Roll No. .....

Subject Code—6779-X

M.C.A. EXAMINATION

(Fifth Semester)

(Re-appear Batch 2009)

MS-33

ADVANCED COMPUTER ARCHITECTURE

Time : 3 *Hours* *Maximum Marks :* 70

Note : Attempt any *Five* questions. All questions carry equal marks.

1. What do you mean by Cache Coherence Problem ? Also, explain different methods to solve the cache coherence problem.

2. (a) What do you mean by cache memory organization ? Explain different placement policies.

(b) An eight-way set-associative cache is used in a computer in which the real memory size is 2^{32} bytes. The line size is 16 bytes and there are 2^{10} lines per set. Calculate the cache size and tag length.

3. (a) What do you mean by data flow computers ? Explain different type of data flow computers.

   (b) What do you mean by Data flow graph ? Explain in detail with an example.

4. What do you mean by a multiprocessor system ? Explain in detail the different set of architectural models for a multiprocessor.

5. Explain various interconnected networks for SIMD computers.

6. (a) Explain the different classification schema for pipeline processors proposed by handler.

   (b) Explain the different characteristics of superscalar designing.

7. Explain the following :

   (i) Vector instruction

   (ii) Multivector multiprocessors.

8. Explain the following :

   (i) VLIW architecture

   (ii) Multithreading

   (iii) Program partitioning and scheduling.