B.Tech. DEGREE EXAMINATION, JUNE 2023

Seventh Semester

18CSE455T - DATABASE SECURITY AND PRIVACY

(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.	System is _____ for all the time only for authorized and authenticated persons.	1	1	1
	(A) Confidentiality (B) Available (C) Integrity (D) Authorization			
2.	A _____ is defined as a security risk that has a high possibility of becoming system breach.	1	1	1
	(A) Virus (B) attack (C) Threat (D) Vulnerable			
3.	Tools that protect computer system's servers from malicious code such as virus is known as _____	1	1	1
	(A) Security Risk (B) Operating System (C) Information Security (D) Security Programs			
4.	Which virus code that compromises the segment in the hard disk that contains the program used to start the computer?	1	1	1
	(A) Boot Sector Virus (B) Worms (C) Trojans (D) Spoofing Code			
5.	A virtual private database allows or prevents data access at the _____ level.	1	1	2
	(A) Application level (B) User (C) Row or Column (D) Business layer level			
6.	_____ algorithm uses same cryptographic keys for both encryption and decryption of cipher text.	1	1	2
	(A) Symmetric key encryption (B) Asymmetric key encryption (C) Private key encryption (D) Public key encryption			
7.	_____ is level 3 access mode in static mode?	1	1	2
	(A) Update (B) Use (C) Grant (D) Delete			
8.	Oracle 10g provides the password utility _____ to create a new password file.	1	1	2
	(A) PWDID (B) ORAPWD (C) SYSPWD (D) ORAP			
9.	_____ is the indication of how long a password can be used before it expires.	1	1	3
	(A) Password Complexity (B) Password Aging (C) Password storage (D) Password Usage			
10.	Password storage is a method of storing a password in an _____ manner.	1	1	3
	(A) Decrypted (B) Failed Attempts (C) Default (D) Encrypted			

11. Password and _____ are the two aspects of a profile in oracle.   1   1   3
    (A) Resources   (B) Policies
    (C) Privilege   (D) Data objects

12. Which Institute or University developed Kerberos?   1   1   3
    (A) Massachusetts Institute of   (B) University of Michigan
        Technology (MIT)
    (C) Netscape Communications   (D) Stanford University

13. A method based on chance alone by which study participants are assigned to a treatment group is _____   1   1   5
    (A) k-anonymity   (B) l-diversity
    (C) t-closeness   (D) Randomization

14. The _____ System was one of the earliest practical applications of privacy preserving transformations.   1   1   5
    (A) Homeland Security Applications   (B) Datafly
    (C) Video Surveillance   (D) Watch list Problem

15. Query Output Perturbation for privacy preserving   1   1   5
    (A) Add noise to the input   (B) Add noise to the predicted output
    (C) Add noise to the output query   (D) Add noise to the expected output

16. Examples of utility measures   1   1   5
    (A) Prediction   (B) Generalization height and Privacy information loss ratio
    (C) Aggregation   (D) Masking

17. Point out the wrong statement.   1   1   4
    (A) You can have multiple audits per SQL Server instance   (B) Users with the ALTER ROLE permission can create server audit specifications and bind them to any audit
    (C) SQL Server audit uses Extended Events to help create an audit   (D) You can create one server audit specification per audit

18. Perform an audit to identify problems before they occur is   1   1   4
    (A) Operational audit   (B) Compliance audit
    (C) Preventive audit   (D) Payroll audit

19. _____ function returns Boolean value in PKG_APP_AUDIT?   1   1   4
    (A) AUDIT_REVOKE   (B) AUDIT_CHECK
    (C) AUDIT_COMMIT   (D) AUDIT_ALERT

20. _____ tool provides the user interface for auditing events in SQL Server 2000?   1   1   4
    (A) SQL Profiler   (B) SQL Ninja
    (C) SQL Audit   (D) SQL Idera

Part - B (5 × 4 Marks = 20 Marks)
Answer any 5 Questions

	Marks	BL	CO
21. List out the application of Expert systems.	4	4	1
22. What is database link.	4	1	2
23. What is access matrix model?	4	2	3
24. Summarize SQL statement audit trail?	4	1	4
25. Explain in detail about randomization method?	4	1	5
26. List out necessary steps to track all database server errors.	4	1	4

	Marks	BL	CO
27. Provide an example in oracle of how to implement the dynamic model of an access modes security models.	4	3	3

Part - C (5 × 12 Marks = 60 Marks)
Answer All Questions

	Marks	BL	CO
28. a. Elaborate the typical use of system application at various management levels.	12	2	1
(OR)			
b. Enumerate the components of an information system.			
29. a. Design and implement the password to protect database.	12	2	2
(OR)			
b. List all the Oracle initialization parameters that are related to authentication.			
30. a. What is Virtual Private Database? How it can be implemented on oracle? What are the policies involved?	12	1	3
(OR)			
b. Draw the architecture of a security data model based on an application role. Implement SQL server and explain.			
31. a. Explain how oracle database auditing activities are performed using DDL triggers.	12	2	4
(OR)			
b. Discuss briefly about auditing database activities with oracle			
32. a. Discuss in detail about distributed privacy preserving data mining and explain any two algorithms in detail.	12	2	5
(OR)			
b. Describe the distributed algorithm for k-anonymity.			

* * * * *