


Name:			
Enrolment No:			
UPES End Semester Examination, May 2023			
Course: High Performance Computing Program: B.Tech (CSE) LL.B Course Code: CSEG 3038		Semester : VI Time : 03 hrs. Max. Marks: 100	
Instructions:			
SECTION A (5Qx2M=10Marks)			
S. No.	Answer all the questions.	Marks	CO
Q 1	Write down two applications of Hadoop in operating a big data cluster.	2	CO1
Q 2	List down at least two disadvantages of bandwidth limitations.	2	CO1
Q 3	Classify the distinct multi-processors.	2	CO2
Q 4	Demonstrate any two advantages of the time-shared bus	2	CO3
Q 5	Explain load balancing.	2	CO4
SECTION B (4Qx5M= 20 Marks)			
Q 6	Describe the various levels of parallelism and its related issues.	5	CO1
Q 7	Interpret the differences between parallel processing and concurrent processing.	5	CO2
Q 8	Figure out the disadvantages of Tightly Coupled MP.	5	CO3
Q 9	Illustrate the Time-Shared bus and its advantages.	5	CO4
SECTION-C (2Qx10M=20 Marks)			
Q 10	Demonstrate the Software Distributed Shared Memory briefly. Illustrate Remote-Memory Paging in brief.	5+5	CO3
Q 11	Explain the various features of implicit and explicit multi-threading. Outline the different features of blade server.	6+4	CO4

SECTION-D
(2Qx25M=50 Marks)

Q 12	Demonstrate the differences between static and dynamic load balancing. Illustrate Message Passing Interface (MPI) in brief. Demonstrate the importance of Synchronization. Figure out the advantages and disadvantages of the Token-Ring Algorithm.	7+5+5+8	CO3
Q 13	Explain latency-hiding techniques. Illustrate the heterogeneous multicore architecture of the HPC system briefly. Differentiate between OpenNebula and OpenStack	8+10+7	CO4