



Two Day Workshop on
“BLOCK CHAIN TECHNOLOGY AND IT APPLICATIONS”
25th & 26th November 2024
Organized by Dept. of Computer Science, Govt. College for Men(A),
Kadapa
Under DBT Star College Scheme

By

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Objectives:

Considering the growing importance of Blockchain Technology and its potential in different sectors, a Two day workshop is planned with the following objectives .

- To disseminate the knowledge of Block chain technology among students, researchers and academicians.
- To discuss the fundamentals of Block chain Technology
- To understand the Evolution of Block chain Technology
- To disseminate the applications of Block chain technology among students.
- To discuss the current status of the decentralization in India and across the world.
- To discuss the current status of the Block chain development and research work in India and across the world.

This workshop is intended to provide opportunities for educationalist, researchers, professionals and students to upgrade their knowledge in the area of Block chain Technology.

ABOUT THE WORKSHOP

Block chain nowadays is an emerging technology, which can be exploited in many distributed applications, especially for those which requires multi-party agreement. This technology has been designed such that any participant having computation resources can participate and contribute in the agreement process. However, use of these third parties can be vulnerable and hence this technology has many security and privacy issues, which needs proper attention. For example, if a malicious actor participates in the agreement process, it may be possible for it to affect the block chain system for its malicious objective. It can also learn

much sensitive information of the other actors. Therefore, the designers have to design the blockchain system addressing all these security issues. Objective of this workshop is to discuss and disseminate the basic architecture of block chain technology, its components, working principles, implementation of block chain and then to discuss on security and privacy issues that need to be dealt in the area of “Block chain Technology”.

Contents of the Workshop

- Block chain Fundamentals
- How it works
- Key Features
- Types of Block chains
- Block chain Applications
- Industries Using Block chain
- Block chain Architecture
- Consensus Mechanisms
- Smart Contracts
- Challenges and Future Trends
- Hands-on Demo

WORKSHOP AUDIENCE

The workshop is open to UG students, Research Scholars and faculty members. A total of 57 students and 8 faculty are participated for this workshop.

FINANCIAL ASSISTANCE

The workshop was conducted on as part of DBT Star college scheme.

PARTICIPANT’S ATTENDANCE

Attendance was taken for the participants on all the two days. The photo copy of the attendance sheet is enclosed in Annexure.

FOOD AND REFRESHMENTS

For all the two days high quality and different varieties of Snacks and Tea/Coffee was served to the participants. Tea / Coffee were served in the morning between 11:30 am to 11:45 am

and in the evening between 04:00 pm to 04:15pm and lunch is provided between 10.00 pm and 2.00pm.

RESOURCE PERSON PROFILE

Dr. S.M. Farooq, assistant professor in School of computer science and technology, VIT, Vellore, Tamilnadu, India. He is a visiting researcher in Energy Network Team, Fukushima Renewable Energy Institute, AIST(FREA), Koriyama, Japan. His research interests include Blockchain Technology, Wireless Sensor Networks and IoT. He has published 9 journals and 4 conferences in national and international publications. He has professional membership in IEEE and IE(I) and also acting as editorial board member for Discover Computing Journal.

WORKSHOP INAUGURATION

The workshop commenced with a formal inaugural session on 25th November 2024.

- **President:** Dr. G. Ravindranath, Principal of the college, presided over the session and highlighted the importance of technology in current trends.
- **DBT-STAR Coordinator:** Dr. Y. Savithri emphasized the importance of such programs in advancing technology and research.
- **Convener:** Y. Anitha, In-charge, Dept. of Computer Science introduced the objectives of the workshop and the challenges and future trends in Block Chain technology.
- **Organizing Secretary:** T. Manohar Reddy, Lecturer in Computer Science, coordinated the program logistics.

WORKSHOP SESSIONS

The two-day event featured engaging lectures and practical demonstrations by renowned resource persons, attended by approximately 70 participants, including students, research scholars, and faculty from institution.

Day 1: 25th November 2024

The following topics are covered in the first day of the workshop.

1. Blockchain Fundamentals

- What is Blockchain?

- Definition and key concepts.

How it works: Blocks, transactions, and chains.

Key Features: Decentralization, transparency, immutability, and security.

2. **Types of Blockchains:** Public, private, and consortium blockchains.
3. **Blockchain Applications :**Dr.S.M. Farooq conducted an interactive session on applications on block chain technology.
Industries Using Blockchain: Finance (Cryptocurrencies), Supply Chain, Healthcare, Real Estate, etc.
Case Studies: Highlight successful implementations.
4. **Blockchain Architecture:** Nodes, consensus mechanisms, and cryptography.
5. **Consensus Mechanisms:** Proof of Work (PoW), Proof of Stake (PoS), and others.
6. **Smart Contracts:** Definition, use cases, and how they work.

Day 2: 26th November 2024

The following topics are covered in the second day of the workshop.

1. **Challenges and Future Trends**
Current Challenges: Scalability, energy consumption, regulation, etc.
Emerging Trends: Web3, NFTs, DeFi, CBDCs (Central Bank Digital Currencies).
2. **Hands-on Demo:**
Example: Setting up a simple wallet or exploring block chain explorer tools.
To implement block chain as a DLT
Create or interact with a smart contract or simple block chain simulation.
3. **Interactive Activities**
Group Discussion/Brainstorming:
Identify potential applications for block chain in participants' industries.

