**Seat No: _____** **Enrollment No: _____**

# PARUL UNIVERSITY

## FACULTY OF ENGINEERING & TECHNOLOGY

**B.Tech. Summer 2018 – 19 Examination**

**Semester: 7** **Date: 10/05/2019**
**Subject Code: 03105402** **Time: 10:30 am to 01:00pm**
**Subject Name: Parallel and 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** Answer the following Questions. **(15)**

1. In distributed system each processor has its own
   a) local memory
   b) clock
   c) both local memory and clock
   d) none of the mentioned

2. Network operating system runs on
   a) server
   b) every system in the network
   c) both server and every system in the network
   d) none of the mentioned

3. Processes on the remote systems are identified by
   a) host ID
   b) host name and identifier
   c) identifier
   d) process ID
4. The capability of a system to adapt the increased service load is called
   a) scalability
   b) tolerance
   c) capacity
   d) none of the mentioned
5. An architecture in which no special machines manage the network resources is known as
   a) Space based
   b) Tightly coupled
   c) Loosely coupled
   d) Peer-to-Peer
6. The transparency that enables multiple instances of resources to be used, is called
   a) Replication transparency
   b) Scaling transparency
   c) Concurrency transparency
   d)Performance transparency
7. Von Neumann system is for
   a) MIMD
   b) SISD
   c) MISD
   d) SIMD

8. The processors are either loosely coupled with distributed memory or tightly coupled with centralized shared memory in the paradigm
   a) Cloud computing
   b) Distributed computing
   c) Centralized computing
   d) Parallel computing
9. CPU does not perform the operation .....
   a) data transfer
   b) logic operation
   c) arithmetic operation
   d) all of the above
10. A pipeline is like .....
   a) an automobile assembly line
   b) house pipeline
   c) both a and b
   d) a gas line
11. Interrupts which are initiated by an instruction are
   a) internal
   b) external
   c) hardware
   d) Software
12. Which property of the memory ensures that the value returned after read is same as value stored by the latest write?
   a) Clustering
   b) Synchronization
   c) Value Coherence
   d) Coherency
13. MISD stands for ……..
14. Multiprocessing allows single processor to run several concurrent threads.
   a) True
   b) False
15. A thread becomes non runnable when……
   a) Its stop method is invoked
   b) Its sleep method is invoked
   c) Its finish method is invoked
   d) Its init method is invoked

**Q.2** Answer the following questions. (Attempt any three) **(15)**

A) Explain Physical Organization of Parallel Platforms.

B) Write an algorithm for Single-Source Shortest Paths.(Dijkstra's Algorithm)

C) Explain Cloud Deployment models.

D) What are the different Distributed Computing models? Explain in brief.

**Q.3** A) Explain Parallel Computer Models in detail. **(07)**

B) Write a note on Hypervisors. **(08)**

**OR**

B) Write a note on POSIX. **(08)**

**Q.4** A) Explain features and issues in message passing systems. **(07)**

**OR**

A) Explain RPC Architecture. What is the role of IDL file in RPC? **(07)**

B) Differentiate blocking and non-blocking message passing operations. **(08)**