



SOCIETY OF ST. FRANCIS XAVIER, PILAR'S
FR. CONCEICAO RODRIGUES COLLEGE OF ENGINEERING

(Approved by AICTE & Affiliated to University of Mumbai)

Fr. Agnel Ashram, Bandstand, Bandra (W), Mumbai - 400 050.

Phone : (022) 6711 4000, 6711 4101, 6711 4104

Website : www.frcre.ac.in • Email : crce@fragnel.edu.in

Artificial Intelligence and Data Science

(Academic Year : 2023-2024)

Course Code: CSDOL7022

Course Name: Blockchain Lab

Course Teacher: Prof. Aditi Malkar

Course Outcomes (CO): <i>At the End of the course students will be able to</i>

CO.1	Develop and test smart contracts on local Blockchain.
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CO.2	Develop and test smart contracts on Ethereum test networks.
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CO.3	Write and deploy smart contracts using Remix IDE and Metamask.
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CO.4	Design and develop Cryptocurrency.
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CO.5	Write and deploy chain code in Hyperledger Fabric.
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CO.6	Develop and test a Full-fledged DApp using Ethereum/Hyperledger.
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Lab Plan

Sr. No.	EXPERIMENT DETAILS	CO	Proposed Week	Actual Week	Remarks
1	Local Blockchain: Introduction to Truffle, establishing local Blockchain using Truffle a) Cryptography in Blockchain and Merkle root tree hash	CO1	24 th July - 28 th July		
2	Smart contracts and Chain code: Solidity programming language, chain code (Java/JavaScript/Go), deployment on Truffle local a) Creating Smart Contract using Solidity b) Embedding wallet and transaction using Solidity	CO1	31 st Jul - 04 th Aug		
3	Deployment and publishing smart contracts on Ethereum test network: Ethereum Test networks (Ropsten/Gorelli/Rinkeby), deployment on test networks, Web3.js/Web3.py for interaction with Ethereum smart contract a) Blockchain platform ethereum using Geth. b) Blockchain platform Ganache	CO2	07 th Aug - 11 th Aug		
4	Remix IDE and Metamask: Smart contract development and deployment using Metamask and Remix. Design and develop Crypto currency	CO3, CO4	14 st Aug - 23 th Aug		
5	Chain code deployment in Hyperledger Fabric: Chain code deployment in Hyperledger fabric Mini project: Study required front end tools	CO5	24 th Aug - 30 th Aug		
6	Case Study on Hyperledger	CO6	31 st Aug - 6 th Sep		



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7	Case Study on Other Blockchain platforms	CO1	7 th Sep - 13 th Sep		
8	Creating a blockchain Application	CO4	14 th Sep - 29 th Sep		
9	Mini-project on Design and Development of a DApps using Ethereum/Hyperledger Fabric: Implementation of Mini Project, 1. Design, configure and testing of mini project 2. Report submission as per guidelines 3. Implementation and Presentation of Mini Projects	CO6	03 nd Oct - 19 th Oct		

Course Instructor: Prof. Aditi Malkar