Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

CS-6001 (CBGS)

B.E. VI Semester

Examination, May 2019

Choice Based Grading System (CBGS)

Advanced Computer Architecture

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) Define the computer architecture. Explain Flynn's classification with the help of diagram.

   b) Differentiate between static interconnection networks and dynamic interconnection networks. Give example.

2. a) What are the various performance measures available to evaluate the performance of processor? How do each of these relate to the ultimate measure of performance? Explain.

   b) What are the different classes of parallelism and parallel architectures that are available.

3. a) Explain the basic VLIW approach for exploiting ILP, using multiple access.

   b) List out the basic differences between RISC and CISC scalar processors.

5

4. a) What are the major hurdles of pipelining? Illustrate the data Hazard and methods to minimize data Hazard with example.

   b) Explain how Tomasulo's algorithm can be extended to support speculation?

5. a) Explain the classic five stage pipeline for RISC processor with neat diagram.

   b) Explain snoopy with respect to cache-coherence protocol.

6. a) With neat diagram, explain the basic structure of a centralized shared memory and distributed shared memory multiprocessor.

   b) Discuss the issues involved in multithreading and how are they resolved?

7. a) Give a brief note on vector super computer.

   b) Explain shared variable model.

8. a) Discuss the language features for parallelism.

   b) Write short notes:

      i) Message pricing model

      ii) Parallel programming environment

      iii) Deadlock

******

(6)