

KATHMANDU UNIVERSITY
End Semester Examination
August, 2018

Marks scored:

Level : B.Sc.

Course : COMP 478

Year : IV

Semester: I

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No.:

Date AUG 22 2018

SECTION "A"

[20 Q. × 0.5 = 10 marks]

Encircle the most appropriate answer.

1. What is true about an application service provider?
 - a. It offers a computer infrastructure service
 - b. It offers Software as a service
 - c. It offers access to the Internet
 - d. It offers metered service to the customer

2. Which statement is true about the reliability of a cloud computing solution?
 - a. A public cloud is less reliable than a private cloud.
 - b. A hybrid cloud strategy represents the best approach for a reliable cloud computing environment.
 - c. A cloud computing services can schedule a maintenance outage that affects the availability of the resources.
 - d. Cloud computing improves the reliability through the use of multiple sites.

3. What is the type of cloud service where setups is shared between many organizations?
 - a. Internal Cloud b. External Cloud c. Hybrid cloud d. Community cloud

4. What is the main purpose of an IBM CloudBurst solution?
 - a. It provides a feature to deploy IBM WebSphere Application Servers topologies in a cloud environment
 - b. It provides an out of the box cloud solution
 - c. It clones WebSphere topologies across an enterprise
 - d. It provides the software base to build a cloud solution

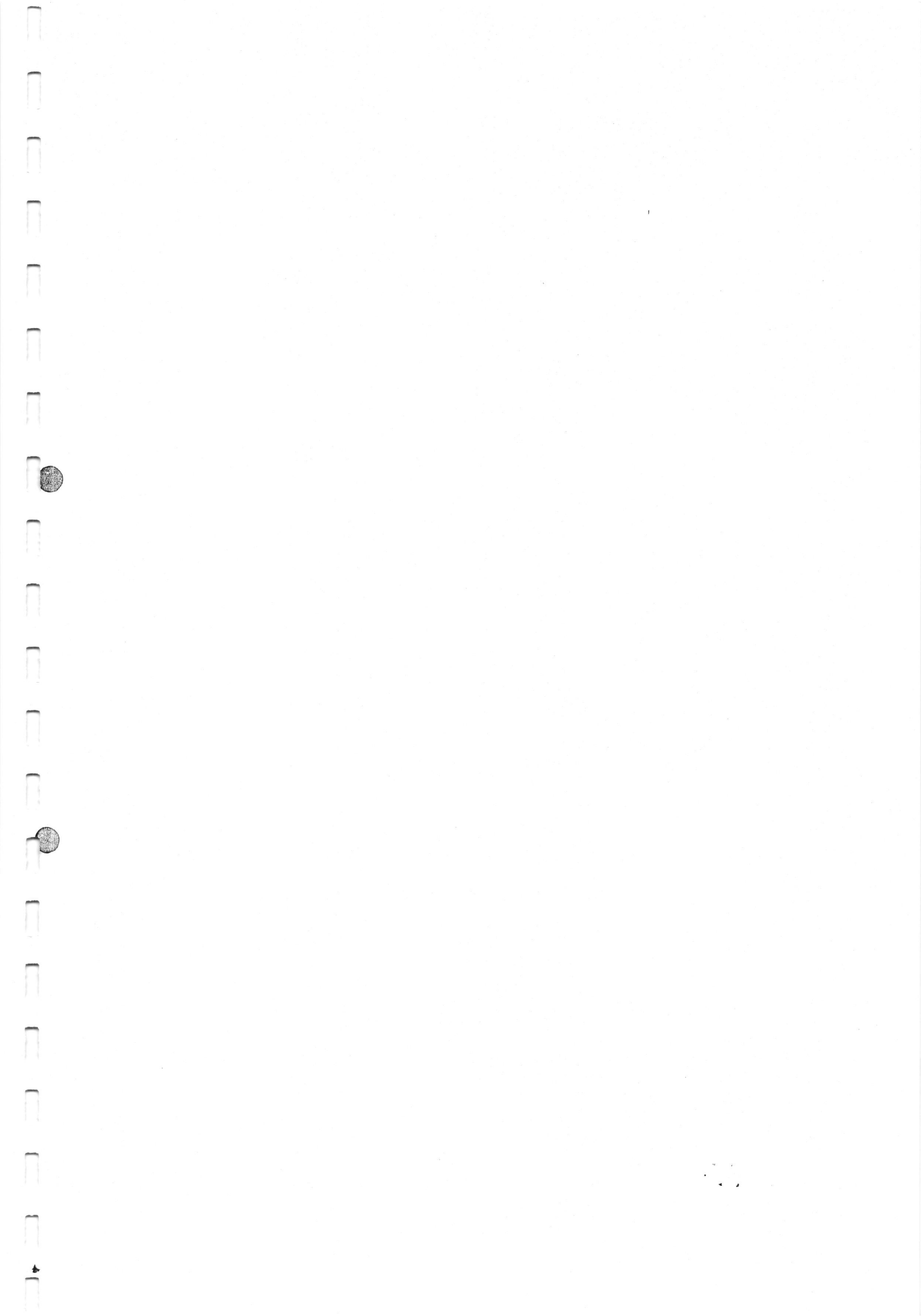
5. Probable solution of lack of control in cloud is
 - a. Certification
 - b. Policy language
 - c. Utilize different cloud
 - d. Private cloud

