

Roll No.

322752(22)

B. E. (Seventh Semester) EXAMINATION, Nov.-Dec., 2014

(Old Scheme)

(Branch : CSE, IT)

ADVANCED COMPUTER ARCHITECTURE

Time : Three Hours]

[Maximum Marks : 80

[Minimum Pass Marks : 28

Note : Each question's subpart (a) carries 2 marks in compulsory. Each question's subpart (b), (c) and (d) carries 7 marks each and answer any two.

1. (a) What do you mean by pipeline processing ?
Explain in brief. 2
- (b) Explain the working of non-linear pipeline with suitable examples. 7
- (c) What do you mean by dynamic instruction scheduling ? Explain in detail. 7
- (d) Explain VLIW architecture with its instruction format. Also state the applications of it. 7
2. (a) Discuss about Cache coherence problem. 2

- (b) Discuss about memory interleaving techniques.
Explain any one in detail. 7
- (c) What do you mean by cache in consistency ?
Also explain cache coherence protocols. 7
- (d) What do you mean by back plane system ?
Discuss about future bus standards. 7
3. (a) Explain the following in brief :
 - (i) Grain size 1
 - (ii) Latency 1
- (b) Discuss about classification of computers.
Explain FLYNN'S classification. 7
- (c) What do you understand by hardware and software parallelism ? 7
- (d) Differentiate between control flow and data architecture. Also explain about data flow mechanism. 7
4. (a) What do you understand by vector processing ? 2
- (b) Explain about various types of vector instructions. 7
- (c) What do you mean by parallel algorithms ? Give the requirements and characteristics of parallel algorithms. 7
- (d) Explain CM-5 architecture with diagram and functional components. 7
5. (a) Define node degree and network diameter. 2
- (b) Discuss about static and dynamic interconnection networks. 7

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- (c) Discuss omega network with suitable diagram.
State its utilization in parallel architecture. 7
- (d) Write short notes on any *two* of the following : 7
- (i) Perfect shuffle and Inverse perfect shuffle
 - (ii) Butterfly networks
 - (iii) Baseline networks

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