G.NARAYANAMMA INSTITUTE OF TECHNOLOGY & SCIENCE (For Women)
(AUTONOMOUS)
Shaikpet, Hyderabad – 500104

DEPARTMENT OF ELECTRONICS AND TELEMATICS ENGINEERING

Dt: 14/10/2022

Value Added Course on

Fundamentals of Blockchain Technology

Course Objectives:

1. Students should be able to understand a broad overview of the essential concepts of blockchain technology.
2. To familiarize students with Bitcoin protocol followed by the Ethereum protocol – to lay the foundation necessary for developing applications and programming.
3. Students should be able to learn about different types of blockchain and consensus algorithms.
4. Students should be able to understand several types of blockchain use cases.

Module 1:

Blockchain Basics

Day1. Introduction to Blockchain
Day2. The Double-Spend Problem
Day3. Byzantine Generals' Computing Problem
Day4. Public Key Cryptography
Day5. Hashing
Day6. Distributed Systems
Day7. Distributed Consensus

Module 2:

BitcoinTechnology Stack

Day8. Blockchain
Day9. Protocol
Day10. Currency

Bitcoin Blockchain

Day11. Structure
Day12. Operations
Day13. Features
Day14. Consensus Model
Day15. Incentive Model

Module 3:

Ethereum Blockchain

Day16. Smart Contracts
Day17. Ethereum Structure
Day18. Operations
Day19. Consensus Model
Day20. Incentive Model

Module 4:

Tiers of Blockchain Technology

Day21. Blockchain 1.0
Day22. Blockchain 2.0
Day23. Blockchain 3.0

Types of Blockchain

Day24. Public Blockchain
Day25. Private Blockchain
Day26. Semi-Private Blockchain
Day27. Sidechains

Module 5:

Types of Consensus Algorithms

Day28. Proof of Stake
Day29. Proof of Work
Day30. Delegated Proof of Stake
Day31. Proof Elapsed Time
Day32. Deposite-Based Consensus
Day33. Proof of Importance
Day34. Federated Consensus or Federated Byzantine Consensus
Day35. Practical Byzantine Fault Tolerance

Module 6:

Blockchain Use Cases

Day36. Financial Services Related Use Cases
Day37. Revolutionization of Global Trade
Day38. Digital Identity
Day39. Auditing Services
Day40. Supply Chain Management
Day41. Healthcare Related Services
Day42. Blockchain and IOT
Day43. Blockchain and AI

Assessment:

Day44. Test/Quiz

Text Books/References:

1. Kiran kalyan Kulkarni, Essentials of Bitcoin and Blockchain, Packt Publishing.
2. Anshul Kaushik, BlockChain & Crypto Currencies, Khanna Publishing House.
3. Tiana Laurence, Blockchain for Dummies,2nd Edition2019, John Wiley& Sons.
4. Mastering Blockchain: Deeper insights into decentralization, cryptography, Bitcoin, and popular Blockchain frameworks by Imran Bashir, Packt Publishing (2017).
5. Blockchain: Blueprint for a New Economy by Melanie Swan, Shroff Publisher O'Reilly Publisher Media; 1st edition (2015).
6. Mastering Bitcoin: Programming the Open Blockchain by Andreas Antonopoulos.

Online Resources:

1. https://www.coursera.org/specializations/blockchain.
2. https://nptel.ac.in/courses/106105184/.
3. Introduction to Blockchain Technology and Applications, https://swayam.gov.in/nd1_noc20_cs01/preview.

Course Outcomes:

After completion of this course, students will be able to:

1. To explain the basic notion of distributed systems.
2. To use the working of an immutable distributed ledger and trust model that defines blockchain.
3. To illustrate the essential components of a blockchain platform.
4. To understand different types of uses of blockchain and apply it to some real-life scenarios accordingly.

