	School: .... Campus: ....
	Academic Year: .... Subject Name: .... Subject Code: ....
	Semester: .... Program: .... Branch: .... Specialization: ....
	Date: ....

Centurion
UNIVERSITY
Shaping Lives...
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Applied and Action Learning
(Learning by Doing and Discovery)

Name of the Experiement : Solidity Patterns – Advanced Inheritance

Objective/Aim:

To understand advanced inheritance features in solidity.
To analyze how solidity resolves inheritance conflicts using C3 linearization.
To explore method overriding, multiple inheritance and use of super.

Apparatus/Software Used:

- MetaMask
- Solidity and remix IDE
- Brave browser
- Local Ethereum test net

Theory/Concept:

Inheritance in solidity allows contracts to reuse code from parent contracts.

Types of inheritance:

Single inheritance: one contracts inherits from one parent.

Multiple inheritance: one contracts inherits from multiple parent.

- Function overriding: child contracts can override parent functions using the override keyword.
- Virtual functions: marked with virtual allowing them to be overridden in child contracts.
- Super keyword: calls the immediate parent function in the inheritance hierarchy.
- C3 linearization: solidity resolves multiple inheritance using a linearized order to avoid ambiguity.

Procedure:

1. Open Remix IDE.
2. Create contracts demonstrating multiple inheritance.
3. Mark parent functions as virtual.
4. Override them in child contracts using override.
5. Deploy the final contract to test net.
6. Call function to observe which parent implementation executes.

Observation Table:

The contracts were compiled and deployed successfully. Solidity followed the linearized inheritance order, showing how multiple inheritance super work together to resolve functions execution paths.

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: