

S.No. : 121

ITBC 3401

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Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 34004

**Roll
No.**

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B. Tech. Examination 2023-24

(Even Semester)

BLOCKCHAIN ESSENTIALS

Time : Three Hours]

[Maximum Marks : 60

Note :- Attempt all questions.

SECTION-A

1. Attempt all parts of the following : $8 \times 1 = 8$
- (a) What is the primary purpose of block chain technology?
- (b) What are callback functions used for in JavaScript?
- (c) Name two hyperledger projects and briefly compare their objectives.

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- (d) What criteria can be used to evaluate the viability of blockchain ideas?
- ☒ (e) What are key blockchain data structures and why are they important?
- (f) How is agreement achieved in a blockchain network?
- ☒ (g) What tools does the IBM blockchain platform offer to facilitate blockchain development?
- (h) What are the key concepts and components of hyperledger fabric?

SECTION – B

2. Attempt any two parts of the following : $2 \times 6 = 12$
- ☒ (a) Compare and contrast blockchain for business with other blockchain implementations.
 - ☒ (b) Provide examples of both good and bad blockchain ideas, highlighting their respective strengths and weakness.
 - (c) Evaluate the methods used to achieve consensus in a blockchain network, considering their strengths and weakness.

- (d) Provide step-by-step guide on how to initiate blockchain development using the IBM blockchain platform, highlighting key tools and resources available for developers?

SECTION – C

Note :- Attempt all questions. Attempt any two parts from each questions. $8 \times 5 = 40$

3. ☒ (a) Discuss the prerequisites for understanding blockchain technology.
- (b) Explain the significance of callback functions promises and async await in JavaScript programming.
- ☒ (c) How does docker facilitate the creation and deployment of containers?
4. ☒ (a) Discuss the significance of the linux foundation hyperledger project within the blockchain community.
- (b) Compare and contrast hyperledger fabric with another hyperledger project of your choice.

- (c) Analyze the key factors contributing to the success of a blockchain project using examples.
5. (a) Explain the importance of modelling in the context of blockchain application development.
- (b) Analyze how different business concepts are translated into technical components within blockchain applications, providing examples.
- (c) Describe the key blockchain data structures and their roles in maintaining the integrity of the blockchain.
6. (a) Explain the technical architecture of hyperledger fabric, highlight its key components and their interactions.
- (b) Discuss the specific knowledge and skills required for developers working with applications and smart contracts on the hyperledger fabric platform.
- (c) Evaluate the significance of network management and governance in evening the efficiency and security of hyperledger fabric implementations.
