

Unit 11 - Week 9

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](#)
 On-chip communication basics

 Many-to-Many communication

 AXI bus handshaking

 AXI bus (contd)

 Demo: Microblaze processor on FPGA

 Demo: Performance counter AXI peripheral

 Demo: HW accelerator for FPGA

 Quiz : Assignment 9

 Mapping Signal Processing Algorithms to Architectures : Week 9 Feedback

[Week 10](#)
[Week 11](#)
[Week 12](#)
[DOWNLOAD VIDEOS](#)
[Live Sessions](#)

Assignment 9

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

Due on 2019-10-02, 23:59 IST.

1) A many-to-one bus can be implemented using multiplexors.

1 point

- True
 False

No, the answer is incorrect.

Score: 0

Feedback:

Solution: Multiple sources can be multiplexed to one destination.

Accepted Answers:

True

2) Which of the following can initiate a bus transaction?

1 point

- Bus Master
 Bus Slave
 Both master and slave
 Neither master nor slave

No, the answer is incorrect.

Score: 0

Feedback:

Solution: By definition, only masters can initiate transactions.

Accepted Answers:

Bus Master

3) For a system with 5 computational nodes, you want to implement a point-to-point bus connecting all nodes. Assuming each link in the bus goes in only one direction, how many links are needed?

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Numeric) 20

0 points

4) Which type of communication link consumes more power?

1 point

- On-chip
 Off-chip

No, the answer is incorrect.

Score: 0

Feedback:

Solution: Higher capacitance on off-chip links leads to more power consumption

Accepted Answers:

Off-chip

5) On which type of peripheral bus would a keyboard usually be connected?

1 point

- High-speed bus
 Low-speed bus

No, the answer is incorrect.

Score: 0

Feedback:

Solution: Keyboards use small amounts of information, and a low-speed bus is sufficient

Accepted Answers:

Low-speed bus

6) On which type of peripheral bus would a graphics card usually be connected?

1 point

- High-speed bus
 Low-speed bus

No, the answer is incorrect.

Score: 0

Feedback:

Solution: Graphics cards involve huge amounts of data at high throughput, so should be on a high-speed bus

Accepted Answers:

High-speed bus

For each of the following, indicate whether they would typically be considered as a Master or Slave unit on a bus

7) CPU ?

1 point

- Master
 Slave

No, the answer is incorrect.

Score: 0

Feedback:

Solution: CPU is usually bus master as it needs to initiate transfers to peripherals

Accepted Answers:

Master

8) Keyboard ?

1 point

- Master
 Slave

No, the answer is incorrect.

Score: 0

Feedback:

Solution: Generally keyboards do not need to initiate transfers.

Accepted Answers:

Slave

9) Printer ?

1 point

- Master
 Slave

No, the answer is incorrect.

Score: 0

Feedback:

Solution: Printers do not need to initiate transfers in general

Accepted Answers:

Slave

10) DMA controller ?

1 point

- Master
 Slave

No, the answer is incorrect.

Score: 0

Feedback:

Solution: DMA controller initiates memory transfers instead of CPU.

Accepted Answers:

Master