

(i) Printed Pages : 2

Roll No. ....

(ii) Questions : 7 Sub. Code : 

1	0	6	5	7
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Exam. Code : 

5	0	0	2
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NEP U.G. Common-Value Added Course 2<sup>nd</sup> Semester  
(2056)

## COMPUTER SCIENCE

Paper : Introduction To Blockchain Technology

Time Allowed : 3 Hours]

[Maximum Marks : 45

Note :- Attempt any two questions from Section A and Section B.  
Section C is compulsory.

### SECTION—A

1. What is Blockchain technology? What are the features and need of blockchain? 9
2. (a) What are the key components of a Blockchain? 4  
(b) Explain the architecture of Blockchain and the role of consensus mechanism in transaction validation. 5
3. (a) Explain the role of cryptography in ensuring security and privacy in blockchain networks. 4  
(b) Explain the fundamental principles and working of symmetric encryption. 5

## SECTION—B

4. (a) What is a consensus mechanism? Explain its objectives. 4  
(b) Explain Proof of Work (PoW) with a suitable example. 5
5. (a) What is Digital Identity? Give examples to explain it. 4  
(b) Explain the privacy features of Blockchain. 5
6. Explain the Proof of Stake in detail. Also explain its advantages and limitations. 9

## SECTION—C

7. (i) What is a blockchain node?  
(ii) Define hashing.  
(iii) Define cipher.  
(iv) Mention any two applications of blockchain.  
(v) What is meant by privacy in blockchain?  
(vi) What is encryption and decryption? 1.5×6=9