Tribhuvan University

Institute of Science and Technology

MODEL QUESTION

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Bachelor Level/ Fourth Year/ Seventh Semester/ Science   Full Marks: 60
Computer Science and Information Technology (CSc. 458)   Pass Marks: 24
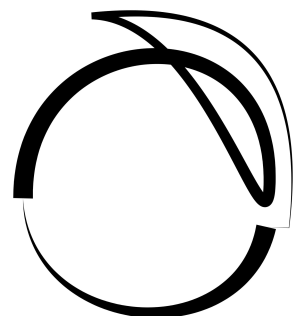**(Cloud Computing)**   Time: 3 hours.
Candidates are required to give their answers in their own words as for as practicable.

Attempt <u>all</u> Questions   **(10 x 6= 60)**

1. Describe about cloud based services. What are the challenges in cloud computing?

2. How grid computing differs from cloud computing? Justify what the elasticity and multitenancy properties of cloud computing means?

3. What do you mean by virtualization? What is the role of virtualization in cloud computing?

4. What are the cloud security challenged? How risks can be handles n cloud computing?

5. Discuss about disasters in cloud. How intrusions are detected in cloud?

6. What do you mean by service oriented architectures (SOA)? How can you characterize SOA?

7. Discuss about Jericho Cloud Cube Model. What are the advantages of Communication-as-a-service (CaaS) Model?

8. Discuss about the implementation issues that need to be considered while maintaining Software-as-a-service (SaaS) Model.

9. Discuss about the planning needed for building the service oriented architecture.

10. Describe the services provided by the Monitoring-as-a-service (MaaS) vendors in cloud service systems.

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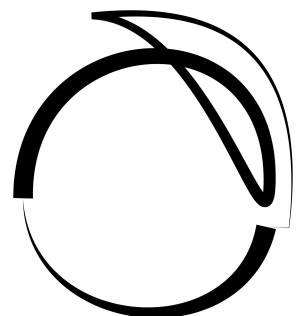**Computer Science and Information Technology (CSc. 458)**   Pass Marks: 24
(Cloud Computing)   Time: 3 hours.
Candidates are required to give their answers in their own words as for as practicable.

Attempt <u>all</u> Questions   **(10 x 6= 60)**

1. Explain the cloud computing model and its benefits.

2. Explain the cloud deployment models.

3. What are the difference between public clouds and private clouds?

4. What are the implementation issues of SAAS? Explain.

5. Explain platform-as-a-service and its challenges.

6. Explain the data center virtualization.

7. What do you mean by service oriented architecture (SOA)? Explain with example.

8. How can you design the security architecture in cloud? Explain.

9. Explain the process of implementation of network intrusion detection.

10. Explain the disaster recovery planning of cloud computing.

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Bachelor Level/ Fourth Year/ Seventh Semester/ Science   Full Marks: 60
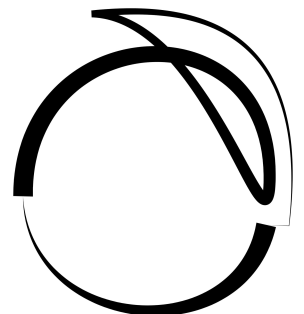**Computer Science and Information Technology (CSc. 458)**   Pass Marks: 24
(Cloud Computing)   Time: 3 hours.
Candidates are required to give their answers in their own words as for as practicable.

Attempt all Questions   **(10 x 6= 60)**

1. How can you define cloud service? Describe the characteristics of a cloud service.

2. Differentiate between each of the private, public and hybrid cloud models with suitable examples.

3. What is the role of Early Detection and Intelligent Log Centralization and Analysis services in Monitoring-as-a-service (MaaS) Model?

4. What are the benefits of using Software-as-a-Service (SaaS) Model? Briefly discuss about the maturity levels of SaaS Architecture.

