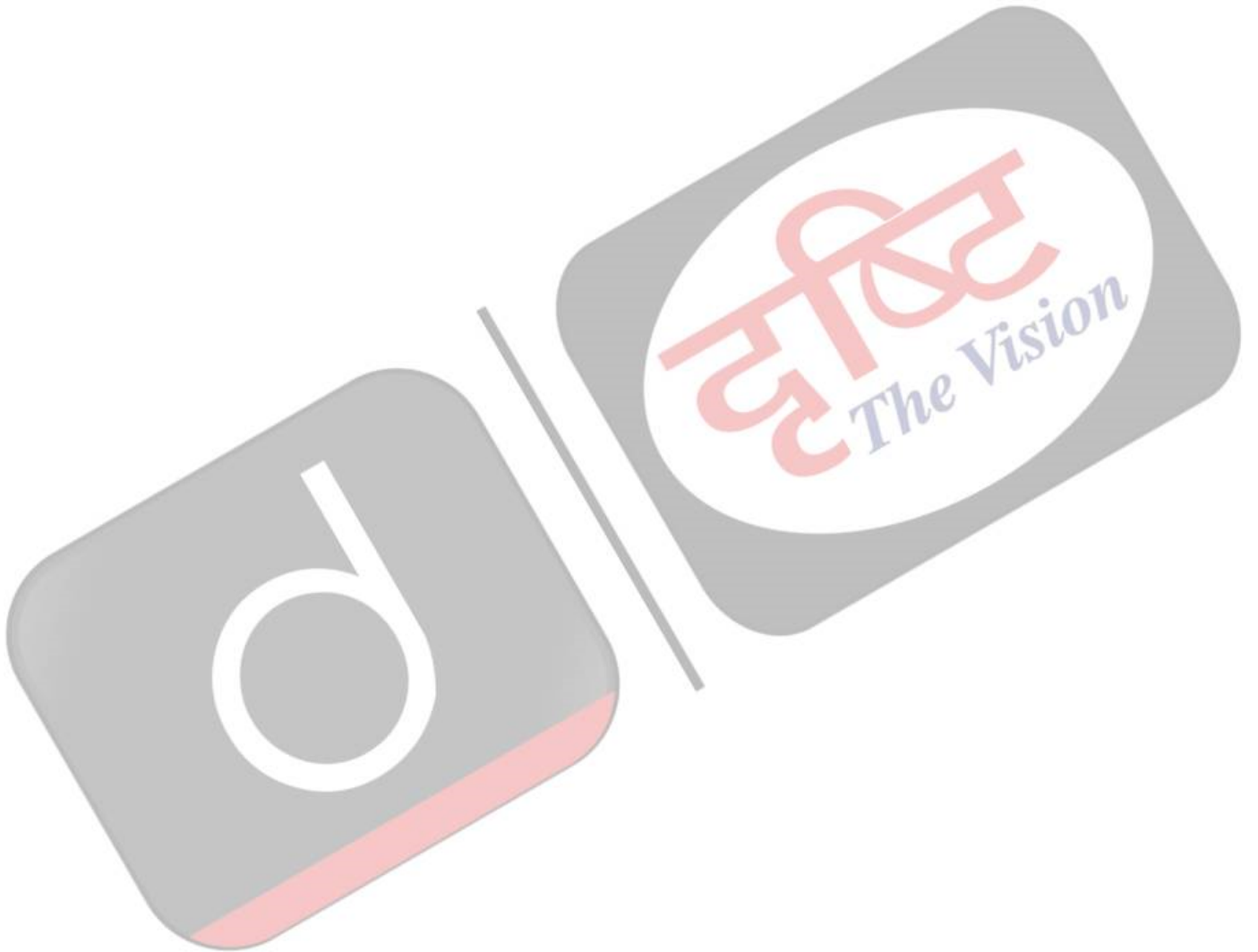# Cryptocurrency

CRYPTOCURRENCY

Cryptocurrency is a digital or virtual currency that employs cryptography for secure, decentralized transactions and operates on blockchain technology.

Features of Crypto

- Virtual money secured by cryptography
- Direct peer-to-peer transactions, eliminating the need for banks
- Entries recorded in a public ledger, not as physical cash
- Encrypted; advanced coding methods ensure high-level security
- Decentralised; not controlled by any government

Legal Status: Cryptocurrency

- **Declared Legal: El Salvador** (2021) and **Central African Republic** (2022); first and second countries to recognise Bitcoin as legal tender
  - Other Countries where Bitcoin is legal: US, UK, European Union, Canada, Australia, Japan, Switzerland
- **Declared Illegal:** China, Pakistan, Saudi Arabia, Tunisia, and Bolivia
  Status in India:
  - Not a legal tender but not banned either
  - **Taxation:** 30% tax on profits & 1% TDS on transfers (Budget 2022-23)
  - RBI launched its **CBDC - Digital Rupee** in 2022

Types of Cryptocurrency (Utility-based)

- **Utility Token:** Used to access services or features within a blockchain platform (Eg. Ethereum (ETH) & Ripple (XRP))
- **Transactional:** Tokens used for payments (Eg. Bitcoin (BTC))
- **Voting Token:** Tokens that provide voting rights on a blockchain (Eg. Uniswap)
- **Platform Based:** Tokens for utilizing a proof-of-stake mechanism to enable smart contracts (Eg. Solana)
- **Security:** Tokens representing asset ownership (Eg. Millennium Sapphire)
- **Stablecoins:** Created to reduce the volatility which is common in many cryptocurrencies

How Does It Work?

- **Mining:** Solves equations with computer power to validate transactions & earn rewards
- **Security:** Cryptography prevents manipulation
- **Blockchain:** Transactions are recorded on a distributed public ledger
- **Decentralization:** Verified & maintained by a global network of computers
- **Digital Wallet:** Stores keys for sending & receiving cryptocurrency

Benefits

- Decentralization
- Lower transaction fees
- Fast Transactions
- Security through cryptography
- Transparency
- Generates high returns

Challenges

- Pseudonymous transactions
- Price volatility
- Regulatory uncertainty
- Potential for criminal use
- Scalability Issues
- High energy use in mining

Drishti IAS

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