Journal Format:

The laboratory assignments are to be submitted by student in the form of journal.

Journal may consists of prologue, Certificate, table of contents, and **handwritten write-up of each assignment**.

Format:

1. Title
2. Objectives
3. Problem Statement
4. Outcomes
5. Software and Hardware requirements
6. Date of Completion
7. Assessment grade/marks and assessor's sign
8. Theory- Concept in brief
9. Algorithm/Database design
10. Test cases
11. Conclusion/analysis

Continues Assessment:

Parameters for overall assessment as well as each lab assignment assessment include-

1. Timely completion
2. Performance
3. Innovation
4. Efficient codes
5. Punctuality and neatness reserving weightage for successful mini-project completion
6. Related documentation.

Guidelines for all Programming assignments of HPC:

1. Select the suitable model of a parallel computation **(Data parallel model, Task graph model, Work pool model, Master slave model , Producer consumer or pipeline model, Hybrid model or other)** for algorithm to be developed by considering a strategy for dividing the data, processing method and suitable strategy to reduce interactions.
2. Assume suitable processor model, topology, load distribution strategy and Communication.

3. Utilize all available resources.

4. Test on data set of sufficiently large size
Compute Total cost and Efficiency as:

Total Cost = Time complexity × Number of processors used

Efficiency = WCSA/ WCPA

WCSA - Worst case execution time of sequential algorithm and

WCPA - Worst case execution time of the parallel algorithm

Compare performance by varying number of processors used and also with sequential algorithm.

Guidelines for Miniprojects:

3 mini-projects: HPC-01, AIR-01, DA-01

Mini-project can be completed in **group of 2 to 3 students.**

Software Engineering approach with proper documentation is to be strictly followed.

Use of **open source software** is to be encouraged.