   (iii) Oracle Cloud

   (iv) Google Cloud

(j) Which one of the following can be considered as a utility is a dream that dates from the beginning of the computing industry itself ?

(CO1, BL-2)

   (i)   Computing

   (ii) Model

   (iii) Software

   (iv) All of the mentioned

(k) Which of the following is an example of Infrastructure as a Service (IaaS) ?

[CO4, BL-1]

(i) Google Drive

(ii) Microsoft Azure Virtual Machines

(iii) Salesforce CRM

(iv) Dropbox

(l) Cloud computing in ECG analysis can help in which of the following ways ?   (CO4, BL-2)

(i) Delayed diagnosis due to data transfer

(ii) Immediate access to diagnostic tools for remote doctors

(iii) Reducing the quality of ECG data

(iv) Slowing down the processing speed

2. Attempt any *four* of the following :   3 each

(a) Define cloud computing. Explain the *two* important features of cloud computing.

(CO1, BL-1)

(b) Summarize about the NIST Cloud Computing Reference Architecture.   (CO1, BL-4)

P. T. O.

(c) Write a brief notes on High availability and disaster recovery in cloud computing.

(CO2, BL-6)

(d) Why do you choose a VM over a physical system ?   (CO2, BL-2)

(e) Assess the benefits of using Infrastructure-as-a-Service (IaaS) model ? Briefly discuss about the maturity levels of IaaS architecture.

(CO2, BL-5)

Section—B

(Long Answer Type Questions)

3. Attempt any *two* of the following :   6 each

(a) How do cloud platforms help industries bring new products and services to market faster ?

(CO3, BL-3)

(b) Classify virtualization. What are its benefits ?

(CO3, BL-4)

(c) Compare cloud computing reference model.

(CO3, BL-1)

4. Attempt any *two* of the following :   6 each

(a) Explain the evolution of cloud computing.

(CO4, BL-2)

(b) What role does cloud computing play in image processing, particularly in medical imaging and diagnostics ?   (CO4, BL-5)

(c) What is the role of data centers in cloud computing, and how do they ensure the scalability and availability of cloud services ?

(CO4, BL-1)

5. Attempt any *two* of the following :   6 each

(a) Discuss how emerging technologies like edge computing and the Internet of Things (IoT) impact cloud interoperability. What new challenges and opportunities do these technologies present for cross-platform integration ?   (CO5, BL-6)

(b) Analyze the role of containerization in cloud computing. How do technologies like Docker and Kubernetes facilitate application deployment and management in the cloud.

(CO-5, BL-4)

(c) Summarize various challenges associated with implementing Green Cloud Computing.

(CO5, BL-4)

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