

# P P SAVANI UNIVERSITY

Seventh Semester of B. Tech. Examination

December 2021

SEIT4521 Blockchain Technology

22.12.2021, Wednesday

Time: 09:00 a.m. To 11:30 p.m.

Maximum Marks: 60

**Instructions:**

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

**SECTION - I**

- Q - 1 Answer the Following (Any five). [05]
- (i) Ledger is hosted on a centralized server. True/False?
  - (ii) SHA is a \_\_\_\_\_ algorithm.
  - (iii) A hash function has variable input length. True/False?
  - (iv) The ledger type used by Bitcoin is \_\_\_\_\_.
  - (v) Bitcoin is an application of Hyperledger. True/False?
  - (vi) Hyperledger Fabric is a public Blockchain framework. True/False?
  - (vii) Ethereum is a cryptocurrency. True/False?
- Q - 2 (a) What do you mean by 51% attack? Explain in detail. [05]
- Q - 2 (b) Write a detailed note on Smart Contract along with its features. [05]

**OR**

- Q - 2 (a) Differentiate between public and private blockchain. [05]
- Q - 2 (b) Why is blockchain a trusted approach? [05]
- Q - 3 (a) How can our business become more efficient using Blockchain technology? State and explain any such solution. [05]
- Q - 3 (b) What is the difference between traditional and distributed systems? [05]

**OR**

- Q - 3 (a) What do you mean by blocks in blockchain? [05]
- Q - 3 (b) Is it possible to modify the data once it is written in a block? Explain in detail. [05]
- Q - 4 Attempt any one. [05]
- (i) Discuss different types of assets with a real-life scenario.
  - (ii) Differentiate between proof of work and proof of stake.

**SECTION - II**

- Q - 1 Answer the Following (Any five). [05]
- (i) \_\_\_\_\_ is a procedure through which all the peers of the Blockchain network reach a common agreement about the present state of the distributed ledger.
  - (ii) \_\_\_\_\_ is a mechanism that allows tokens to be securely transferred from one Blockchain to another Blockchain.
  - (iii) Identity is anonymous in public Blockchain. True/False?
  - (iv) Ethereum is an application of bitcoin. True/False?
  - (v) PoET stands for \_\_\_\_\_.
  - (vi) Hyperledger is a Blockchain. True/False?
  - (vii) Zk-SNARK stands for \_\_\_\_\_.
- Q - 2 (a) Discuss the purpose and working of Proof-of-Work (PoW) Consensus. [05]
- Q - 2 (b) Explain Hyperledger Composer along with its benefit. [05]

**OR**

- Q - 2 (a) What are main issues with the Proof-of-Work consensus (PoW)? Also state TWO other alternatives to PoW consensus. [05]
- Q - 2 (b) Explain Private Blockchain network. Also compare it with Consortium Blockchain. [05]
- Q - 3 (a) What is a Consensus Mechanism? [05]
- Q - 3 (b) Explain one real life Blockchain based application and justify usage of Blockchain technology in this application. [05]

OR

- Q - 3 (a) Discuss Blockchain fabric development. [05]
- Q - 3 (b) Discuss usage of Blockchain in a car auction market. [05]
- Q - 4 Attempt any one. [05]
- (i) Explain the core components of Blockchain architecture.
- (ii) How are following two purposes served by a Blockchain architecture?
1. History of data
  2. Data validity & security

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