Innovative Activity Report

Peer Study Group Initiative – Data Structures & Laboratory Sessions**

1. Title of the Activity:

Peer Study Group Learning for Data Structures and Data Structures Laboratory

2. subject: data Structures and Data Structures lab

3. Course coordinator

Prof. Dipali Ghatge

4. Objective of the Activity:

The Peer Study Group Initiative was introduced with the aim to:

- Promote collaborative learning among students.
- Strengthen conceptual understanding of *Data Structures* through peer-to-peer explanation.
- Encourage active participation and problem-solving in laboratory-based tasks.
- Build confidence, communication skills, and teamwork among learners.

5. Description of the Activity:

To support first-year and second-year students in mastering Data Structures, **peer study groups** were formed within the computer lab. Each group consisted of 4–6 students who worked together on classroom topics, laboratory assignments, and problem-solving exercises.

Students voluntarily took turns explaining concepts, sharing notes, solving programs, and clarifying doubts. The sessions were self-driven but monitored to ensure productivity and meaningful interaction.

The activity created a positive academic environment where students felt comfortable asking questions, discussing logic, and collaboratively debugging programs. The group dynamics enhanced both slow and fast learners' performance.

6. Innovative Aspects of the Activity:

- **Collaborative Notebook Review:** Students compared solutions, corrected each other's work, and rewrote logic collectively.
- **Peer-to-Peer Micro-Teaching:** Students explained topics such as stacks, queues, linked lists, and recursion to their group members.
- **Hands-on Lab Discussions:** Real-time coding logic was discussed before implementation, helping students understand algorithmic flow.
- **Leadership Rotation:** Each member acted as a "group lead" for one concept, encouraging responsibility and leadership skills.
- **No-Fear Learning Environment:** Students opened up easily and participated actively without hesitation or fear of judgement.

7. Evidence of Activity:

The attached photographs show students:

- Actively engaged in group discussion and note analysis.
- Collaborating on Data Structures assignments.
- Reviewing written solutions and clarifying each other's doubts.
- Participating in focused learning sessions within the computer laboratory.

(Photos depict students sitting in groups, studying together, referring to notebooks, and discussing program logic.)

8. Outcomes of the Activity:

- Improved understanding of Data Structures concepts.
- Increased student participation and enthusiasm in lab sessions.
- Enhanced peer bonding and academic confidence.
- Better performance in internal assessments and lab work.
- Development of communication, teamwork, and analytical skills.

9. Student Feedback (Summary):

Students expressed that the peer study sessions helped them learn faster, clear doubts quickly, and understand concepts deeply through discussion. Many appreciated the collaborative environment and requested similar sessions for other subjects.

10. Conclusion:

The Peer Study Group Initiative proved to be an effective, innovative teaching-learning practice. It promoted a student-centric approach, strengthened concept clarity, and enhanced the overall learning experience. The department plans to continue and expand this activity to other subjects and semesters.