

Enrollment No.....



Faculty of Engineering  
End Sem (Odd) Examination Dec-2019  
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. \_\_\_\_\_ provides virtual machines, virtual storage, virtual infrastructure, and other hardware assets 1  
(a) IaaS (b) SaaS (c) PaaS (d) All of these
- ii. SSL primarily focuses on \_\_\_\_\_ 1  
(a) Integrity and authenticity (b) Integrity and non-repudiation  
(c) Authenticity and privacy (d) Confidentiality and integrity
- iii. Which of the following is storage data interchange interface for stored data objects? 1  
(a) OCC (b) OCCI (c) OCMI (d) All of these
- iv. Which of the following is used to evaluate your own cloud application's network performance? 1  
(a) Path Cloud (b) View Cloud  
(c) Path View Cloud (d) All of these
- v. Point out the correct statement: 1  
(a) Identities are not tied to the concept of accounts and can be used for contacts or "ID cards"  
(b) Presence is important in cloud computing because it adds context that can modify services and service delivery  
(c) Identities are important from a reliability standpoint  
(d) All of these
- vi. Point out the wrong statement: 1  
(a) Each different type of cloud service delivery model creates a security boundary

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[2]

- (b) Any security mechanism below the security boundary must be built into the system
- (c) Any security mechanism above the security boundary must be maintained by the customer
- (d) All of these
- vii. The \_\_\_\_\_ protects your privacy by bouncing your connection and links around a distributed network over the globe run by volunteers. It gives three layers of anonymity.  
 (a) Cookie removers (b) Private Search Engines  
 (c) Tor browser (d) VPNs **1**
- viii. The addition of a software package on top of a cloud storage volume makes most cloud storage offerings conform to a \_\_\_\_\_ as a Service model. **1**  
 (a) Software (b) Platform (c) Analytics (d) None of these
- ix. Point out the wrong statement: **1**  
 (a) Abstraction enables the key benefit of cloud computing: shared, ubiquitous access  
 (b) Virtualization assigns a logical name for a physical resource and then provides a pointer to that physical resource when a request is made  
 (c) All cloud computing applications combine their resources into pools that can be assigned on demand to users  
 (d) All of these
- x. Which of the following is a compliance standard? **1**  
 (a) PCI-DSS (b) HIPPA (c) GLBA (d) All of these
- Q.2 i. Define non-repudiation and availability. **2**  
 ii. Explain user authentication system. **3**  
 iii. With the help of diagram explain symmetric cryptography and asymmetric cryptography in detail? **5**
- OR iv. Draw and explain architecture of cloud model? Write digital signatures mechanism? **5**
- Q.3 i. Write security objectives of cloud? **2**

[3]

- ii. What is cloud security design principles? Also explain CIA triad and privacy risk. **8**
- OR iii. Explain **8**  
 (a) Network Level Security (b) Application Level Security  
 (c) Host Level Security (d) Data Security Mitigation
- Q.4 i. Explain trust boundaries? Write its types. **3**  
 ii. What is IAM Standards? Define protocols for cloud Services and write about any two protocols. **7**
- OR iii. What is cloud authorization management? Write challenges in access management? **7**
- Q.5 i. Explain security management standards? **4**  
 ii. Write short note on **6**  
 (a) PaaS Availability Management  
 (b) IaaS Availability Management  
 (c) Access Control
- OR iii. Define security vulnerability? How it effects to cloud security? **6**
- Q.6 Attempt any two:  
 i. What is right to penetration test and ownership of data? **5**  
 ii. Explain PCIDSS Standard? What are the levels of PCI compliance? **5**  
 iii. How cloud services and virtualization work? Also describe compliance for the customer? **5**

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**Marking Scheme**  
**OE00056 Cloud Security**

Q.1	i.	_____ provides virtual machines, virtual storage, virtual infrastructure, and other hardware assets		<b>1</b>
		(a) IaaS		
	ii.	SSL primarily focuses on _____		<b>1</b>
		(a) Integrity and authenticity		
	iii.	Which of the following is storage data interchange interface for stored data objects?		<b>1</b>
		(b) OCCI		
	iv.	Which of the following is used to evaluate your own cloud application's network performance?		<b>1</b>
		(c) Path View Cloud		
	v.	Point out the correct statement:		<b>1</b>
		(b) Presence is important in cloud computing because it adds context that can modify services and service delivery		
	vi.	Point out the wrong statement:		<b>1</b>
		(d) All of these		
	vii.	The _____ protects your privacy by bouncing your connection and links around a distributed network over the globe run by volunteers. It gives three layers of anonymity.		<b>1</b>
		(c) Tor browser		
	viii.	The addition of a software package on top of a cloud storage volume makes most cloud storage offerings conform to a _____ as a Service model.		<b>1</b>
		(a) Software		
	ix.	Point out the wrong statement:		<b>1</b>
		(c) All cloud computing applications combine their resources into pools that can be assigned on demand to users		
	x.	Which of the following is a compliance standard?		<b>1</b>
		(d) All of these		
Q.2	i.	Define non-repudiation	1 mark	<b>2</b>
		Availability	1 mark	
	ii.	Definition of user authentication system	2 marks	<b>3</b>
		Example	1 mark	
	iii.	Symmetric cryptography and asymmetric cryptography	3 marks	<b>5</b>
		Diagram	2 marks	

OR	iv.	Architecture of cloud model	2 marks	<b>5</b>
		Diagram	1 mark	
		Digital signatures mechanism	2 marks	
Q.3	i.	Security objectives of cloud		<b>2</b>
	ii.	Cloud security design principles	4 marks	<b>8</b>
		CIA triad	2 marks	
OR	iii.	Privacy risk	2 marks	
		Explain 2 marks for each	(2 marks * 4)	<b>8</b>
Q.4	i.	Definition of trust boundaries	2 marks	<b>3</b>
		Its types	1 mark	
	ii.	Definition of IAM Standards	3 marks	<b>7</b>
OR	iii.	Protocols for cloud Services a		
		2 marks for each with diagram (2 marks * 2)	4 marks	
		Cloud authorization management	3 marks	<b>7</b>
Q.5	i.	Challenges in access management		
		1 mark for each challenge (1 mark * 4)	4 marks	
Q.5	i.	Security management standards		<b>4</b>
		Definition	3 marks	
		Types	1 mark	
OR	ii.	Write short note on		<b>6</b>
		(a) PaaS Availability Management	2 marks	
		(b) IaaS Availability Management	2 marks	
Q.6	iii.	(c) Access Control	2 marks	<b>6</b>
		Security vulnerability	3 marks	
		Effects to cloud security		
Q.6	i.	At least four effects	3 marks	<b>5</b>
		Attempt any two:		
		What is right to penetration test and ownership of data?		
Q.6	ii.	2.5 marks for each definition (2.5 marks * 2)		<b>5</b>
		PCIDSS Standard	3 marks	
		Levels of PCI compliance	2 marks	
Q.6	iii.	Explanation of cloud services and virtualization work		<b>5</b>
			3 marks	
		Compliance for the customer	2 marks	

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