



Jansons Institute of Technology

Karumathampatti, Coimbatore – 641 659
Approved by AICTE and Affiliated to Anna University
An ISO 9001:2015 certified institution

Industry Readiness Course - Syllabus Department of Computer Science and Engineering Insights into BlockChain Security and IoT for beyond 5G Communications 2020 - 2021 ODD Semester

Course Objectives:

- To understand the basic theory underlying Block Chain and IoT.
- To be able to apply blockchain applications to solve problems of moderate complexity.
- Understand how blockchain systems (mainly Bitcoin and Ethereum) work.

Course Outcomes:

- Analyse the block chain applications in a structure manner.
- Create a Bitcoin network and Demonstrate the ability to mine Bitcoins
- Ability to Handle the cryptocurrency.

Syllabus:

Module 1	Introduction to Blockchain Technology and its importance	10
Introduction to Blockchain - Basic Crypto Primitives I - Cryptographic Hash - Basic Crypto Primitives II - Digital Signature - Evolution of the Blockchain Technology- Elements of a Blockchain - The business backdrop - The problem area- Relation to bitcoin - Requirements for blockchain in a business environment - Requirements deep dive		
Module 2	Blockchain and its Consensus	10
Blockchain Consensus I - Permissionless Models - Blockchain Consensus II - Permissioned Models - Smart Contract Hands On I - Ethereum Smart Contracts (Permissionless Model)- Smart Contract Hands On I- Ethereum Smart Contracts (Permissioned Model)		
Module 3	Blockchain for business	10
Requirements for blockchain in a business environment - Hyperledger Composer - Hyperledger Fabric (Permissioned Model) - Public references - IBM engagement model - Decentralized Identity Management - Blockchain Interoperability - Tokenizing - Blockchain Applications.		

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