MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

Paper Code : IT-704B

CLOUD COMPUTING

Time Allotted : 3 Hours   *Full Marks* : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A
(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :   10 × 1 = 10

   i) Which model of cloud computing services provides the servers, storage devices, and networks for a subscriber ?

      a) IaaS

      b) PaaS

      c) CaaS

      d) SaaS.

   ii) Which cloud characteristic refers to the ability of a subscriber to increase or decrease its computing requirements as needed without having to contact a human representative of the cloud provider ?

      a) Rapid elasticity

      b) Broad network accessed

      c) On-demand self service

      d) Resource pooling.

   iii) What can cloud computing replace ?

      a) Corporate data centres

      b) Expensive personal computer hardware

      c) Expensive software upgrades

      d) All of these.

   iv) What is the definition of provisioning as an automated process related to cloud computing ?

      a) It moves data from one cloud to another

      b) It provides server consolidation capability

      c) It adds security constrains to a cloud environment

      d) It handles computing resource management processes.

v) Which one of the following is not a major cloud computing service ?

a) Google GWT   b) IBM Deep Blue

c) Microsoft Azure   d) Amazon EC2.

vi) What are the components of a cloud computing environment ?

a) Application, platform, infrastructure

b) Client, application, session, network, data

c) Application, presentation, transport, network, data

d) Client, application, platform, infrastructure, server.

vii) What is not a valid reason for the customer asking a cloud provider where their servers are located ?

a) Geographical location may tell something about network latency

b) The geographical location may tell something about legislation

c) The number of sites tells you something about disaster recovery possibilities

d) When a server breaks down, the customer wants to send a technician to fix the problem as soon as possible.

viii) What is a Virtual Private Network (VPN) ?

a) A secured connection for remote access to a local area network

b) A secured private cloud for a single user

c) A virtual network device for private purposes

d) An operating system for private network systems.

ix) What is an important benefit of cloud ?

a) Highly protected data

b) Independency from the Internet

c) Reduced cost

d) Small bandwidth.

x) Why is a trial period needed when considering to use Software-as-a-Service ?

a) To establish the required bandwidth for using the cloud services

b) To evaluate whether the cloud services will be useful

c) To find out whether the vendor will meet the service agreement

d) To have time to accommodate the local network to use of the new services.

xi) What is a benefit of Cloud computing for IT staff ?

    a) Higher payment of IT staff involved in Cloud computing

    b) Less interruption of work caused by users asking for support

    c) Less knowledge needed : Cloud computing does not require special skills

    d) Less stress levels : less worry about normal daily activities like making back-ups.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following.   3 × 5 = 15

2. Define cloud computing. Differentiate between public cloud and private cloud.   2 + 3

3. What is Hypervisor ? Explain Type-1 and Type-2 hypervisor with diagram.   1 + 4

4. Briefly explain pods, aggregation and silos. Compare between a simple Web Application and a Cloud Application.   3 + 2

5. What is OpenID ? Briefly describe PaaS.   2 + 3

6. What is Latency problem is cloud computing ? Explain the role of Application Delivery Controller (ADC) in Advanced Load Balancing ?   2 + 3

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following.   3 × 15 = 45

7. a) Describe the deployment models of cloud computing.

    b) Briefly describe CaaS.

    c) Explain Jericho Forum's Cloud Cube model with diagram.   5 + 3 + 7

8. a) What are the essential characteristics, different service models and the various deployment models as per the NIST model of Cloud Computing ? Describe with suitable examples and diagram.

    b) Explain Load Balancing and Advanced Load Balancing.   10 + 5

9. a) What is meant by Machine Imaging ? Briefly describe Amazon Machine Image.

    b) Describe through a schematic diagram and necessary explanations how XML and SOA are used to implement an Open SaaS environment.

    c) Explain protocol stack for SOA architecture with diagram.   (2 + 2) + 6 + 5

10. a) Explain Brokered Cloud Storage Access with diagram.

    b) Describe the life cycle management of cloud service.   6 + 9

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11. Write short notes on any *three* of the following :   3 × 5

    a)   IDaaS

    b)   Amazon S3

    c)   The dark web

    d)   Google cloud

    e)   IaaS and PaaS.

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