



# BRAINWARE UNIVERSITY

Course – M.Sc. (HN)

Cloud Computing (MHN204)

(Semester – 2)

**Time allotted: 3 Hours**

**Full Marks : 70**

[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. Choose the correct alternative for the following: (*any ten*) 10 x 1 = 10

(i) Which of the following dimension is related to organization's boundaries?

- a) Physical location of data
- b) Ownership
- c) Security boundary
- d) All of the mentioned

(ii) Which of the below is component of SAN

- a) Ethernet switch
- b) Fiber Switch
- c) Ethernet Card
- d) None of the above

(iii) A SAN network can have

- a) 1 FC switch
- b) 2 FC switch
- c) There can be many FC switches
- d) No FC switch

(iv) Which Switch allows communication between Virtual Machines

- a) Vswitch
- b) TOR Switch
- c) EOR Switch
- d) None of these

(v) NFV visualizes which functions?

- a) Load balancing
- b) Network Security
- c) Network Monitoring
- d) None of these

(vi) Which standard facilitates the user to run experimental protocol for increasing the communication efficiency in data center network?

- a) VMWARE
- b) OPENSTACK
- c) OPENFLOW
- d) None of this

(vii) NOVA is a part of

- a) OPENSTACK
- b) OPENFLOW
- c) OPENNEBULA
- d) IDaaS

(viii) Storage communication protocol is

- a) SCSI
- b) SAS
- c) SATA
- d) None of these

(ix) Data center Architecture supports

- a) Flat Architecture
- b) Rackscale Architecture
- c) Both (a) and (b)
- d) None of these

(x) Server Virtualization is done by

- a) Type-1 Hypervisor
- b) Type-2 Hypervisor
- c) Both (a) and (b)
- d) None of these

(xi) Which of the following is a targeted ad service based on matching advertisers and their keywords to users and their search profiles?

- a) Ads
- b) AdSense
- c) AdWords
- d) All of the mentioned

### **Group – B**

(Short Answer Type Question)

3 x 5 = 15

Answer any *three* from the following

- 2) Describe Cube model of cloud computing with diagram. [5]
- 3) What are different types of deployment environments are provided in cloud? Describe any two of them. [2+3]
- 4) Explain PaaS with example. [5]
- 5) Explain Full virtualization and para-virtualization in cloud. [5]
- 6) Discuss the advantages and disadvantages of cloud computing. [5]

### **Group – C**

(Long Answer Type Question)

3 x 15 = 45

Answer any *three* from the following

- 7) (a) What is cloud computing? Explain the features of cloud computing.  
(b) Describe Flat Data Center Architecture with suitable diagram. [1+4+10]
- 8) (a) Explain vSwitch and TOR switch used in cloud data center.  
(b) Discuss network convergence in cloud. [10+5]
- 9) (a) Describe Storage Hierarchy in cloud Data Center.  
(b) Describe Storage Area Network. [5+10]
- 10) (a) Describe RAID and Erasure coding in cloud.  
(b) Write down the names of advanced storage technologies used in cloud data center?  
(c) Write down short notes on SCSI, SAS. [4+3+8]
- 11) (a) Explain two Characteristics of Software Defined Networking.  
(b) Describe the detailed architecture of OPEFLOW. [5+10]