Progressive Education Society's
Modern College of Arts, Science & Commerce Ganeshkhind, Pune – 16
(Autonomous)
End Semester Examination: MAR/APR 2025
Faculty: Science and Technology

Program: BCA **Semester:** VI **SET:**A
Program (Specific): BCA (Science) **Course Type:** SEC
Class: TYBCA (Science) **Max. Marks:** 35
Name of the Course: Blockchain technology **Course Code:** 24-BCA-364
Time: 2Hr **Paper:**

Instructions to the candidate:

1) *All Questions are compulsory.*
2) *Figures to the right indicate full marks.*
3) *Draw a well labelled diagram wherever necessary.*

Q1. Answer the following

A. Multiple Choice Questions **(5 × 1 = 5)**

1.Which of the following statements is true about blockchain cryptocurrency?
a) It relies on traditional banking systems to secure transactions.
b) It controls the creation of new units and verifies asset transfers using blockchain technology.
c) Bitcoin and Ethereum are not considered cryptocurrencies.
d) Blockchain cryptocurrencies do not use blockchain principles.

2.A method where participants validate transactions based on how many coins they own and lock up as a stake.
a) PoS b) PoW
c) PoET d) PoV

3._____ is the most widely used language for writing smart contracts.
a) Hardhat b) Truffle
c) Remix d) Solidity

4.Hashing ensures data _____
a) Confidentiality b) Integrity
c) Availability d) Authentication

5.1 Ether (ETH) equals _____ wei.
a) 10^6 b) 10^9 c) 10^{12} d) 10^{18}

B. Answer the Following(Any 4) **(4 × 2 = 8)**

1 Define Solidity.

2 Write any 2 applications of Cryptography.

3 Illustrate the use of SHA256.

4 State 2 importance of Gas.

5 State ICOs and types of ICOs.

6 Write types of blockchain.

Q2. Answer the Following(Any 4) **(4 × 2 = 8)**

1 Explain EVM.

2 Explain Ethereum and Blockchain.

3 Explain the structure of Blockchain.

4 Explain distributed P2P network with one real-life example.

5 Explain components of blockchain.

6 Explain the difference between blockchain and database.

Q3. Answer the Following(Any 4) **(4 × 2 = 8)**

1 Differentiate between Ethereum and Blockchain.

2 Discuss EVM.

3 Distinguish between Ethereum and Blockchain.

4 Illustrate the structure of Blockchain.

5 Explain the distributed P2P network with the help of a diagram.

6 State the importance of Gas.

Q4. Attempt any two of the following **(2 × 5 = 10)**

1 Explain the Layered Architecture of Blockchain System.

2 Explain the mining work (The Nonce).

3 Explain Decentralized Autonomous Organizations.

4 Explain Hyperledger with a block diagram.