

2007

Subject Code—7266-X

M.C.A. EXAMINATION

(Fifth Semester)

(Re-appear)

MS-33

ADVANCED COMPUTER ARCHITECTURE

Time : 3 Hours

Maximum Marks : 100

Note : Attempt any *Five* questions.

1. (a) Draw diagram for explaining difference between static and dynamic dataflow computer. 10
(b) Explain multithreading and compare it with multiprocessing. 10
2. Explain the following in reference to concurrent processors :
 - (i) Vector Processors
 - (ii) Gamma Binomial Model
 - (iii) Multiple Issue Processors. 20

3. (a) Discuss the following terms in parallel processing :

- (i) Multitasking
- (ii) Multiprocessing
- (iii) Time sharing
- (iv) Multithreading.

10

(b) Differentiate between the following :

- (i) Linear and non-linear pipeline
- (ii) RISC & CISC architecture.

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4. (a) Explain different types of data and resource dependencies in parallel processing.

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(b) Write speedup factor for the following pipelining systems :

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- (i) Superpipeline
- (ii) Superscalar pipeline.

5. Draw and explain direct associative, set associative and sector mapping cache memory system. Also discuss cache coherence problem.

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6. (a) Compare different page replacement policies in cache memory system.

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(b) Compare the following using diagram :

(i) Unified vs. Split Cache

(ii) Physical vs. Virtual Cache.

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7. Explain different static and dynamic system interconnect architecture. Also draw diagram.

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8. Write short notes on the following :

(a) VLIW architecture

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(b) CRISC architecture.

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