

8E4015

Roll No. : _____

Total Printed Pages : 3

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B. Tech. (Sem. VIII) (Main) Examination, February/March - 2011

Computer

8CS2 CAD for VLSI Design

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) What **is** ASIC? How ASIC is classified? State the advantages and **disadvantages** of ASIC Design. 8
- (b) Explain the steps of CAD flow for designing with ASIC. 8

OR

- 1 (a) What **do** you mean by productivity gap? Explain the productivity gap in terms of time to market. 8
- (b) Explain the steps of FPGA design flow. What is the **difference** between FPGA & ASIC? 6+2

UNIT - II

- 2 (a) Discuss the requirements that led to the design of VHDL language. 10
- (b) Which **of** these advantages that software language does not have and VHDL have? 6

OR

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[Contd...

- 2 (a) Describe the elements of VHDL stating the examples. 10
- (b) Show the waveform on x for following code Architecture sequential of discarding old is
 Signal x : bit := 'z'
 begin
 process
 begin
 x <= '1' after 5 ns;
 x <= Transport '0' after 3 ns;
 wait
 end process;
 end sequential; 6

UNIT - III

- 3 (a) Write a VHDL description for RS latch. Use the fast single-delay model of nand-2 to avoid oscillation. 8
- (b) State different types of VHDL operators. 8

OR

- 3 Write the short note on :
 (i) Binding Alternatives 8
 (ii) Design Parameterization in VHDL. 8

UNIT - IV

- 4 Write short note on :
 (i) Subprogram Parameter Types 8
 (ii) Overloading in VHDL. 8

OR

- 4 (a) Write short note on :
 (i) Pre-defined attribute 4
 (ii) User-defined attribute 4
 (b) Bi-directional component modelling. 8



UNIT - V

- 5 (a) State difference between behavioural style of modelling and dataflow style of modelling. 8
- (b) Write a VHDL code for seven-segment decoder using dataflow style of modelling. 8

OR

- 5 (a) Write the VHDL code for D-flipflop using behavioural style of modelling. 8
- (b) Write the VHDL code for basic up-down counter using behavioural style modelling. 8



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B. Tech. (Sem. VIII) (Main) Examination, February/March - 2011

Computer

8CS1 Information System & Securities

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) What is encryption and decryption? Draw the block diagram showing plain text, ciphertext, encryption and decryption. 8
- (b) Define the term security attack. Explain security attacks in detail. 8

OR

- 1 (a) What is the concept of IDEA? Explain the operation of a round IDEA and compare it with DES. 10
- (b) Explain the different block cipher mode of operation in detail. 6

UNIT - II

- 2 (a) What is key agreement problem? State and explain the algorithm used to solve above problem. 8
- (b) Explain RSA algorithm with suitable example. 8

OR

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[Contd...

- 2 (a) What is Chinese remainder theorem? Explain with example. 8
- (b) Elaborate public key cryptography principle in detail. What are the application of public key cryptography? 8

UNIT - III

- 3 (a) What do you mean by message authentication? Explain the message authentication functions. 6
- (b) Explain MDS algorithm. Compare it with SHA. 10

OR

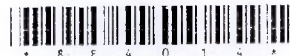
- 3 Write short notes on :
(i) Digital Signature
(ii) Digital Signature Standards. 8+8

UNIT - IV

- 4 (a) What do you mean by pretty good privacy? Explain the working of PGP. 8
- (b) Explain the format of X.509 authentication certificate. 8

OR

- 4 Write short note on :
(i) S/MIME
(ii) Kerberos 8+8

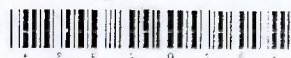


UNIT - V

- 5 (a) What is IP authentication header? Explain the authentication header in detail. 10
- (b) What is transport and tunnel modes of services? Explain each of them. 6

OR

- 5 (a) Why is the SSL layer positioned between the application layer and transport layer? Explain SSL. 10
- (b) Explain the firewall design principle and characteristics. 6
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B. Tech. (Sem. VIII) Examination, February/March - 2011
Computer Engineering
8CS4.1 Distributed Systems

Time : 3 Hours]

[Total Marks : 80

[Min. Passing Marks : 24

Attempt overall five questions.
All questions carry equal marks.

