(3 Hours)   **(Total Marks:-80)**

N.B.:-1.Question No. 1 is compulsory.
      2. Answer any three out of the remaining questions.
      3. Assume suitable data if necessary.
      4. Figure to the right indicates full marks.

Q1.	**Attempt the following (any 4):**	
a.	What is distributed ledger? Explain its need in blockchain.	**5**
b.	What is Bitcoin Script? Explain pay to public key hash(P2PKH) with suitable example	**5**
c.	Differentiate between ERC20 and ERC721	**5**
d.	Write a program in solidity to check given number is prime or not	**5**
e.	Explain types of blockchain .	**5**
Q2.	**Attempt the following:**	
a.	Compare following consensus protocols PoW,PoB,PoS,PoA	**10**
b.	Explain different types of cryptocurrencies in detail	**10**
Q3.	**Attempt the following:**	
a.	Describe RAFT consensus protocol.	**10**
b.	With suitable diagram explain block structure of bitcoin	**10**
Q4.	**Attempt the following:**	
a.	Explain Hyperledger Fabric in detail	**10**
b.	What are the challenges faced by Blockchain in the Education sector?	**10**
Q5.	**Attempt the following:**	
a.	Explain components of Ethereum.	**10**
b.	What are pros and cons of ICO and IPO?	**10**
Q6.	**Write short notes (any two)**	
a.	Defi	**10**
b.	UTXO model in Bitcoin	**10**
c.	Application of Blockchain in Supply chain management	**10**