5. What do you mean by Service Oriented Architecture (SOA)? How cloud services get benefitted by SOA?

6. What are the Manages Service Providers (MSP)? Discuss the evolution of MSP Model to Cloud Computing.

7. What is the need for data center virtualization? What are the benefits of data center virtualization?

8. Explain the different approaches for enforcing host security in a cloud environment.

9. What do you mean by disaster recovery? How recovery point objective differs from recovery time objective?

10. Write short notes on (Any Two)
    a) Data Segmentation and Credential Management
    b) Role of open source software in cloud computing
    c) Grid Computing

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2071 (II)

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Bachelor Level/ Fourth Year/ Seventh Semester/ Science   Full Marks: 60
Computer Science and Information Technology (CSc. 458)   Pass Marks: 24
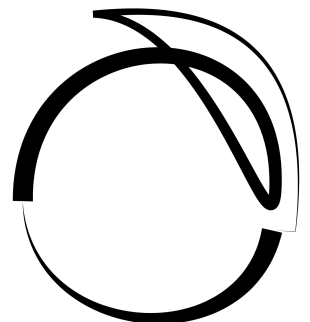**(Cloud Computing)**   Time: 3 hours.
Candidates are required to give their answers in their own words as for as practicable.

Attempt all Questions   **(10 x 6= 60)**

1. How does grid computing differ from cloud computing? Justify what the self-service provisioning and multitenancy properties of cloud computing means.

2. Describe possible services that can be achieved through Infrastructure-as-a-Service (IaaS).

3. What do you mean by Elastic IP Addressing? Describe how elastic IPs work in cloud services.

4. Discuss the planning needed for building the Service Oriented Architecture.

5. What are the Managed Service Providers (MSP)? Discuss the evolution of MSP Model to Cloud Computing.

6. "Virtualization is the key to cloud computing". Justify this statement with proper arguments. How hypervisors are used in cloud computing services?

7. Explain the different types of implementing Network Intrusion Detection Systems in cloud.

8. What can be the impact of disasters in cloud? How geographic redundancy and organizational redundancy ensures disaster recovery in cloud services?

9. Discuss how security architecture and trust architecture ensure security of cloud services networks.

10. Write short notes on (Any Two)
    a) Jericho Cube Model
    b) Role of open source software in cloud computing
    c) Utility Computing

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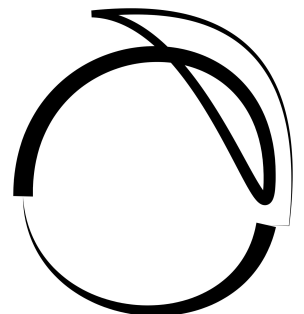*Candidates are required to give their answers in their own words as for as practicable.*

Attempt <u>all</u> Questions   **(10 x 6= 60)**

1. Explain the components of cloud computing.

2. Explain platform-as-a-service (PaaS) and its characteristics.

3. Explain the cloud data center and its applications.

4. Explain the software-as-a-service and its characteristics.

5. Explain the service provided by the amazon EC2 service from user perspective.

6. Explain the service oriented architecture (SOA) and its characteristics.

7. Explain the Jericho cloud cube model.

8. Explain the cloud security challenges.

9. What do you mean by network intrusion detection?

10. Explain the disaster recovery planning in cloud system.

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(Cloud Computing)   Time: 3 hours.
Candidates are required to give their answers in their own words as for as practicable.

Attempt all Questions   **(10 x 6= 60)**

1. What do you mean by cloud? Describe about the basic characteristics of cloud.

2. What type of deployment models can be adopted in cloud computing. Describe each of them with suitable example.

3. Discuss the capabilities that the cloud users can get through Platform-as-a-service (PaaS). Also, mention the key characteristics of PaaS.

4. How the Jericho Cloud Cube model dimensions like *perimeterised*, *de-perimeterised* and *proprietary*, open differentiate the cloud formations from each other?

5. What do you mean by Service Oriented Architecture? How can you characterize Service Oriented Architecture?

6. What are the Managed Service Providers (MSP)? Discuss the evolution of MSP Model to Cloud Computing.

7. Define virtualization. What is the role of virtualization in cloud computing?

8. What do you mean by an intrusion in a cloud network? How intrusions in cloud networks are detected?

9. How data segmentation and credential management ensures host security in a cloud? Explain with suitable example.

10. Write short notes (Any Two):
    a) Risk Assessment in Cloud
    b) Role of open source software in cloud computing
    c) Grid Computing