VALEDICTORY PROGRAMME

The workshop concluded with a valedictory session, graced by:

- **Chief Guest:** Dr. S.M.Farooq, who praised the efforts of the organizers and participants for their enthusiasm and dedication.
- **Principal:** Dr. G. Ravindranath, who expressed gratitude to the resource persons and participants for making the workshop a success.
- **DBT-STAR Coordinator:** Dr. Y. Savithri highlighted the long-term benefits of such training programs.
- **Closing Remarks:** Y.Anitha summarized the outcomes of the workshop and encouraged participants to apply their newly acquired skills in their research endeavours.

CONCLUSION & OUTCOME:

The workshop also included with significant amount of hands-on laboratory sessions for making it fruitful. Around 1 students participated in this workshop. The participants were able to

- To gain a deeper understanding of the basic concepts underlying the technology.
- To comprehend blockchain, cryptographic hash and validation.
- To explore the most common applications of blockchain
- To differentiate consensus algorithms.
- learn the theoretical limits on the possibilities of blockchain.
- To implement blockchain as a DLT.

During the valedictory function the resource person was felicitated by the college committee and management members as a token of respect for his valuable sessions.

సాక్షి

25 నుంచి వర్కషాప్

వైవీయూ : కడప నగరంలోని ప్రభుత్వ పురుషుల కళాశాలలో ఈ నెల 25, 26 తేదీల్లో కంప్యూటర్ సైన్స్ శాఖ ఆధ్వర్యంలో నిర్వహించనున్న వర్కషాప్ నకు సంబంధించిన కరపత్రాలను కళాశాల ప్రిన్సిపాల్ జి.రవీంద్రనాథ్ ఆవిష్కరించారు. భారత ప్రభుత్వం, విజ్ఞాన, సాంకేతిక విద్యామంత్రిత్వశాఖ, స్టార్ డీబీటీ సహకారంతో 'బ్లాక్ చైన్ టెక్నాలజీ అండ్ అప్లికేషన్స్' అనే అంశంపై విద్యార్థులకు వర్కషాప్ నిర్వహిస్తున్నట్లు తెలిపారు. కార్యక్రమంలో అధ్యాపకులు వై.సావిత్రి, వై.అనిత, టి. మనోహర్ రెడ్డి, వెంకటసుబ్బయ్య తదితరులు పాల్గొన్నారు.



పోస్టర్లను ఆవిష్కరిస్తున్న ప్రిన్సిపల్, కన్వీనర్

వర్క్ షాప్ ను వినియోగించుకోవాలి - ప్రిన్సిపల్ డాక్టర్ జి.రవీంద్రనాథ్

ప్రజాశక్తి - కడప

భారత ప్రభుత్వం విజ్ఞాన, సాంకేతిక విద్యా మంత్రిత్వ శాఖ - స్టార్ డిబిటి ఆర్థిక సహకారంతో నగరంలోని ప్రభుత్వ పురుషుల కళాశాల (స్వయంప్రతివత్తి) ఆర్ట్స్ కళాశాలలో డిగ్రీ స్థాయి విద్యార్థులకు ఈ నెల 25,26 తేదీలలో కంప్యూటర్ సైన్సు అంశాలకు సంబంధించిన 'బ్లాక్ చైన్ టెక్నాలజీ అండ్ అప్లికేషన్స్' అనే అంశంపై విద్యార్థులకు వర్క్ షాప్ ఏర్పాటు చేస్తున్నట్లు కళాశాల ప్రధానాచార్యులు జి. రవీంద్రనాథ్ పేర్కొన్నారు. శనివారం ఆయన ఛైయర్ మన్ ఆవిష్కరించారు. ఈ సందర్భంగా మాట్లాడుతూ విద్యార్థులు ఈ అవకాశాన్ని వినియోగించుకోవాలని కోరారు. నేటి ఆధునిక శాస్త్ర, సాంకేతిక పరిజ్ఞానాన్ని అన్ని తరాలూ అందుకోవాలని ఆకాంక్షించారు. కార్యక్రమంలో స్టార్ డి.బి.టి కన్వీనర్ డాక్టర్ వై.సావిత్రి, ప్రోగ్రాం కన్వీనర్ వై.అనిత, ఆర్గనైజింగ్ సెక్రటరీ టి.మనోహర రెడ్డి, ఉప ప్రధానాచార్యులు డా.ఎం.రమేష్, అకడమిక్ కో- ఆర్డినేటర్ డా. జి.వెంకటసుబ్బయ్య, ఐ క్యూ ఎస్ కో- ఆర్డినేటర్ డా. బి. రామచంద్ర, కంప్యూటర్ సైన్సు శాఖ అధ్యాపకులు కె.సంపత్ కుమార్ రాజు, బి.రేణుకాదేవి, మహబూబ్ సుభాని, వీరారెడ్డి, గోవర్ధన్, పుల్లారెడ్డి పాల్గొన్నారు.



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