

Introduction to Block Chain Technology and Application

COURSE PLAN :

Duration : 40 hrs

Week 1 : Introduction – basic ideas behind blockchain, how it is changing the landscape of digitalization, introduction to cryptographic concepts required

Total Lectures : 5

Week 2 : Hashing, public key cryptosystems, private vs public blockchain and use cases, Hash Puzzles, Introduction to Bitcoin Blockchain

Total Lectures : 5

Week 3 : Bitcoin Blockchain and scripts, Use cases of Bitcoin Blockchain scripting language in micropayment, escrow etc Downside of Bitcoin – mining .

Total Lectures : 5

Week 4 : Alternative coins – Ethereum and Smart contracts

Total Lectures : 5

Week 5 : Alternative coins – Ethereum continued, IOTA

Total Lectures : 5

Week 6 : The real need for mining – consensus – Byzantine Generals Problem, and Consensus as a distributed coordination problem – Coming to private or permissioned blockchains – Introduction to Hyperledger

Total Lectures : 5

Week 7 : Permissioned Blockchain and use cases – Hyperledger, Corda

Total Lectures : 5

Week 8 : Uses of Blockchain in E-Governance, Land Registration, Medical Information Systems, and others

Total Lectures : 5

Evaluation criteria:

Two class test of 1 hour of 10 marks each

Assignment of 10 Marks,

Attendance 10 Marks

Final Examination 60 marks(MCQ based)

Additional Information (if any)

Course fee : Rs 4000

Attendance Required : 75%

Availability of seats : 40

Minimum Passing criteria Percentage : 60%