Code: 13A05709

R13

B.Tech IV Year I Semester (R13) Supplementary Examinations June 2018

ADVANCED COMPUTER ARCHITECTURE

(Common to CSE and IT)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) What is the need for distributed shared memory architecture?
(b) Distinguish between control flow computers and Dataflow computers.
(c) What is Amdahl's law?
(d) List the types of buses used in computer architecture.
(e) What is a 2 X 2 crossbar switch? What is its function?
(f) What is the difference between static pipeline and dynamic pipeline?
(g) List the important characteristics of vector processing.
(h) Name some SIMD parallel algorithms and along with their complexity.
(i) What are the features of Tera multiprocessor system?
(j) What is shared virtual memory?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 Explain the following computer classification: (i) SIMD. (ii) MIMD.

OR

3 Discuss hardware and software parallelism in detail.

UNIT – II

4 List the characteristics and applications of parallel processing.

OR

5 What is memory interleaving? Explain any two memory interleaving schemes.

UNIT – III

6 What is a multistage network? Describe different types of multistage network.

OR

7 What is cache coherence? Describe method to avoid this problem.

UNIT – IV

8 Discuss vector access memory schemes in brief.

OR

9 Demonstrate the effect of memory contention on the performance of C.MPP.

UNIT – V

10 What is Latency- hiding? Discuss any one Latency- hiding technique in detail.

OR

11 Describe MPD architecture with neat diagram.

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