

8E4016

Roll No. : _____

Total Printed Pages : 3**8E4016**

B. Tech. (Sem. VIII) (Back) Examination, April/May-2012
Computer Science
8CS3(O) Advanced Computer Architecture

Time : 3 Hours]

[Total Marks : 80
[Min. Passing Marks : 24

Attempt any five questions, selecting one question from each unit. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)

1. _____ Nil _____

2. _____ Nil _____

UNIT - I

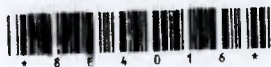
- 1 (a) Explain parallelism in uniprocessor systems. 8
- (b) How SIMD computers differs from MIMD ? 8

OR

- 1 Distinguish between :
- (i) Uniprocessor systems and multiprocessor systems.
 - (ii) Serial processing and parallel processing.
 - (iii) Array computers and Multiprocessor systems
 - (iv) Flynn's classification and Feng's classification.

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8E4016]



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[Contd...

UNIT - II

- 2 (a) Explain Snoopy protocols. Differentiate between snoopy and scalable protocols. 8
- (b) What is ILP ? Explain in detail how do we exploit ILP. 8

OR

- 2 (a) Calculate collision vector and state diagram for the function X. 8

	1	2	3	4	5	6	7	8
S ₁	X					X		X
S ₂		X		X				
S ₃			X		X		X	

- (b) How optimization of memory hierarchy take place ? 8

UNIT - III

- 3 (a) Explain distributed memory MIMD system design. 8
- (b) What are systolic Architectures ? 8

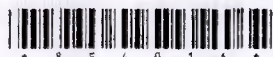
OR

- 3 (a) Describe Multi threaded Architecture. 8
- (b) What is data clustering ? 8

UNIT - IV

- 4 (a) What do you mean by PRAM model and PRAM algorithm ? 8
- (b) Describe Jacobi algorithm. 8

OR



- 4 (a) Describe parallel quick sort algorithm. 8
- (b) Write SIMD matrix multiplication algorithm for array processor. 8

UNIT - V

- 5 (a) Explain open MP programming interface for shared memory computers. 8
- (b) What are constructs ? Discuss parallel for construct and parallel section construct. 8

OR

- 5 (a) What are lock routines ? Explain lock function and nestable lock function with syntax. 8
- (b) Explain Master and synchronization constructs in detail. 8

