

Year: B. Tech III (Semester VI)

Subject Name: Blockchain Platforms and Use cases
Type of course: Minor (Group: Blockchain Technology)

Subject Code: BTEA19655

Teaching and Examination Scheme:

Teaching Scheme				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	
3	0	2	4	60	25	15	30	20	150

CA1: Continuous Assessment (assignments / projects / open book tests / closed book tests) CA2: Sincerity in attending classes / class tests / timely submissions of assignments / self-learning attitude / solving advanced problems TEE: Term End Examination TEP: Term End Practical Exam (Performance and viva on practical skills learned in course) CA3: Regular submission of Lab work / Quality of work submitted / Active participation in lab sessions / viva on practical skills learned in course.

Contents:

Sr. No.	Contents	Total Hours
1.	Permissioned Blockchains: Hyperledger Fabric Services, Model and Functions, Hyperledger Composer, Microsoft Azure Blockchain Platform and Services, Other Platforms: IOTA, TRON, Ziliqa, Cosmos, Ripple.	14
2.	Decentralized Application Platforms: Augur-Decentralised Prediction Market Platform, Grid+-Energy Ecosystem Platform.	06
3.	Challenges and Solutions Related to Blockchain: Consensus, Scalability, Privacy and Confidentiality, Escrow, and Multi signature.	07
4.	Alternative Decentralized Solutions: Interplanetary File System (IPFS) Working and Uses, Hashgraph- Working, Benefits, And Use-Cases.	08
5.	Blockchain Use Cases: Financial Services Related Use Cases, Revolutionization of Global Trade, Digital Identity, Auditing Services, Supply Chain Management, Healthcare Related Services, Blockchain and IOT, Blockchain and AI.	10



Suggested Specification table with Marks (Theory): (For B. Tech only)

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level

20	20	15	5	-	-
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Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (Revised Bloom's Taxonomy)

Reference Books:

Sr. No.	Title of book /article	Author(s)	Publisher and details like ISBN
1	Blockchain for Dummies	Tiana Laurence	John Wiley & Sons
2	Building Blockchain Projects	Narayan Prusty	Packt Publishing
3	Mastering Blockchain: Deeper insights into decentralization, cryptography, Bitcoin, and popular Blockchain frameworks	Imran Bashir	Packt Publishing
4	Blockchain: Blueprint for a New Economy	Melanie Swan	Shroff Publisher publisher/O'Reilly Publisher

Note: Students should refer to the latest editions of books

Course Outcomes (CO):

Sr. No.	CO statements	Marks % weightage
CO-1	Distinguish between different types of blockchain platforms.	10%
CO-2	Explain different types of uses of blockchain and apply it to some real-life scenarios accordingly.	70%
CO-3	Describe the shortcomings of blockchain technology and their corresponding solutions.	20%

List of Open learning website:

- <https://nptel.ac.in/courses/106105184/>
- <https://www.coursera.org/learn/blockchain-platforms>.
- Introduction to Blockchain Technology and Applications, https://swayam.gov.in/nd1_noc20_cs01/preview.



Lab Work:

- Experiments to be implemented as per curriculum.