B.Tech. DEGREE EXAMINATION, JUNE 2023

Seventh Semester

18CSE442T - CLOUD SECURITY

(For the candidates admitted during the academic year 2018-2019 to 2021-2022)

Note:

i. **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40 minutes.

ii. **Part - B** and **Part - C** should be answered in answer booklet.

Time: 3 Hours   **Max. Marks: 100**

	Part - A (20 × 1 Marks = 20 Marks) Answer **All** Questions	Marks	BL	CO
1.	Infrastructure as a Service- virtualized computing resources over the internet. The physical machine is not a problem, basically, an infrastructure for architects is (A) Trust zone (B) IAAS (C) KVM (D) IOMMU virtualization	1	1	1
2.	If an attacker wants to generate a dummy request to degrade the performance of the server, what is the name of the attack he can use? (A) Cryptanalysis (B) DoS Attack (C) VM Theft (D) VM Hijack	1	1	1
3.	If A decided to send a message to B. He does not want to send the plaintext as such, instead messages are sent as cipher text, what is the technique he followed to send the text? (A) SSO (single sign-on) (B) Confidentiality (C) Integrity (D) Access control techniques	1	1	1
4.	A rogue service agent (with compromised or malicious logic) is able to intercept and forward the network traffic that flows within the cloud. (A) Cloud-based security groups (B) Malicious Insider (C) Malicious Service Attacker (D) (MITM) Attack	1	1	1
5.	Full stack application refers (A) Infrastructure as a Service (Iaas) (B) Software as a Service (Saas) (C) Platform as a service (D) Storage as a service	1	1	2
6.	If a user requested virtual machine, his request must be fitted according to the available resource, which module given below does the job according with NIST direction? (A) Cloud Auditor (B) Cloud user (C) Cloud Broker (D) Cloud carrier	1	1	2
7.	An organization decides to deploy cloud platform, they needs to limit the users and services within the premises. Which deployment model suitable for the organization? (A) Public (B) Community (C) Private (D) Hybrid	1	1	2
8.	_____ delivers object storage to your on-premises AWS Outposts environment. (A) S3 Outposts (B) S3 One Zone-IA (C) S3 Standard-IA (D) S3 Standard	1	1	2
9.	Complicate the relationship between plaintext and ciphertext. (accomplished by Transposition/Permutation operation) as _____. (A) Substitution (B) Diffusion (C) Diffie-Hellman (D) Hash Function	1	1	3

10. A mathematical function that can be constant output performed in one direction is   1   1   3
    (A) Hash Function   (B) Public key cryptography
    (C) Private key Cryptography   (D) Running key cipher

11. An encryption method that hides a secret message within an open message is   1   1   3
    (A) Symmetric Cipher   (B) Product cipher
    (C) Concealment cipher   (D) Running key cipher

12. SHA-1 produces a hash value of   1   1   3
    (A) 256 bits   (B) 160 bits
    (C) 180 bits   (D) 128 bits

13. What are the different ways to classify an IDS?   1   1   4
    (A) Zone based   (B) Host & Network based
    (C) Network & Zone based   (D) Level based

14. Signature based detection is based on_____   1   1   4
    (A) Unkown threats   (B) Pre programmed list of threat
    (C) Application layer Threats   (D) Network layer threats

15. An attacker gains access to your account, he or she can eavesdrop on your activities and redirect your clients to illegitimate sites is called _____   1   1   4
    (A) Trojan horse   (B) Service traffic hijacking
    (C) VM theft   (D) Session time out

16. Client consists of many interfaces, intern memory, I/O devices etc. It is a full-featured computer is called _____   1   1   4
    (A) Thin client   (B) Hardware Client
    (C) Thick Client   (D) Software client

17. Phase 5 of SLA Life Cycle is _____   1   1   5
    (A) Penalty   (B) Termination
    (C) Monitor   (D) Establishment of SLA

18. Reserved instances are prefers at _____   1   1   5
    (A) Unkown workload   (B) Instant workload
    (C) Known Workload and time   (D) Auction time

19. A formatted encrypted message that validates the information the CA requires to issue a digital certificate.   1   1   6
    (A) Certificate Signing Request (CSR).   (B) Digital certificate
    (C) Certificate pinning   (D) Code signing

20. Certificate Authority (CA) is _____.   1   1   6
    (A) An X500 attribute expressing a host or user name, also used as the subject identifier for a digital certificate.
    (B) A digital certificate that has been signed by the entity that issued it, rather than by a CA.
    (C) A method of validating a certificate by tracing each CA that signs the certificate, up through the hierarchy to the root CA. Also referred to as chain of trust.
    (D) A server that guarantees subject identities by issuing signed digital certificate wrappers for their public keys

Part - B (5 × 4 Marks = 20 Marks)

Marks BL CO

Answer **any 5** Questions

21. List out five risk factors and overcome methods present in the Cloud Computing environment.   4   1   1

22. Differentiate Host level security with Network level security.   4   1   1

23. Write down the constraints for creating an S3 bucket in AWS.   4   1   2

24. Discuss any two Deployment models in cloud computing.   4   1   2

25. Draw asymmetric key block diagram for encryption and Authentication.   4   1   3

26. List out Cloud storage – Business Benefits and personal benefits.   4   1   4

27. How Service Level Agreements playing important role in Cloud computing? draw the life cycle of SLA .   4   1   5

Part - C (5 × 12 Marks = 60 Marks)

Marks BL CO

Answer **All** Questions

28. a. Draw the Data life cycle and explain each stage of it.   12   1   1
    (OR)
    b. How is Trust management important in Cloud Service providers? And explain any three trust evaluation methods .

29. a. Draw NIST cloud computing reference model and explain.   12   1   2
    (OR)
    b. Discuss Architectural Design Challenges in deployment of Cloud Data center.

30. a. i. Differentiate stream cipher and block cipher. [4 Marks]   12   1   3
    ii. Draw and explain Cipher Block Chaining Mode operation. [8 Marks]
    b. How Hashing differ from encryption? Discuss role of hashing function in integrity and Digital signature.

31. a. i. How is security governance enforced in cloud computing? [6 Marks]   12   1   4
    ii. Write notes on Cloud Data Loss Prevention. [6 Marks]
    (OR)
    b. Discuss intrusion detection and prevention system.

32. a. List out the X.509 certificate benefits and discuss its fields of X.509 Authentication Service Certificate.   12   1   5
    (OR)
    b. Explain main components of Eucalyptus cloud architecture with neat diagram? How Eucalyptus environment differs from other platform in cloud computing.

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