



Progressive Education Society's
Modern College of Arts, Science & Commerce Ganeshkhind, Pune – 16
(Autonomous)
End Semester Examination: OCT / NOV 2024
Faculty: Science and Technology

Program: BSc(Comp05)
Program (Specific): Computer Science
Class: T.Y.BSc(Computer Science)
Name of the Course: Blockchain Technology
Course Code: 24 CS 3511
Paper: I

Semester: V

SET:A
CourseType:SECC- II
Max.Marks: 35
Time: 2Hr

Instructions to the candidate:

- 1) *There are 4 sections in the question paper. Write each section on separate page.*
- 2) *All Sections are compulsory.*
- 3) *Figures to the right indicate full marks.*
- 4) *Draw a well labeled diagram wherever necessary.*

SECTION: A

Q1) Multiple Choice Questions.

[5x1=5 Marks]

- 1) Digital Currencies in Blockchain includes
 - A) Bitcoin
 - B) ETH
 - C) Monero
 - D) All of the above
- 2) Asymmetric cryptography uses which keys for encryption and decryption.
 - A) Public key
 - B) Private Key
 - C) Both (a) and (b)
 - D) None of the above
- 3) What are the underlying technology cryptocurrencies like Bitcoin?
 - A) Blockchain
 - B) Artificial Intelligence
 - C) Virtual reality
 - D) Internet of Things
- 4) What is the purpose of consensus in blockchain?
 - A) To establish the Trust
 - B) To control the network
 - C) To encrypt the data
 - D) To generate revenue
- 5) What is a block in a blockchain?
 - A) A computer program
 - B) A group of transaction
 - C) A digital currency
 - D) A social media post

Q2) Attempt ANY FOUR of the following.

[4x1=4 Marks]

- 1) State the formula to calculate transaction fee in Ethereum.
- 2) Define plain text and cipher text.
- 3) Define FPGA.
- 4) Describe in one line about smart contract.
- 5) Classify the size of encryption key in DES.
- 6) Illustrate the algorithm used by Bitcoin to verify transactions.



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SECTION: B

Q3) Attempt ANY FOUR of the following.

[4x2=8 Marks]

- 1) Distinguish between public and private blockchains.
- 2) Blockchains are slow as compare to database. Justify.
- 3) Explain P2P crypto Exchange.
- 4) Define BFT.
- 5) Explain Hybrid Blockchain.
- 6) Write a short note on first Generation Blockchain

SECTION: C

Q4) Attempt ANY FOUR of the following.

[4x2=8 Marks]

- 1) Explain the terms “Hard forks” & “Soft forks”.
- 2) Define is PoW.
- 3) In AES, on which factor does the number of encryption rounds depend on?
- 4) Explain the ASIC
- 5) What is DAPP?
- 6) Which is a unique PoS cryptocurrency that is aimed at delivering interoperability among other blockchains?

SECTION: D

Q5) Attempt ANY TWO of the following.

[2x5=10 Marks]

- 1) Describe EVM with the help of a neat diagram.
- 2) Explain the life cycle of smart contract.
- 3) Which are the different value data types in solidity?
- 4) Write a note on challenges of blockchain.
