



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 Experiment : Build the Network – Peer-to-Peer Simulation

* Coding Phase: Pseudo Code / Flow Chart / Algorithm

- ☐ ☐ **Start**
- ☐ ☐ **Initialize the network environment.**
- ☐ ☐ **Create multiple nodes (peers) in the network.**
- ☐ ☐ **Connect each node to other nodes using peer-to-peer connections.**
- ☐ ☐ **Each node shares data (message or file) with connected peers.**
- ☐ ☐ **Receiving nodes validate and forward data to other peers.**
- ☐ ☐ **Continue message propagation until all peers receive the data.**
- ☐ ☐ **Display successful communication between all nodes.**
- ☐
- ☐
- ☐

Software used

1. Language: Python
2. IDE: VS Code
3. Library: Socket (for network connection)
4. Operating System: Windows

* Implementation Phase: Final Output (no error)

- ☐ • **Network Initialized:**
The peer-to-peer network environment was successfully created.
- ☐ • **Nodes Created:**
☐ Multiple peers (Node1, Node2, Node3, Node4) were added to the network.
- ☐ • **Connections Established:**
Each node connected to others directly without a central server.
- ☐ • **Data Transmission:**
☐ Message sent from Node1 was received and validated by all other nodes.
- **Result:**
Every node communicated successfully, proving the working of the peer-to-peer network.

* Observations:

- All nodes in the network connected directly without a central authority.
- Data sent from one node was received by all connected peers.
- Each peer validated and forwarded the message efficiently.
- Network communication remained stable with no transmission errors.
- The peer-to-peer system showed decentralized and reliable data sharing.

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:

