PAPER ID-420805

Roll No:

BTECH
(SEM VIII) THEORY EXAMINATION 2021-22
PARALLEL AND DISTRIBUTED COMPUTING

Time: 3 Hours ***Total Marks: 70***

Note: Attempt all Sections. If you require any missing data, then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2*7 = 14

Q.no	Questions	Marks	O
(a)	What do you understand by Parallel threads?	2	2
(b)	Discuss about the scope and issues related to Parallel and Distributed computing.	2	1
(c)	What is the purpose of a firewall?	2	2
(d)	Discuss the challenges of Parallel and Distributed Computing.	2	1
(e)	What are the differences between a local call and a remote call?	2	3
(f)	What is the need of Search Algorithms for Discrete Optimization Problems?	2	5
(g)	Discuss the application of Matrix-Vector Multiplication.	2	4

SECTION B

2. Attempt any *three* of the following: 7*3 = 21

Q.no	Questions	Marks	O
(a)	Discuss about the Sequential Search Algorithms under the Search Algorithms for Discrete Optimization Problems.	7	5
(b)	Discuss about the API function to allocate memory on computing device.	7	2
(c)	What are the Performance Metrics for Parallel Systems?	7	3
(d)	What is Cache? Discuss read operation with cache and write operation with cache.	7	4
(e)	Discuss about the Dichotomy of Parallel Computing Platforms?	7	1

SECTION C

3. Attempt any *one* part of the following: 7*1 = 7

Q.no	Questions	Marks	O
(a)	How the distributed computing system is better than parallel processing system?	7	5
(b)	What are the Concepts of Threads, Blocks and Grids in programming model for Parallel and Distributed Computing?	7	2

4. Attempt any *one* part of the following: 7 *1 = 7

Q.no	Questions	Marks	O
(a)	Discuss in detail about the concept of Communication Costs in Parallel Machines.	7	1
(b)	Discuss about the Effect of Granularity on Performance under the Analytical Modeling of Parallel Programs.	7	3

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5. Attempt any *one* part of the following: 7*1 = 7

Q.no	Questions	Marks	O
(a)	Discuss about the application of Bubble Sort and Quick Sort under Dense Matrix Algorithms in Parallel Machines.	7	4
(b)	What do you understand by Speedup Anomalies in Parallel Search Algorithms?	7	5

6. Attempt any *one* part of the following: 7*1 = 7

Q.no	Questions	Marks	O
(a)	What do you mean by Distributed protocols? What are Fault tolerances Systems?	7	2
(b)	What do you understand by the Mapping Techniques for Load Balancing in Parallel Algorithm Designing?	7	1

7. Attempt any *one* part of the following: 7*1 = 7

Q.no	Questions	Marks	O
(a)	Discuss about the Effect of Granularity on Performance in parallel programs.	7	3
(b)	What is the concept of Minimum Spanning Tree? Discuss about the Dijkstra's Algorithm for Parallel and Distributed Computing.	7	4

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