

Website : www.citcchandigarh.com**Course Syllabus: Diploma in Blockchain Technology****Batch Name: DBT****Eligibility: 12th****Course Start: 1st of Every Month****Course Duration: 180 Hours****Courses / Modules Paper****Module 1**

Paper 1	Paper 2	Paper 3	Paper 4	Paper 5
Overview of Blockchain	Introduction to Cryptocurrency	Bitcoin Basics& Ethereum Basics	Case studies in Blockchain	Private, Security issues in Blockchain

Paper 1: Overview of Blockchain

- 1.1 Introduction to Blockchain and its origin
- 1.2 Why Blockchain is crucial and its objectives
- 1.3 Blockchain terminologies
- 1.4 Distinction between Databases and Blockchain
- 1.5 Distributed Ledger
- 1.6 Understanding Blockchain Ecosystem and Structure
- 1.7 How Blockchain works
- 1.8 Types of Blockchain

Paper 2: Introduction to Cryptocurrency

- 2.1 Transformation in trading units
- 2.2 Cryptography and Crypto-currency
- 2.3 Anonymity and Pseudonymity in cryptocurrencies
- 2.4 Digital Signatures, Cryptocurrency Hash Codes
- 2.5 Peer to peer networks (structured and unstructured)

Paper 3: Bitcoin & Ethereum Basics**Bitcoin Basics**

- 3.1 Bitcoin blockchain
- 3.2 Challenges, uses and solutions
- 3.3 Alternative to Bitcoin Consensus
- 3.4 Bitcoin Scripting Language

Ethereum Basics

- 3.1 Ethers and Smart Contracts
- 3.2 The turing completeness of smart contract languages and verification challenges
- 3.3 Comparing Bitcoin Scripting and Ethereum Smart Contracts
- 3.4 Writing smart contracts using Solidity and JavaScript

Paper 4: Case Studies in Blockchain

- 4.1 Blockchain in Financial Services
- 4.2 Supply chain management and Government services

**Paper 5: Privacy, Security issues in Blockchain**

- 5.1 Pseudo- anonymity vs Anonymity
- 5.2 Z- cash and Zk- SNARKS for anonymity preservations
- 5.3 Attacks on Blockchain: Sybil attacks, Selfish mining, Sharding based consensus algorithms to prevent these attacks