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B.Tech DEGREE EXAMINATION, NOVEMBER 2023

Seventh Semester

18CSE433T - TRUST BASED COMPUTING

(For the candidates admitted during the academic year 2020 - 2021 & 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 40th minute.

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

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

PART - A (20 × 1 = 20 Marks)
Answer **all** Questions

		Marks	BL	CO

1. What is the full-form of TCP?   1   1   1
   (A) Trusted Cloud Platform   (B) Trusted Computing Platform
   (C) Trustable Computing Platform   (D) Trustable Cloud Platform

2. The _____ is the term applied for splits in blockchain network.   1   2   1
   (A) Mergers   (B) Division
   (C) Forks   (D) Splits

3. The _____ is not a cryptographic algorithm.   1   2   1
   (A) RSA   (B) DSA
   (C) Markov chain   (D) Diffie-Helman

4. What is the security incident when attackers gain control over the blockchain network resources?   1   2   1
   (A) Re-entrancy attack   (B) 51% attack
   (C) Brute force attack   (D) Invasion attack

5. What does a block in a blockchain have?   1   1   2
   (A) Header and Distributed ledger   (B) Bitcoin and Input
   (C) Transactions and Bitcoins   (D) Header and Transactions

6. Which of the following is not a blockchain core value propositions?   1   1   3
   (A) Decentralized control   (B) Collaboration across organizational boundaries
   (C) Direct exchange of value through tokens   (D) Mutability

7. The Byzantine Generals Problem, in which generals must coordinate an attack without a trusted means of _____.   1   1   2
   (A) Faults   (B) Communication
   (C) Cryptographic puzzles   (D) Ledger

8. In blockchain, _____ tree stores all the transactions in a block by producing a digital fingerprint of the entire set of transactions.   1   2   2
   (A) Merkle   (B) Binary
   (C) AVL   (D) DAG

9. Which cryptocurrency does not have stronger anonymity protection?   1   4   2
   (A) Monero   (B) Dash
   (C) ZCash   (D) Bitcoin

10. The _____ is the platform that uses ledgers to store on connected devices in a network.   1   2   2
    (A) Distributed Ledger technology   (B) Decentralization
    (C) Consensus mechanisms   (D) Blockchain technology

11. The greatest amount of Bitcoin's processing power is spent to _____   1   2   3
    (A) Broadcasting the block   (B) Mining
    (C) Hashing   (D) Adding the block

12. What is the incentive for miners to validate the transactions?   1   2   3
    (A) Appreciation   (B) Nonce
    (C) Additional Memory   (D) Block rewards

13. Which is not the example of classification levels in Bell-lapadula model?   1   4   4
    (A) Top Secret   (B) Secret
    (C) Confidential   (D) Classified

14. The Mandatory Security Policy of TCSEC enforces ____   1   2   4
    (A) Clearance   (B) Access Control
    (C) Marking   (D) Rules

15. "read up, write down" is the characterization of _____.   1   2   4
    (A) Bell-LaPadula model   (B) Biba Integrity Model
    (C) Classic Security Model   (D) Clarke Wilson Security Model

16. Which of the following is not a Rainbow series of the security product evaluation?   1   2   4.
    (A) Red Books   (B) Orange Books
    (C) Yellow Books   (D) Green Books

17. Which of the following is an issue to be addressed in P2P reputation system?   1   1   5
    (A) Profit to newcomers   (B) 51% attack
    (C) Reputation value   (D) Distributed Algorithm

18. Who drives the Domain-specific trust frameworks?   1   2   5
    (A) Miners   (B) Government
    (C) Industry or NGOs   (D) Validators

19. Security Governance, Vulnerability Management and Threat exposure are the dimensions of _____.   1   2   5
    (A) Framework Risk   (B) Technology Risk
    (C) Information Security   (D) Governance Risk

20. A risk analysis will be more accurate when _____ information is used.   1   2   5
    (A) Misleading information   (B) False
    (C) Improper   (D) high-quality

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

	Marks	BL	CO
21. Differentiate between hard and soft fork with an example	4	2	1
22. How blockchains are used for illegal activity? Explain with an example.	4	2	2
23. How the crypto economic feature of the blockchain helps in improving the network's security? Describe.	4	2	3
24. How are the protection mechanisms handled in Trusted Computing Base?	4	3	4
25. Explain the risks associated with E-commerce.	4	4	5
26. Did Satoshi's solution pave way for the blockchain's growth? Explain.	4	1	3
27. Describe about why regulations are needed in developing new technologies.	4	6	3

PART - C (5 × 12 = 60 Marks)

Marks BL CO

Answer all Questions

28. (a) Explain the usage of Buffer Overflow and the adversaries to the model and the uses of personal tokens.　　12　3　1

(OR)

(b) Is timing attack related to the outcome of a successful 51% attack? Justify and explain timing attack with an example.

29. (a) Explain the structure of Bitcoin Blockchain with a diagram.　　12　2　2

(OR)

(b) Explain the logic puzzle that Satoshi used to solve the puzzle of digital cash.

30. (a) Smart contracts turn a distributed ledger into a distributed computer. Justify and explain the statement.　　12　2　3

(OR)

(b) Explain regulation in terms of distributed ledger technology.

31. (a) Explain the major categories of regulatory controversies involving crypto currencies and distributed ledgers.　　12　2　3

(OR)

(b) How the crypto economic feature of the blockchain helps in improving the network's security? Explain.

32. (a) Considering the example of a software development, explain the principles of security testing.　　12　2　5

(OR)

(b) Explain in detail about the layers of protection of TCB.

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