May-June 2025_/ Nov – Dec 20_ July-Aug 20__/ Feb– March 20__
(B. Tech / M. Tech.) Program: _**Information Technology**__Scheme I/II/IIB/III:_**II**___
Regular/Supplementary Examination: **LY** Semester: **VIII**
Course Code: _**ITC801**___and Course Name: _**Blockchain & DLT**_

Date of Exam: 19/5/25   Duration: 02.5 Hours   Max. Marks: 60

Instructions:
(1) All questions are compulsory.
(2) Draw neat diagrams wherever applicable.
(3) Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	Solve any **two** questions out of three: (05 marks each)	10		
a)	Discuss the issue of double-spending in digital currency systems, and how does blockchain technology address and prevent this problem.		CO1	U
b)	Discuss drawbacks of the ERC-20 token standard		CO5	U
c)	Compare Ethereum 1.0 and Ethereum 2.0		CO3	U
Q 2	Solve any **two** questions out of three: (05 marks each)	10		
a)	Discuss Disadvantages of permissionless blockchain		CO4	U
b)	Discuss the Genesis Block important in the Bitcoin blockchain.		CO2	U
c)	Discuss the challenges of integrating blockchain in IoT.		CO6	U
Q.3	Solve any **two** questions out of three. (10 marks each)	20		
a)	Discuss how does the Blockchain technology address the Byzantine Generals Problem in distributed systems?		CO1	U
b)	Demonstrate phases involved in the lifecycle of a smart contract from creation to termination.		CO3	Ap
c)	Discuss types of assets can non-fungible tokens (NFTs) represent, and how are they being utilized across various use cases.		CO5	U
Q.4	Solve any **two** questions out of three. (10 marks each)	20		
a)	Demonstrate How does the Proof-of-Work (PoW) mechanism secure the Bitcoin network		CO2	Ap
b)	Demonstrate how do Hyperledger Sawtooth, Hyperledger Iroha, Hyperledger Burrow and Hyperledger Indy differ from one another also in which scenarios is each best suited.		CO4	Ap
c)	Demonstrate how can AI and blockchain be integrated into the medication supply chain to enhance the success rate of clinical trials, while improving transparency and traceability.		CO6	Ap

****