6. Module availability is given by
 - a. $MTTF / (MTTF + MTTR)$
 - b. $MTBF / (MTBF + MTTR)$
 - c. $MTTR / (MTBF + MTTR)$
 - d. FIT/MTTF

7. What is probable opportunity regarding availability of services in growth of cloud computing.
 - a. Invent Scalable store
 - b. FedExing Disks
 - c. Use multiple cloud providers
 - d. Deploy encryption

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18. Amazon web services (AWS) provide cloud service as
a. PaaS b. SaaS c. IaaS d. XaaS
19. What risks and challenges are less considered in Internet of Things?
a. Privacy and security b. Network traffic and Congestion
c. Energy Consumption d. Processor and Storage
20. If 10 devices are tested for 50 hours. During the test 2 failures occur. The estimate of the MTBF is:
a. 50 hours/ failure b. 250 hours/ failure
c. 500 hours/ failure d. 125 hours / failure



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Level : B.Sc.
Year : IV
Time : 2 hrs. 30 mins.

Course : COMP 478
Semester: I
F. M. : 40

SECTION "B"

[6Q × 4 = 24 marks]

Attempt *ANY SIX* questions.

1. Explain deployment models of cloud.
2. An organization is growing very rapidly which causes problem in scaling computer resources. Which service model would be beneficial for the organization? Justify your answer.
3. What are hypervisors? Explain its significance in implementation of cloud services.
4. Differentiate between cluster computing, grid computing and cloud computing.
5. Why do we need to adopt virtualization in cloud computing? Explain in brief about different types of virtualization.
6. Assume one of the cluster nodes fails every 200 hours. Other parts of the cluster never fail. On average, the mean time for repairing the nodes is four hours. What is the availability of the cluster? What is the yearly failure cost if each one-hour downtime costs \$5,00?
7. Write short notes on: (*ANY TWO*) [2+2=4]
 - a. Apache Hadoop
 - b. IoT in cloud
 - c. Scalability and Elasticity

SECTION "C"

[2 Q. × 8 = 16 marks]

Attempt *ANY TWO* questions.

8. What are the probable measures (as a service provider) to maintain high availability of cloud services? Define and quantify factors that govern dependability of cloud services. [3+5]
9. What are the security challenges that cloud user/provider encounters? Discuss in brief about possible solutions for security issues in cloud services. [3+5]
10. Why is SOA integration and the concept of third party cloud service providers key for cloud computing? Explain in brief about overlapping of SOA of web services and cloud computing. [5+3]

