Enrollment No......................................

Faculty of Engineering
End Sem (Even) Examination May-2022
OE00056 Cloud Security

Programme: B.Tech.   Branch/Specialisation: All

Duration: 3 Hrs.   **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

Q.1
i. With symmetric key algorithms, the ____ key is used for the encryption and decryption of data. **1**
    (a) Different   (b) Same
    (c) Both (a) and (b)   (d) None of these

ii. Using Rivest, Shamir, Adleman cryptosystem with p=7 and q=9. Encrypt M=24 to find ciphertext. The Ciphertext is: **1**
    (a) 42   (b) 93   (c) 114   (d) 103

iii. What are the security risks of cloud computing? **1**
    (a) Recovery   (b) Privileged access
    (c) Loss of data   (d) All of these

iv. Which of the following has infrastructure security managed and owned by the vendor? **1**
    (a) Hybrid   (b) Private/Community
    (c) Public   (d) None of these

v. Which of the following is done by Identity management? **1**
    (a) Controlling access to data in the cloud
    (b) Maintaining user roles
    (c) Preventing unauthorized uses
    (d) All of these

vi. Which of the following is required by Cloud Computing? **1**
    (a) That you establish an identity
    (b) That the identity be authenticated
    (c) That the authentication be portable
    (d) All of these

P.T.O.

vii. Which of the following service provider provides the least amount of built-in security? **1**
(a) SaaS   (b) PaaS   (c) IaaS   (d) All of these

viii. Point out the wrong statement: **1**
(a) You can use proxy and brokerage services to separate clients from direct access to shared cloud storage
(b) Any distributed application has a much greater attack surface than an application that is closely held on a Local Area Network
(c) Cloud computing don't have vulnerabilities associated with Internet applications
(d) All of these

ix. Which of the following is a compliance standard? **1**
(a) PCI-DSS   (b) HIPPA   (c) GLBA   (d) All of these

x. Which of the following is one of the most actively developing and important areas of cloud computing technology? **1**
(a) Logging   (b) Auditing
(c) Regulatory compliance   (d) None of these

Q.2 i. What is the difference between private key and public key encryption? **2**

ii. What is the defence in depth? **3**

iii. Explain the procedure involved in RSA public-key encryption with example. **5**

OR iv. Explain the concept of digital signature with example. **5**

Q.3 i. What are risk factors associated with infrastructure security at the network level? **4**

ii. What does the importance of host level security? Explain an approach of host level security? **6**

OR iii. How are security policies implemented on cloud computing? **6**

Q.4 i. What is the importance of IAM? **3**

ii. What are the challenges of identity management in the cloud? Explain the IAM architecture in cloud computing. **7**

OR iii. What are authentication protocols in IAM? What are the different types of IAM management practices? **7**

Q.5 i. Explain the concept of Security Management in the Cloud? **4**

ii. What is availability management? Explain the concept of PaaS availability management. **6**

OR iii. Explain the concept of Access Control and Configuration Management. **6**

Q.6 Attempt any two:

i. Why is cloud computing governance and compliance important? **5**

ii. Explain the concept of ownership of data and right to penetration test. **5**

iii. What is the difference between the compliance for the cloud provider and customer? **5**

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Marking Scheme - OE00056 Cloud Security

Q.1 i. With symmetric key algorithms, the ____ key is used for the encryption and decryption of data.   **1**
(b) Same

ii. Using Rivest, Shamir, Adleman cryptosystem with p=7 and q=9. Encrypt M=24 to find ciphertext. The Ciphertext is: **1**
(c) 114

iii. What are the security risks of cloud computing?   **1**
(c) Loss of data

iv. Which of the following has infrastructure security managed and owned by the vendor?   **1**
(b) Private/Community

v. Which of the following is done by Identity management?   **1**
(d) All of these

vi. Which of the following is required by Cloud Computing?   **1**
(d) All of these

vii. Which of the following service provider provides the least amount of built-in security?   **1**
(c) IaaS

viii. Point out the wrong statement: **1**
(c) Cloud computing don't have vulnerabilities associated with Internet applications

ix. Which of the following is a compliance standard?   **1**
(d) All of these

x. Which of the following is one of the most actively developing and important areas of cloud computing technology?   **1**
(c) Regulatory compliance

Q.2 i. At least 2 difference   (1*2) marks   **2**
ii. Defence in depth   3 marks   **3**
iii. Procedure RSA public-key encryption   3 marks   **5**
Its example   2 marks
OR iv. Concept of digital signature   3 marks   **5**
Its example   2 marks

Q.3 i. Risk factors associated with infrastructure security   **4**
Define at least 4 factors   (1*4) marks
ii. Importance of host level security   3 marks   **6**
Approach of host level security   3 marks
OR iii. Security policies implemented on cloud computing   **6**
As per explanation   6 marks

Q.4 i. Any 3 Importance of IAM   (1*3) marks   **3**
ii. At least 3 challenges   (1*3) marks   **7**
IAM architecture in cloud computing   4 marks
OR iii. Authentication protocols in IAM   3 marks   **7**
Different types of IAM management   4 marks

Q.5 i. Concept of Security Management   **4**
As per explanation   4 marks

ii. Availability management   3 marks   **6**
Concept of PaaS availability management   3 marks
OR iii. Concept of Access Control   3 marks   **6**
Concept of configuration Management   3 marks

Q.6 Attempt any two:
i. Cloud computing governance   2.5 marks   **5**
Compliance important   2.5 marks
ii. Concept of ownership of data   2.5 marks   **5**
Right to penetration test   2.5 marks
iii. Any 5 difference   (1*5) marks   **5**

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