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 : Peer Audit – Contract Security Review

* Coding Phase: Pseudo Code / Flow Chart / Algorithm

ALGORITHM:

1.Start the review process for the chosen smart contract.
2.Import and open the contract in Remix or Hardhat environment.
3.Run static analysis tools to scan for known vulnerabilities.
4.Manually review code logic for access control and data flow issues.
5.Apply fixes to remove or mitigate vulnerabilities.
6.Recompile and redeploy the updated version.
7.Perform peer verification to ensure accuracy.
8.Document all changes and final results.
9.End.

* Softwares used

1.Solidity
2.Hardhat
3.VS Code
4.MetaMask
5.Remix IDE

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

* Implementation Phase: Final Output (no error)

Smart Contract Security Reviews ensure that blockchain-based systems are reliable, transparent, and resistant to attacks before deployment. The review process detects vulnerabilities, improves overall code quality, and enhances user trust through continuous verification.

1.Automated Vulnerability Scanning
- Uses tools like Slither or MythX to perform deep code analysis.
- Detects unsafe function calls, storage collisions, and gas inefficiencies.
- Highlights high-risk patterns for quick resolution.

2.Manual Peer Review
- Peers inspect the code for logical errors and unsafe data handling.
- Validates access control mechanisms and state management.
- Confirms adherence to Solidity best practices.

3.Security Patching and Testing
- Implements fixes such as reentrancy protection and overflow prevention.
- Executes local tests on Hardhat to verify correctness post-fix.
- Ensures that updates don't introduce new vulnerabilities.

4.Performance and Reliability Validation
- Tests contract execution under varying network conditions.
- Monitors gas consumption and transaction success rate.
- Confirms stable and consistent operation across test environments.

* Observations

- Peer auditing helped in identifying hidden vulnerabilities and improving the overall security of smart contracts.
- Cross-verification by multiple reviewers ensured accuracy, transparency, and code reliability.
- The audit process enhanced understanding of secure coding practices and strengthened deployment readiness.

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.*