Course Coordinator
Mr. A. Chandra Shaker
Assistant professor
Department of ETE

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II/IV ETE Student Attendance list for the Value Added Course on
"Blockchain Technology"

Date	22/10/22	29/10/22	5/11/22	19/11/22	26/11/22	17/12/22	31/12/22	7/1/23	21/1/23
No. of Classes	3Hrs	3Hrs	3Hrs	3Hrs	3Hrs	3Hrs	3 Hrs	3Hrs	3Hrs
Roll No									
21251A1702	ch.SIRI	ch.SIRI	ch.SIRI	ch.SIRI	ch.SIRI	ch.SIRI	ch.SIRI	ch.SIRI	
21251A1703	Vany	Vany			Vany				
21251A1704	Haritha	Haritha		Haritha	Haritha	Haritha	Haritha		Haritha
21251A1705									
21251A1711	K.Sai Meghana	K.Sai Meghana		K.Sai Meghana	K.Sai Meghana	K.Sai Meghana	K.Sai Meghana	K.Sai Megh	K.Sai Megh
21251A1713	K.Srilaxmi	K.Srilaxmi	K.Srilaxmi	K.Srilaxmi	K.Srilaxmi	K.Srilaxmi	K.Srilaxmi	K.Srilaxmi	K.Srilaxmi
21251A1714	K.Aabandhi	K.Aabandhi	K.Aabha	K.Aabha	K.Aabha	K.Aabha	K.Aabha	K.Aabha	K.Aabha
21251A1716	Reddy	Reddy		Reddy		Reddy	Reddy	Reddy	Reddy
21251A1719	Joshua		Joshua	Joshua	Joshua	Joshua	Joshua	Joshua	Joshua

21251A1720	Meghana.K						Meghana.K		
21251A1722	Rupa		Rupa	Rupa	Rupa	Rupa	Rupa	Rupa	Rupa
21251A1723	Hari			Hari					
21251A1724	Namrata		Namrata						Namrata
21251A1725	yaswanth.P	yaswanth.P							
21251A1727									
21251A1728	S.Kavya	S.Kavya	S.Kavya	S.Kavya		S.Kavya	S.Kavya	S.Kavya	S.Kavya
21251A1729									
21251A1730	Y.Kruparaj		Y.Kruparaj			Ykruparaj			Ykruparaj
21251A1731	Zayd			Zayd				Zayd	
21251A1732	Akanksha.G	Akanksha.G		Akanksha.G	Akanksha.G	Akanksha.G	Akanksha.G	Akanksha.G	Akanksha.G
21251A1734	Ayesha VS	Ayesha VS				Ayesha VS			
21251A1735	B.Satya	B.Satya	B.Satya	B.Satya	B.Satya	B.Satya	B.Satya	B.Satya	B.Satya
21251A1737	Ch.Tejaswi		Ch.Tejaswi	Ch.Tejaswi	Ch.Tejaswi	Ch.Tejaswi	Ch.Tejaswi	Ch.Tejaswi	Ch.Tejaswi
21251A1738	ch.Naveena	ch.Naveena	ch.Naveena	ch.Naveena		ch.Naveena	ch.Naveena	ch.Naveena	ch.Naveena
21251A1739	Chaitika	Chaitika	Chaitika	Chaitika	Chaitika	Chaitika	Chaitika		Chaitika
21251A1740	E.Ref.	E.Ref.	E.Ref.	E.Ref.		E.Ref.	E.Ref.	E.Ref.	E.Ref.
21251A1741	K.Navyasri	K.Navyasri		K.Navyasri	K.Navyasri	K.Navyasri	K.Navyasri	K.Navyasri	K.Navyasri
21251A1743	K.Deepika	K.Deepika	K.Deepika	K.Deepika	K.Deepika		K.Deepika	K.Deepika	K.Deepika
21251A1744	K.Siri	K.Siri	K.Siri		K.Siri	K.Siri		K.Siri	K.Siri
21251A1745	K.Sravya					K.Sravya			
21251A1747	L.Lakshitha		Lakshitha	Lakshitha	Lakshitha		Lakshitha		Lakshitha

