Centurion University
Shaping Lives... Empowering Communities...

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 :

* Coding Phase: Pseudo Code / Flow Chart / Algorithm

Flow of a DID System:

1.User Creates DID:
-A Decentralized Identifier (DID) is generated, e.g., did:ethr:0x1234...abcd, stored on the blockchain.
2.Issuer Issues Credential:
-An institution (like a university) signs a digital credential, e.g., "Degree Certificate," and links it to the user's DID.
3.User Stores Credential:
-The DID holder saves the signed credential locally (e.g., in a wallet or a DID app).
4.Verifier Requests Proof:
-A service provider (e.g., employer) asks the user to prove ownership of the credential.
5.User Shares Verifiable Proof:
-The user shares a cryptographic proof of the credential, which is checked against blockchain metadata using public keys.
6.Verifier Validates the Proof:
-The verifier reads the DID document from blockchain and confirms the credential is authentic and untampered.

* Softwares used

1.DID standards (W3C)
2.Verifiable Credentials Format
3.Ethereum or Polygon DID methods
4.Universal Resolver (optional concept)
5.DID Wallets (e.g., MetaMask, Microsoft Entra, Dock Wallet)

*As applicable according to the experiment.
Two sheets per experiment (10-20) to be used.

* Testing Phase: Compilation of Code (error detection)

1.DID example evaluated: did:ethr:0xA1B2C3D4E5...
2.Verifiable Credential details: "Certified Blockchain Developer - Issued by XYZ University"
3.Integrity verified using public DID Document on Ethereum testnet.
4.Credential validation process simulated through DID Resolver for authenticity.

**As applicable according to the experiment.*
Two sheets per experiment (10-20) to be used.

* Implementation Phase: Final Output (no error)

1.A decentralized identity record (did:ethr:...) indicates ownership stored on blockchain.
2.Credential (degree, certificate, license) stays with user, not the issuer.
3.Verification possible without contacting issuer in real-time.
4.Ensures privacy, ownership, and interoperability across platforms.

* Observations

1.DID shifts control of identity from centralized databases to individuals using blockchain.
2.Verifiable credentials create trust without sharing raw data or contacting issuers repeatedly.
3.DID supports various use cases like education, healthcare, supply chain, passporting.
4.Better privacy and security are achieved as there's no single point of failure or data breach.

ASSESSMENT

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

Signature of the Student:

Name :

Regn. No. :

Signature of the Faculty:

**As applicable according to the experiment.*
Two sheets per experiment (10-20) to be used.