MCKV INSTITUTE OF ENGINEERING

243, GT ROAD (NORTH), LILUAH, HOWRAH-711204, PH-2654931/17

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

ASSIGNMENT-2 FOR CSE(AI-ML) 3RD YEAR 1st SEMESTER YEAR-2024-25

LAST DATE OF SUBMISSION: - 30/10/2024

Paper Code: - PC-CS(AM) 504 Paper Name: - High Performance Computing

NAME (In Bold): -

ROLL NO: -

QUESTIONS	1	2	3	4
CO	CO4	CO2	CO1	CO3
Bloom's Taxonomy Level	Apply	Understand	Understand	Apply
Cognitive Level	IOCQ	IOCQ	LOCQ	IOCQ
MARKS	5	5	5	5

OVER ALL MARKS: -

Signature of Faculty with Date

Instruction to the Candidate: - All assignments should be submitted in A4 sheet with these front 2 pages attached as a printout. All answers must be written in good and clear handwriting failing which marks will be deducted. Diagrams should be drawn with Pencil only.

Questions: -

1. Write a code to add 2 vectors. The code must be written in NVDIA CUDA.
2. Differentiate between SAS, SAN, and SSD Cache?
3. State and Prove Amdahl's Law. Why Fraction enhancement is always less than 1.

4. For the following code answer the following

```
#pragma omp parallel private(i)
for (int i = 0; i < 100; i++_ {
a[i] = i;
}
```

(a) How many iterations will be required to execute the code if 4 threads execute the above program?
(b) If Pragma is eliminated from the code, then how many threads will now be executing the code. How many iterations will then be required.