PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Winter 2022 – 23 Examination

Semester: 7	**Date: 11/10/2022**
Subject Code: 203105433	**Time: 10:30 am to 01:00 pm**
Subject Name: Parallel & Distributed Computing	**Total Marks: 60**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Objective Type Questions   **(15)**

1. ------------------------ is used to prevent data inconsistence due to race around condition.

2. -----------Law refers to perception that the number of transistors on a microchip doubles every two years.

3. In distributed system each processor has its own
(a) Local Memory (b) Clock (c) Both Local & Memory (d) None of this mentioned

4. A processor performing fetch or decoding of different instruction during the execution of another instruction is called
(a) Super Scaling (b) Pipelining (c) Parallel Computation (d) None of this mentioned

5. What is full form of NUMA?

6. Define distributed system?

7. Define Cache Coherence?

8. Uniprocessor computing device is called -------------------

9. --------------- bus is used to transfer data from main memory to peripheral device.

10. Interprocess Communication that takes places
(a) Centralized Memory (b) Shared Memory (c) Message Passing (d) Both a & b

11. MIMD Stands for?

12. PC Program Counter is also called -----------

13. Instruction pipelining has minimum stages
(a) 4 (b) 2 (c) 3 (d) 6

14. Computer system of a parallel computer is capable of
(a) Decentralized Computing (b) Parallel Computing (c) Centralized Computing (d) Both a & b

15. CISC Stands for?

Q.2 Answer the following questions. (Attempt any three)   **(15)**
A) Describe Flynn's Taxonomy in Short?
B) A non-pipelined computer uses a 10nsec clock. The average number of clock cycle per Instruction required by machine is 3.85, when the machine is pipelined it requires 11nsec clock. Find out speedup?
C) What is Pthread. Explain in short?
D) Difference between Monolithic and Micro kernel.

Q.3 A) Explain Distributed computing model in detail?   **(07)**
B) Explain RPC in Detail?   **(08)**
OR
B) Explain dual of One to All broadcast in Hypercube with suitable example.   **(08)**

Q.4 A) Explain Instruction Level Parallelism & Task Level Parallelism   **(07)**
OR
A) Explain Cloud Deployment Model in detail?   **(07)**
B) Explain MSI Protocol in detail?   **(08)**