SUBJECT CODE NO:- P-69
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(CSE) Examination MAY/JUNE-2016
Parallel & Distributed Computing
(Revised)

[Time:Three Hours]   [Max Marks:80]

"Please check whether you have got the right question paper."

N.B   i) <u>Q.No.1 and Q.No.6 are compulsory</u>.
               ii) <u>Attempt any two</u> questions from the remaining questions in section A and section B.

Section A

Q.1	a)	With respect to superscalar execution Define	05
		i. In order issue	
		ii. Out of order issue	
		iii. Horizontal waste	
		iv. Vertical waste	
	b)	Explain two parallel algorithm models.	05
Q.2	a)	Explain the CUDA GPU architecture with a neat diagram.	07
	b)	With a neat diagram explain the following cache coherence protocols.	08
		i. Update protocol	
		ii. Invalidate protocol	
Q.3	a)	Explain the task dependency graph and its significance in parallel algorithm design with an appropriate example.	08
	b)	Write a short note on CUDA memory types.	07
Q.4	a)	With an appropriate example, explain the data decomposition method with input-output data partition.	07
	b)	Explain the CUDA thread organization. Also discuss the maximum number of threads and dimensions of blocks and grid.	08
Q.5	a)	With an example explain the impact and elimination of strided access related to memory.	07
	b)	Explain the thread creation and termination in POSIX thread API. Also discuss the method of mutual exclusion for shared variables.	08

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Section B

Q.6   a)   Explain any two implementation issues of distributed shared memory.   05
          b)   Explain in brief the steps for setting SSH for a Hadoop cluster.   05

Q.7   a)   Explain different models of distributed computation.   07
          b)   Write a short note on Java RM1.   08

Q.8   a)   Explain different operational modes of Hadoop and example configuration files for each.   08
          b)   Explain the basic template of a Map Reduce program with an example.   07

Q.9   a)   Explain any three consistency models in DSM.   07
          b)   With a suitable example explain the algorithm for logical clocks.   08

Q.10   a)   Explain in detail the building blocks of Hadoop.   07
           b)   Explain Lamport's algorithm for mutual exclusion.   08