INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
भारतीय प्रौद्योगिकी संस्थान तिरुपति

Tirupati – Renigunta Road, Settipalli Post, Chittoor District, Tirupati – 517506, A.P.

1.	Title of the course	Introduction to Blockchain Technology
2.	Course number	CS5XXX
3.	Status of the course	Elective
4.	Structure of credits	1-0-0-1
5.	Offered to	PG
6.	New course/modification to	New
7.	To be offered by	Department of Computer Science and Engineering
8.	To take effect from	January 2021
9.	Prerequisite	CoT
10.	Whether approved by the Department	Yes
11.	**Course Objective(s):** To provide an overview of basic concepts, functionality and practical applications in a blockchain system. To provide hands-on experience through simple proof of concept applications.	
12.	**Course Content:** Introduction: definition, consensus, immutability, finality, provenance, ledger models, double spending; Hyperledger fabric: architecture, network setup; Smart contracts: development, analysis, testing; Blockchain applications across diverse domains; Advanced blockchain concepts: privacy, confidentiality, security; Study of popular ecosystem blockchains: Bitcoin, Ethereum, Quorum, Corda.	
13.	**Textbook(s):** 1. Nitin G, Anthony O, Petr N, Luc D, Venkatraman R and Salman A B , *Blockchain with Hyperledger Fabric: Building decentralized applications using Hyperledger Fabric*, 2nd Edition, Packt Publishing (2020).	
14.	**Reference(s):** 1. Arvind N, Joseph B, Edward F, Andrew M and Steven G , *Bitcoin and Cryptocurrency Technologies: A Comprehensive Introduction*, 1st Edition, Princeton University Press (2016).	