END TERM EXAMINATION – December 2022/ January-2023

SEMESTER – VII

(B.Tech- CSE(DS&AI/ CMA/B&IoT))

Subject Code: CBD4001/CIB4001 **Duration: 3 hours**
Subject: Blockchain/Blockchain Developer **Max. Marks: 100**

Instructions

- **All Questions are compulsory**
- **The Question paper consists of 2 sections - Part A contains 10 questions of 2 marks each. Part B consists of 5 questions of 16 marks each.**
- **There is no overall choice. Only Part B question include internal choice.**

PART – A

(2 * 10 = 20 Marks)

1. What is a Genesis Block?
2. Define nonce in terms of blockchain?
3. What is the avalanche effect in blockchain?
4. What does provenance mean in blockchain?
5. What is Hyperledger Fabric?
6. What is Chaincode in Hyperledger Fabric?
7. What is asset in terms of business blockchain?
8. What is Docker?
9. Differentiate between Public and Private Key
10. What is template string in ES6?

PART – B

*(16 * 5 = 80 Marks)*

11. a) Explain the following in detail: -

1. Distributed P2P Network
2. Consensus Protocol
3) Bitcoin
4) Container Orchestration

OR

b) Discuss about Merkle trees and its importance in blockchain. Also write some of the applications of blockchain technology.

12. a) Explain in details about the different types of blockchain with examples?

OR

b) What are the principles of blockchain? Also explain how is blockchain distributed ledger different from a traditional ledger?

13. a) What are callback function and promises in JavaScript explain with examples also write the advantages of using promises instead of callbacks.

OR

b) Compare between HTML, CSS and JavaScript with example? Write a JavaScript program to check if a number is a prime number or not.

14. a) What is NPM and what are the modules in Node.js? How do you create a simple server in Node.js that returns Hello World?

OR

b) Explain briefly about the smart contracts on blockchain and what are the benefits and applications of smart contracts.

15.a) Explain about the various nodes and components in Hyperledger fabric?

OR

b) Explain in detail about the various steps involved in the transaction flow in Hyperledger Fabric?