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BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – B.Sc.(ANCS)-Hons-2022
Course Name – Cloud Computing
Course Code - BNCSD603A
(Semester VI)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Identify what the term 'Cloud Computing' refers to.
 - a) Computing on physical machines
 - b) Delivery of computing services over the internet
 - c) Local database management
 - d) Local database management
- (ii) Identify the cloud characteristic refers to customers only paying for what they use.
 - a) Broad network access
 - b) On-demand self-service
 - c) Measured service
 - d) Resource pooling
- (iii) Identify the key difference between Type 1 and Type 2 hypervisors.
 - a) Type 1 runs directly on hardware; Type 2 runs on an operating system
 - b) Type 2 is faster than Type 1
 - c) Type 1 is used for desktop virtualization, while Type 2 is for servers
 - d) None of these
- (iv) Indicate the key advantage of using a virtual machine over a physical machine.
 - a) Higher cost
 - b) Faster hardware upgrades
 - c) Ability to run multiple operating systems on a single host
 - d) Limited flexibility
- (v) Which of the following features in a Type-1 hypervisor ensures isolation between virtual machines while sharing the same physical resources?
 - a) Hypervisor segmentation
 - b) Resource pooling
 - c) Memory Ballooning
 - d) Virtual Machine Monitor (VMM)
- (vi) What was one of the key reasons for Amazon creating AWS?
 - a) To develop mobile applications
 - b) To improve internal infrastructure for managing Amazon's e-commerce platform
 - c) To enter the cloud gaming market
 - d) To acquire other tech companies
- (vii) Identify the year did Amazon begin to conceptualize and develop AWS as a cloud computing platform.

- a) 2000
c) 2004
- b) 2002
d) 2006
- (viii) Choose the S3 feature helps prevent accidental deletion of objects.
a) Versioning
c) Transfer Acceleration
- b) Lifecycle Policies
d) Bucket Policies
- (ix) Write the following instance types is best suited for memory-intensive workloads.
a) T-series
c) R-series
- b) M-series
d) C-series
- (x) What does VPC stand for in Amazon Web Services (AWS)?
a) Virtual Private Connection
c) Virtual Public Cloud
- b) Virtual Private Cloud
d) Virtual Platform Cloud
- (xi) Identify the VPC component allows resources in a private subnet to access the internet.
a) NAT Gateway
c) Security Group
- b) Elastic IP
d) Virtual Private Gateway
- (xii) Predict the following is true about Network ACLs in Amazon VPC.
a) They are stateful and only apply to specific instances.
c) They provide dynamic IP allocation.
- b) They are stateless and apply to an entire subnet.
d) They are used to manage DNS settings.
- (xiii) Which of the following best defines Identity and Access Management (IAM)?
a) A firewall technology to block unauthorized users
c) A database for storing user profiles
- b) A framework for managing digital identities and permissions
d) A system for managing server configurations
- (xiv) Identify the full form of IAM.
a) Identity and Access Management
c) Integrated Authorization Module
- b) Internet Access Management
d) Identity Authorization Mechanism
- (xv) Relate the following statements about IAM groups are correct.
a) Groups are used to grant permissions to multiple users.
c) Groups are used to monitor AWS resource usage.
- b) Groups are used to store user credentials securely.
d) Groups are used to represent a single IAM user.

Group-B
(Short Answer Type Questions)

3 x 5=15

2. Define the concept of Cloud Computing. (3)
3. Classify the types of virtualization. (3)
4. Judge the term "Instance" mean in the context of Amazon EC2. (3)
5. Examine the key features that make Amazon S3 highly durable and scalable. (3)
6. Compare between public and private subnets in a VPC. (3)

OR

- Explain how does AWS ensure security within a VPC. (3)

Group-C
(Long Answer Type Questions)

5 x 6=30

7. Express the impact of cloud computing on small businesses and start-ups. (5)
8. Write the challenges occur to use the cloud computing. (5)
9. Explain different types of virtualization in detail. (5)
10. Express the actual need of virtualization. (5)
11. Explain the factors affecting the performance of Amazon EBS volumes, including volume types, IOPS, throughput, and latency. (5)
12. Compare between Standard, Intelligent-Tiering, One Zone-IA, Glacier. (5)

OR

Write the different storage classes available in Amazon S3.

(5)
