School: ..... Campus: .....

Academic Year: ..... Subject Name: ..... Subject Code: .....

Semester: ..... Program: ..... Branch: ..... Specialization: .....

Date: .....

Applied and Action Learning

(Learning by Doing and Discovery)

Name of the Experiement : Crypto Timeline – Evolution of Digital Currencies

Objective/Aim:

The aim of this experiment is to study and understand the evolution of digital currencies and their impact, from early cryptographic systems to modern-day cryptocurrencies. This includes researching key historical milestones, influential figures, and technological advancements that have shaped the development of digital money.

Apparatus/Software Used:

Internet-connected computer
Web browser
Word processing software (e.g., Microsoft Word, Google Docs)

Theory/Concept:

The history of digital currency is a timeline of technological innovation driven by the desire for secure, private, and decentralized forms of money. The journey began with foundational concepts in cryptography, such as **public-key cryptography** in the 1970s, which is essential for secure digital signatures. Early attempts at digital cash, such as David Chaum's **eCash** in 1983 and his company **DigiCash** in 1995, laid the groundwork for anonymous digital transactions using cryptography.

The term **"cryptocurrency"** was coined in 1998 by Wei Dai, who proposed a decentralized electronic cash system called **"b-money"**. This idea, along with others like Nick Szabo's **"bit gold,"** influenced the creation of Bitcoin. The 2008 financial crisis exposed weaknesses in the traditional banking system and fueled public interest in a decentralized alternative.

This set the stage for the creation of **Bitcoin** in 2009 by the pseudonymous Satoshi Nakamoto. Bitcoin introduced a peer-to-peer electronic cash system that operates without a central authority, using a cryptographic hash function called SHA-256 for its proof-of-work scheme. Its underlying technology, **blockchain**, is a decentralized ledger that records all transactions. Since then, thousands of other cryptocurrencies, known as **altcoins**, have emerged, each with different features and consensus mechanisms. Notable examples include **Litecoin** (2011), **Peercoin** (2012), and **Ethereum** (2015), which introduced the concept of Turing-complete smart contracts.

Procedure:

Research and Data Collection: Begin by researching the history of digital currencies. Identify key moments and innovations before Bitcoin, such as eCash, DigiCash, and b-money.
Focus on Bitcoin's Genesis: Investigate the creation of Bitcoin, its creator (Satoshi Nakamoto), and the motivations behind its development, particularly its connection to the 2008 economic crisis.
Trace the Rise of Altcoins: Document the emergence of various altcoins after Bitcoin. Research and list some of the first and most influential altcoins, noting their unique features or differences from Bitcoin (e.g., different hash algorithms, consensus mechanisms).
Create a Timeline: Organize your findings into a chronological timeline. The timeline should highlight significant events, from early concepts to the mainstream adoption and evolution of the cryptocurrency market. You can use a table format for clarity.
Analyze Key Events: For each major event on your timeline, provide a brief description of its significance and its impact on the evolution of digital currency.
Synthesize Findings: Conclude by summarizing the major trends and developments observed in your timeline. Analyze how these innovations have led to the current state of the crypto industry, including the emergence of new technologies like smart contracts and decentralized finance (DeFi).

Observation Table:

Year	Event / Milestone	Observation / Significance
1983	David Chaum introduces **eCash**	First concept of anonymous digital money using cryptography.
1997	Adam Back creates **Hashcash**	Introduced Proof-of-Work (PoW), later used in Bitcoin mining.
1998	Wei Dai proposes **b-money**	One of the earliest proposals for a decentralized digital currency.
2004	Hal Finney develops **Reusable Proof of Work (RPoW)**	Advanced cryptographic tokens to prevent double-spending.
2008	Satoshi Nakamoto releases **Bitcoin whitepaper**	Defined blockchain and peer-to-peer digital cash system.
2009	Launch of **Bitcoin network**	First decentralized cryptocurrency, solving double-spending problem.
2011	**Litecoin** introduced	Faster transactions and different hashing algorithm (Scrypt).
2013	**Ripple (XRP)** and **Dogecoin** launched	Ripple focused on banking payments; Dogecoin popularized meme-currency culture.
2015	**Ethereum** launched	Introduced smart contracts and decentralized applications (dApps).
2017	ICO boom & rise of **Ethereum tokens**	Startups raised billions using Initial Coin Offerings.
2020	Rise of **DeFi (Decentralized Finance)**	Enabled lending, borrowing, and trading without intermediaries.
2021	Growth of **NFTs (Non-Fungible Tokens)**	Digital ownership of art, collectibles, and virtual assets.
2022	**CBDC (Central Bank Digital Currency)** pilots begin	Governments started exploring state-backed digital currencies.
2023+	Focus on **Web3, scalability & regulation**	Evolution towards mass adoption, regulation, and sustainable blockchain.

ASSESSMENT

Rubrics	Full Mark	Marks Obtained	Remarks
Concept	10		
Planning and Execution/ Practical Simulation/ Programming	10		
Interpretation Result and	10		
Record of Applied and Action Learning	10		
Viva	10		
Total	**50**		

Signature of the Student:
Name :
Regn. No.

Signature of the Faculty: