



विश्वजीवनामृतं ज्ञानम्

Atal Bihari Vajpayee Indian Institute of Information Technology & Management, Gwalior

IT031: Blockchain Technologies

Minor Examination (Session 2024–25)

Maximum Time: 1 Hour

Max Marks: 25

Note: All questions are compulsory. Neat diagrams are expected wherever necessary.

1. Multiple Choice Questions (1 mark each): (a) Who invented Bitcoin? (i) Vitalik Buterin (ii) Charles Hoskinson (iii) Satoshi Nakamoto (iv) Gavin Wood (b) Which consensus algorithm does Ethereum currently use? (i) Proof-of-Stake (ii) Proof-of-Work (iii) Delegated Proof-of-Stake (iv) Byzantine Fault Tolerance (c) Gas fees are primarily paid to: (i) Miners/Validators (ii) Government (iii) Wallet providers (iv) Users themselves (3 Marks)
2. True/False with justification (2 marks each): (a) Hash functions in blockchain must be reversible. (b) Smart contracts are self-executing agreements. (4 Marks)
3. Explain the role of nonce in Proof-of-Work mining. Give a small illustrative example. (5 Marks)
4. Differentiate between permissionless and permissioned blockchains with suitable examples. (5 Marks)
5. Short Note (any two): (a) Consensus in Hyperledger Fabric (b) Role of tokens in blockchain ecosystems (c) Scalability challenges in blockchain (8 Marks)