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

1. _____ Nil 2. _____ Nil

- 1 (a) Define distributed system. Explain different application areas of distributed system in detail.
(b) How resource sharing can be achieved in distributed system? Explain with example

10+6

OR

- 1 (a) What are logical clocks? Explain Lempert's and Vectors logical clocks.
(b) Explain distributed mutual exclusion with its classification. What is the requirement of mutual exclusion theorem?

8+8

- 2 (a) Explain system model. Explain the difference between resource deadlocks and communication deadlocks.
(b) Write short notes on Path Pushing algorithm and edge chasing algorithm.

8+8

OR

- 2 (a) Explain Byzantine agreement problem and suggest a solution to this problem.
(b) What are agreement protocols? Explain atomic commit in distributed database system.

8+8

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[Contd...

- 3 (a) Explain how communication is achieved between distributed objects and what is the role of Remote procedure calls in it.
(b) Describe events and notification in detail.

10+6

OR

- 3 Write short note on :
(a) Sun network file systems
(b) File service architecture

8+8

- 4 (a) What is the Requirement of concurrency control? Compare various methods used for concurrency control.

12+4

- (b) Define transactions and nested transactions.

OR

- 4 Explain a method of distributed transaction and what should be the solution if deadlock occurs? Give reason of deadlock occurrence.

16

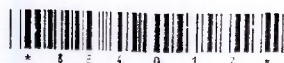
- 5 Explain various communication protocols used in distributed systems. What is the requirement for using balanced sliding window protocol ?

16

OR

- 5 Write short notes on :
(a) Corba RMI
(b) Election Algorithm.

8+8



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B. Tech. (Sem. VIII) (Main) Examination, February/March - 2011

Computer

8CS3 : 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 are carrying equal marks.

(Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and 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 Arithmetic pipeline design using two 6-bit multiplier. 8
(b) How Flynn's classified an architecture of computer? 8

OR

- 1 (a) Explain Fing's classification of parallel architectural. 8
(b) Discuss different thread synchronization methods. 8

UNIT - II

- 2 (a) Describe various parallel computer models. 8
(b) Explain linear and nonlinear pipeline processors. 8

OR

- 2 (a) Describe cache memory and draw flowchart diagram of cache operation and explain it. 8
(b) Explain cache coherence and various solution of cache coherence problem in brief. 8

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[Contd...

UNIT - III

- 3 (a) Describe **three level memory hierarchy** with suitable diagram and derive total access time for n-level memory hierarchy. 10
- (b) Explain **Associative and Neural Architecture**. 6

OR

- 3 (a) Explain **multithreaded architecture and distributed memory MIMD architecture**. 8
- (b) Write short notes on following :
- (i) **Clustering**
 - (ii) **Fine grained and coarse grained SIMD architecture**.
 - (iii) **Systolic Architecture**.

2+3+3

UNIT - IV

- 4 (a) How **Gaussian Elimination method** implemented parallel to solve linear system problem with example? 10
- (b) Explain **parallel quick sort algorithms** with suitable example. 6

OR

- 4 Explain **iterative and recursive matrix multiplication algorithms** with example. 16

UNIT - V

- 5 (a) What are **Run Time Library Routines? Describe execution Environment Routines and Lock Routines**. 10
- (b) Explain **open MP with their memory model and execution model**. 6

OR

- 5 Write short notes :
- (a) **Parallel construct and work shearing construct**.
 - (b) **Master and synchronization construct**.
 - (c) **Timing Routines**
 - (d) **Conditional Compilation and Internal Control Variables**.
- 4×4=16

