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2504N046

Candidate's Seat No : \_\_\_\_\_

Five Years Integrated M.Sc. I.T. (Sem.-4) (IT-IMS & CS) Examination

Principle of Virtualization

Time : 2-30 Hours]

April 2019

[Max. Marks : 70

**Instructions:**

1. Figures to the right indicates full marks
2. Neat diagrams must be drawn wherever necessary.

Q. 1) (A) answer the following questions:

(14 Marks)

1) Explain the structure of VMM using appropriate example.

OR

- 1) Explain the holodecks and Traffic Cops situation for hypervisor.
- 2) Explain the process of resource allocation by hypervisor.

Q. 1) (B) Answer the following questions in One-Two lines: (Any Four)

(04 Marks)

- i) Where the hypervisor resides?
- ii) What are the three basic roles of hypervisor?
- iii) Define: Template with reference of VM.
- iv) Define: Proprietary hardware.
- v) Define: ballooning


Q. 2) (A) answer the following questions:

(14 Marks)

1) Explain memory overcommitment with an appropriate diagram.

OR

- 1) Explain ballooning memory with an appropriate example.
- 2) Explain Containment and Consolidation in detail.



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Q. 2) (B) Answer the following questions in One-Two lines: (Any Four)

(04 Marks)

- i) Define: swap space
- ii) Define: DAS
- iii) Define: OVA
- iv) Define: Page sharing
- v) Define: swap space

Q. 3) (A) answer the following questions:

(14 Marks)

- 1) List the basic properties of VMM and explain them in detail.

OR

- 1) Explain Optimization with reference of VM in detail.
- 2) Explain SSD storage in detail.

Q. 3) (B) Answer the following questions in One-Two lines: (Any Three)

(03 Marks)

- i) what is memory overhead?
- ii) Define: defragmentation
- iii) Define: downtime
- iv) Define: High Availability

Q. 4) (A) answer the following questions:

(14 Marks)

- 1) Explain the three-tier architecture of virtual environment in detail.

OR

- 1) Explain the virtual storage pathway with an appropriate diagram.
- 2) What is HA? Explain in detail.

Q.4. (B) Answer the following questions in One-Two lines: (Any Three)

(03 Marks)

- i) What is clustering?
- ii) What is resource pool?
- iii) Define: tired storage.
- iv) What is multipathing?

\*\*\*\*\*END\*\*\*\*\*

## Five Years Integrated M.Sc. I.T. (Sem.-4) (IT-IMS &amp; CS) Examination

## Fundamentals of IT Security

Time : 2-30 Hours]

April 2019

[Max. Marks : 70

## Instructions:

1. Figures to the right indicates full marks
2. Neat diagrams must be drawn wherever necessary.

Q. 1) (A) How does the Network-based IDS works?

(14 Marks)

OR

Answer the following Question in two-three lines:

- 1) State the issues that needs to be taken care of during crafting backup plan.
- 2) What is the difference between Identification and Authentication?
- 3) Explain load-balancer.
- 4) Define Armored Virus.
- 5) What is PaaS model of cloud computing?
- 6) Explain Man-in-the-Middle attack.
- 7) What is public cloud?

(B) Choose the appropriate option for the following questions: (Any Four)

(04 Marks)

- 1) Which of the following strategies involves sharing some of the risk burden with someone else, such as an insurance company?
 

a. Risk Acceptance	c. Risk Mitigation
b. Risk Avoidance	d. Risk Transference
- 2) Which is a system that is intended or designed to be broken into by an attacker?
 

a. Honeypot	c. Decoy
b. Honeybucket	d. Spoofing System
- 3) Which of the following protocol isn't a tunneling protocol but is probably used at site by tunneling protocol for network security?
 

a. PPTP	c. L2TP
b. IPsec	d. PPP
- 4) PPTP You are being trained to perform server backups. Which access control method would be ideal for this situation?
 

a. RBAC	c. DAC
b. MAC	d. Security Token
- 5) What technology is used to send data between phones that are in close proximity to each other?
 

a. IFCN
b. IBI
c. IBJ
d. NFC

- 6) Which cloud service model provides the consumer with infrastructure to create applications and host them?
- |         |         |
|---------|---------|
| a. CaaS | c. IaaS |
| b. PaaS | d. SaaS |

Q-2) (A) Answer the following questions. (14 Marks)

- 1) What is the difference between NoSQL database and SQL Database?
  - 2) What is Kerberos? Explain how clients are authenticated by using Kerberos.
- OR

- 1) You are network administrator of web server that generates \$10000 per hour in revenue. The probability of the web server failing during the year is estimated to be 25%. A failure would lead to 3 hours of down time and costs \$5000 in components to correct. Show the calculation and find out ALE.
- 2) You are administrator for research firm. The value of each research project is \$100000. At any given time as intruder could commandeer no more than 90% of data. The industry average ARO is 0.33. Show the calculation and find out ALE.

(B) Answer the following questions in one-two lines. (Any four) (04 Marks)

- 1) Explain the term : Hardware Security Module
- 2) What is Jamming?
- 3) State the fundamentals of Application-based proxy firewall.
- 4) Define incremental backup.
- 5) State the CMD tools you can use to get information of your network.
- 6) Explain Service attack: Buffer overflow.
- 7) What is Private cloud?

Q-3) (A) Explain the cryptanalysis methods. (14 Marks)

OR

Answer the following question with description.

- 1.) How does the IPsec work in VPN Tunnel?
- 2.) What is LDAP? How active directory uses LDAP?

(B) Choose appropriate option for following questions. (Any Three) (03 Marks)

- 1) Which of the following way suggests to install application in virtual machine so that it is isolated from the host environment?
 

a. Sandboxing	
b. Sues Testing	
c. Dynamic Testing	
d. Placing it on encrypted drive	
- 2) Which type of attack denies authorized users access to network resources?
 

a. DOS	c. Logic Bomb
b. Worm	d. Social Engineering
- 3) Which of the following is an intermediate access control mechanism used in a high-security installation that requires visual identification, as well as authentication, to gain access?
 

a. Fencing	c. Mantrap
b. Proximity Reader	d. Hot Aisle

- 4) Which of the following fully implements the 802.11i security standards?
  - a. WEP
  - b. WPA
  - c. WPA2
  - d. WAP
- 5) Which of the following is a concept that works on the assumption that any information created on any system is stored forever?
  - a. Cloud Computing
  - b. Full Archival
  - c. Big Data
  - d. Warm Site

Q-4) (A) Explain the virtualization model with diagram.

(14 Marks)

OR

Answer the following questions:

- 1) Explain the Service attacks definitions for ARP Poisoning and Replay attack
- 2) You are administrator of company who hosts data for their clients. The database server earns \$5000 as SLE. There are chances to fail the server twice a year. What will be ALE?

(B) Answer the following questions in 1 or 2 sentences. (Any Three)

(03 Marks)

- 1) What is Shoulder surfing?
- 2) Define multifactor authentication.
- 3) What is full form of RAID?
- 4) In which server architecture tier storage server is place?
- 5) State if the given statement is true or false:  
By default, firewalls are configured as implicit deny mode.

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