SV - 211

Seat No.	

Total No. of Pages : 2

B.E. (Computer Sc. & Engineering) (Semester - VII) (Revised) Examination, April - 2019
ADVANCED COMPUTER ARCHITECTURE
Sub. Code : 67541

Day and Date : Friday, 26 - 04 - 2019 **Total Marks : 100**
Time : 02.30 p.m. to 05.30 p.m.

Instructions :
1) **Attempt any three questions from each section.**
2) **Figures to the right indicate full marks.**
3) **Assume suitable data if necessary.**

SECTION - I

Q1) a) What are different shared memory multiprocessor models? What is symmetric multiprocessors? State it's features. **[8]**

b) What is dependability? How it is measured?. **[8]**

Q2) a) What is the concept of linear pipelining? How it will help to increase throughput rate. **[8]**

b) Derive the equation for Speedup? What happen with Speedup as number of stages in pipeline stages increases? **[8]**

Q3) a) Why associative memory is called as content addressable memory? What is the significance of Bij in an associative memory? How it is different from RAM?. **[8]**

b) How multithreaded system is modeled? How the performance of these systems is analyzed?. **[8]**

Q4) Write Short Notes on Following (any three) : **[3 × 6 = 18]**

a) Cray-1 Architecture

b) Systolic Arrays and its applications

c) Unification and Multifunction pipeline

d) SIMD array processor

P.T.O

SECTION - II

Q5) a) What is the difference between multiprocessor and multicomputer system? What are architectural models for multiprocessor systems. [8]

b) What are loosely coupled systems? Explain how loosely coupled systems (LCS) are efficient when the interaction between tasks are minimized. [8]

Q6) a) What is GPU? Where it is used? How GPU memory is shared by all vector loops. [8]

b) With steps explain intra cluster memory access in Cm* Architecture. [8]

Q7) a) What is the need to check data and resource dependencies before execution of several programs in parallel? What are different types of data dependences? [8]

b) What is hardware and software parallelism? With suitable example explain mismatch between them. [8]

Q8) Write Short Notes on Following (any three) [3 × 6 = 18]

a) Vector Architecture VMIPS

b) Grain Size

c) Latency hiding techniques

d) Grain Packing & scheduling

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