

Unit 12 - Week 10

Course outline

How to access the portal

Pre-Requisite Assignment

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

DMA and arbitration

Network-on-chip basics

NoC - topologies and metrics

NoC - routing

NoC - switching and flow control

Quiz : Assignment 10

Mapping Signal Processing Algorithms to Architectures : Week 10 Feedback

Week 11

Week 12

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Assignment 10

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-10-09, 23:59 IST.

1) DMA is typically used for transferring large amounts of data to a device

1 point

- True
 False

No, the answer is incorrect.
Score: 0

Feedback:

Solution: DMA is effective when large amounts of memory need to be copied

Accepted Answers:

True

2) When two devices try to access a bus at the same time, access will be granted to the one with higher:

1 point

- Speed
 Area
 Priority
 Power

No, the answer is incorrect.
Score: 0

Feedback:

Solution: Priority is used to resolve conflicts in bus access

Accepted Answers:

Priority

3) If static priority assignment is used, the CPU in a system will typically have

1 point

- Highest priority
 Lowest priority

No, the answer is incorrect.
Score: 0

Feedback:

Solution: CPU should have highest priority as it exercises control over rest of the system

Accepted Answers:

Highest priority

4) Latency in a TDMA system can be:

1 point

- unbounded
 Bounded

No, the answer is incorrect.
Score: 0

Feedback:

Solution: Though latency can be high, it is guaranteed to get access after the slot interval

Accepted Answers:

Bounded

5) NoC exploits the idea that you want your VLSI layout to be

1 point

- Regular
 Irregular

No, the answer is incorrect.
Score: 0

Feedback:

Solution: Regular layout is better.

Accepted Answers:

Regular

6) The number of hops required between nodes in a full crossbar will be:

No, the answer is incorrect.
Score: 0

Accepted Answers:

(Type: Numeric) 1

1 point

7) A shared bus topology will have a higher bisection bandwidth than a crossbar.

1 point

- True
 False

No, the answer is incorrect.
Score: 0

Feedback:

Solution: Crossbar will have more direct links and higher bandwidth

Accepted Answers:

False

8) A topology with higher node degree will have more connection links.

1 point

- True
 False

No, the answer is incorrect.
Score: 0

Feedback:

Solution: Higher node degree implies more neighbour connections

Accepted Answers:

True

9) Adaptive routing is easier to implement than oblivious routing.

1 point

- True
 False

No, the answer is incorrect.
Score: 0

Feedback:

Solution: oblivious routing can be done with simple lookup tables or logic without looking at network state.

Accepted Answers:

False

10) Packet switching guarantees better quality of service (QoS) than circuit switching.

1 point

- True
 False

No, the answer is incorrect.
Score: 0

Feedback:

Solution: Packet switching does not guarantee timely delivery or high quality of service

Accepted Answers:

False