21251A1748	Deekshitha	Deekshitha		Deekshitha	Deekshitha	Deekshitha	Deekshitha	Deekshitha	Deekshitha
21251A1749	M. Anusha	M. Anusha	M. Anusha	M. Anusha		M. Anusha	M. Anusha	M. Anusha	M. Anusha
21251A1750	M. Sravanthi		M. Sravanthi	M. Sravanthi	M. Sravanthi	M. Sravanthi	M. Sravanthi	M. Sravanthi	M. Sravanthi
21251A1753	P. Lahari	P. Lahari	P. Lahari		P. Lahari	P. Lahari	P. Lahari	P. Lahari	P. Lahari
21251A1754	Deekshitha	Deekshitha	Deekshitha	Deekshitha	Deekshitha	Deekshitha		Deekshitha	Deekshitha
21251A1755									
21251A1757	Shahnaz					Shahnaz			
21251A1759	Mithila				Mithila				
21251A1760	M. Pragya			M. Pragya		M. Pragya		M. Pragya	M. Pragya
21251A1761	Shivani	Shivani		Shivani	Shivani	Shivani	Shivani	Shivani	Shivani
21251A1762	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]		[illegible]
21251A1763	Lahari	Lahari	Lahari	Lahari		Lahari		Lahari	Lahari
21251A1765	Chethana	Chethana		Chethana	Chethana	Chethana	Chethana		Chethana
22255A1702	Komali	Komali	Komali	Komali	Komali	Komali	Komal	Komali	Komali

Mr. A. Chandra Shaker

Course Coordinator

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II/IV ETE Student Attendance list for the Value Added Course on
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Date	28/1/23	18/3/23	25/3/23						
No. of Classes	3Hrs	3Hrs	3Hrs.						
Roll No									
21251A1702									
21251A1703									
21251A1704	Harika	Harika	Harika						
21251A1705									
21251A1711	K.Sai Megha	K.Sai Megha	K.Sai Megha						
21251A1713	K.Srilaxmi	K.Srilaxmi	K.Srilaxmi						
21251A1714	K.Asha	K.Asha	K.Asha.						
21251A1716									
21251A1719	Joshua	Joshua	Joshua						

28/1/23 18/3/23 25/3/23

21251A1720									
21251A1722	Rupa	Rupa		h					
21251A1723									
21251A1724									
21251A1725									
21251A1727									
21251A1728	S.Kavya	S.Kavya	S.Kavya						
21251A1729									
21251A1730									
21251A1731									
21251A1732	D.Kanksha.G	D.Kanksha.G	D.Kanksha.G						
21251A1734									
21251A1735	B.Satya		B.Satya						
21251A1737	Ch.Tejasvi	Ch.Tejasvi	Ch.Tejasvi						
21251A1738	Ch.Naveena	Ch.Naveena	Ch.Naveena						
21251A1739									
21251A1740	E.Rahul	E.Rahul	E.Rahul						
21251A1741	K.Navyasri	K.Navyasri	K.Navyasri						
21251A1743	K.Deepthi	K.Deepthi	K.Deepthi						
21251A1744	K.Sirisha	K.Sirisha	K.Sirisha						
21251A1745									
21251A1747	Lakshmi	Lakshmi	Lakshmi						

21251A1748	Deekshitha	Deekshitha	Deekshitha						
21251A1749	M. Anusha		M. Anusha						
21251A1750	M. Sravanthi		M. Sravanthi						
21251A1753	P. Lahari		P. Lahari						
21251A1754	Deekshith	Deekshitha	Deekshitha						
21251A1755									
21251A1757									
21251A1759									
21251A1760									
21251A1761	Divanji A		Divanji A						
21251A1762									
21251A1763	Kalabathi	Kalabathi	Kalabathi						
21251A1765	Chethana	Chethana	Chethana						
22255A1702	Komali	Komali	Komali						

Mr. A. Chandra Shaker

Course Coordinator

G. Narayanamma Institute of Technology Science (for Women)

(Autonomous)

Department of ETE

Report on Value Added Course

Event Name : Blockchain Technology

Date(s) : 22/10/2022 to 25/03/2023

Coordinator(s) : Mr. A. Chandra Shaker

Resource Persons : Mr. A. Chandra Shaker

Budget/Expenditure : Nil

No. of Participants : 45

Brief Description :
Topics covered in VAC:

1. Blockchain Basics
2. BitcoinTechnology Stack
3. Bitcoin Blockchain
4. Ethereum Blockchain
5. Tiers of Blockchain Technology
6. Types of Blockchain
7. Types of Consensus Algorithms
8. Blockchain Use Cases

Coordinator

Mr. A. Chandra Shaker

HOD-ETE

Dr. K. Rama Linga Reddy

23/6/23

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