



G.NARAYANAMMA INSTITUTE OF TECHNOLOGY & SCIENCE (For Women)  
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## REPORT

# Introduction to Web3 and Sharduem Blockchain Technology

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**Organiser:** V. Sumanth

**Number of Participants:** 40

### 1. Introduction:

This aims to explore and analyze the concepts and implementations of Web3 and Sharduem Blockchain technology. Both concepts hold great promise in shaping the future of the decentralized web and enabling improved scalability in blockchain networks.



### 2. Background:

**2.1 Web3:** Web3 refers to the third generation of the internet, where the decentralized web becomes a reality. It is based on the principles of blockchain technology, enabling peer-to-peer interactions without relying on central intermediaries. Web3 allows users to have full control

## **4. Findings:**

**4.1 Web3:-** Web3 enables a range of exciting applications, including decentralized finance (DeFi), Non-Fungible Tokens (NFTs), decentralized identity (DID), and decentralized exchanges (DEXs).

- One of the core technologies enabling Web3 is the InterPlanetary File System (IPFS), which provides a distributed file storage system to enable the sharing and retrieval of data.

- Other key technologies associated with Web3 include decentralized autonomous organizations (DAOs), smart contracts, and cryptographic tokens.

- Challenges associated with Web3 include user adoption, legal and regulatory frameworks, scalability, and privacy concerns.

## **4.2 Sharding Blockchain Technology:**

- Sharding technology divides the blockchain network into smaller shards, each independently processing a subset of transactions while maintaining overall consensus.

- It aims to solve the scalability problem by enabling parallel processing, resulting in higher throughput and faster confirmation times.

- Sharding requires sophisticated techniques for cross-shard communication, shard selection, and data storage to ensure consistency and security.

- Potential challenges include maintaining decentralization, ensuring security during shard transitions, and designing efficient consensus protocols.

## 5. Conclusion:

Web3 and Sharduem Blockchain technology have the potential to revolutionize the way we interact and transact online. Web3 provides a decentralized and secure environment for a range of applications, while Sharduem tackles scalability challenges faced by conventional blockchain networks. Both technologies have their unique benefits and challenges, and further research and development are needed to fully realize their potential.

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