

Reg. No. :

Question Paper Code : 10824

M.C.A. DEGREE EXAMINATIONS, APRIL/MAY 2023

Elective

MC 4013 – CRYPTOCURRENCY AND BLOCKCHAIN TECHNOLOGIES

(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the advantages of blockchain.
2. Mention the use for proof of burn.
3. What is bitcoin mining?
4. List out the need of Etherscripter.
5. Compare utility tokens and equity tokens.
6. Why do we need Mist?
7. Write the difference between Fabric and Ethereum.
8. Define PoET.
9. How is transaction cost calculated in HydraChain?
10. Mention the benefits of Tierion.

PART B — (5 × 13 = 65 marks)

11. (a) Explain the working principle of blockchain. Elaborate on the methods available to validate the blockchain? (13)

Or

- (b) (i) Elaborate on various applications of blockchain. (7)
(ii) List out the data structures used in Blockchain technologies? Explain it with example. (6)

12. (a) How does bitcoin works? How to calculate the value of bitcoin? Discuss the advantages and disadvantages of bitcoin. (13)

Or

- (b) Explain the various components of Ethereum. How can you get the contracts on Ethereum? Explain it. (13)
13. (a) (i) Elaborate metamask and its transactions. (8)
- (ii) What is ICO? Compare it with IPO. (5)

Or

- (b) (i) Write short note on Mist wallet. (5)
- (ii) How to create a truffle? Write the features of it. (8)
14. (a) Discuss about Hyperledger Fabric and Iroha. Write the difference between them. (13)

Or

- (b) What are the various components of Hyperledger Sawtooth? List the various consensus mechanisms used in it. Mention its applications. (13)
15. (a) (i) Explain the working principle of HydraChain. (7)
- (ii) How is blockchain created in IoT? Explain it. (6)

Or

- (b) (i) Elaborate BigchainDB in detail. Compare it with traditional blockchain and distributed databases. (7)
- (ii) Discuss the features of CoCo. (6)

PART C — (1 × 15 = 15 marks)

16. (a) (i) How smart contracts are used in healthcare? Explain it with suitable example. (10)
- (ii) Discuss any two popular platforms used for developing blockchain applications. (5)

Or

- (b) (i) How does blockchain work for banking sector? Discuss its advantages and disadvantages. (10)
- (ii) How does a block is recognized in blockchain approach? Explain it with example. (5)