Centurion University
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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 : GameFi Idea Jam – Brainstorming Blockchain Games**

## Objective/Aim:

To understand the concept of GameFi (Game + DeFi) and to brainstorm, design, and outline a blockchain-based gaming idea that integrates tokens, NFTs, and smart contracts for player rewards and ownership.

## Apparatus/Software Used:

- Internet connection
- Blockchain wallet (e.g., MetaMask)
- Optional: Game engine (Unity / Unreal)
- Tools for concept validation:
  - Remix IDE / Hardhat (for demo contract)
  - OpenZeppelin (for token & NFT standards)

## Theory:

**What is GameFi?**

**GameFi** combines **gaming and decentralized finance** using blockchain technology.

Players earn real-world value through:

- **Play-to-Earn (P2E)** mechanics
- **NFTs** representing in-game assets
- **Tokens** as in-game currency
- **Smart Contracts** for fair rewards and ownership

**Core Elements of GameFi**

1. **Tokenomics** – native token for transactions and rewards.
2. **NFT Assets** – unique items, skins, or characters owned by players.
3. **Marketplace** – for trading assets using crypto.
4. **Smart Contracts** – automate rewards, battles, and ownership transfers.
5. **Interoperability** – items usable across multiple games (metaverse style).

# Procedure:



1. **Ideation Phase:**

   - Choose a game genre (adventure, strategy, racing, etc.).
   - Define purpose and basic gameplay loop.

2. **Blockchain Integration:**

   - Decide blockchain use (token rewards, NFTs, leaderboard).
   - Select a blockchain (Polygon, Solana, Ethereum testnet).

3. **Tokenomics Planning:**

   - Design in-game token for rewards and transactions.
   - Plan earning, spending, and staking methods.

4. **Smart Contract Development:**

   - Write simple Solidity contracts (token, NFT, logic).
   - Test them in Remix or Hardhat environment.

5. **Prototype Visualization:**

   - Sketch player → contract → wallet → reward flow.
   - Show how users play, earn, and trade assets.

- **Concept Ideation & Game Model Design:**
  Developed a creative **Play-to-Earn (P2E)** game idea that integrates **blockchain, NFTs, and DeFi**, enabling players to earn real value through interactive gameplay.
- **Tokenomics & In-Game Economy Setup:**
  Designed a balanced **token and reward system** to ensure fair incentives, controlled token supply, and sustainable in-game economy with community-based asset ownership.
- **Smart Contract Development & Asset Logic:**
  Created and tested **Solidity smart contracts** for minting NFTs, managing staking rewards, and handling player assets to replicate decentralized game mechanics.
- **Gameplay Integration & Performance Validation:**
  Simulated in-game operations to confirm **smooth contract execution**, quick transaction speeds, and consistent token behavior within the GameFi ecosystem.

# Observation:

1. Developed a unique blockchain game idea using **token + NFT economy**.
2. Understood how **smart contracts automate gameplay rewards**.
3. Identified **advantages of decentralized ownership** for players.
4. Noted that **tokenomics** plays a key role in player motivation.
5. Learned that **gas fees** and **scalability** are critical in GameFi design.
6. Concept emphasized **community-driven growth** and open marketplace.

## 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 :***

***Signature of the Faculty:***

***Regn. No. :***



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