Assignment 6

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment.

1. Which of the following is false?
   - Intel Xeon Processor has 36 lanes connected by a 20-nm interconnect.
   - Tensilica has 92620mm controllers.
   - Xilinx has 153640mm controllers.
   - ARM has 24320mm interconnect.
   - Mitsubishi 3D 32120mm interconnect.
   - No, the answer is incorrect.
   - Accepted Answer: ARM

2. Which of the following is the basic unit of flow control between a pair of routers in a TCP/IP?
   - Packet
   - Flow
   - Message
   - Byte
   - No, the answer is incorrect.
   - Accepted Answer: Flow

3. Which of the following techniques can avoid read of tree blocking?
   - Use virtual channels in input port.
   - Use back-pressure mechanism for flow control.
   - Use non-blocking switch arbitration scheme.
   - Use round-robin arbitration.
   - No, the answer is incorrect.
   - Accepted Answer: Use virtual channels in input port.

4. All routers do the following functions: A. Virtual Channel Allocation, B. Route computation, C. Buffer Write, D. Switch Traversal, E. Switch Allocation. If one router denoted the behaviour, which of the following is true?
   - VC = VA + VT
   - VC = VA + SW
   - VC = VA + B
   - No, the answer is incorrect.
   - Accepted Answer: VC = VA + B

5. Which of the following is not a standard topology for Network on Chip?
   - Star
   - Mesh
   - Ring
   - No, the answer is incorrect.
   - Accepted Answer: Star

6. Which of the following statement is false?
   - East fanout routing can be non-realizable.
   - North back-routing is deadlock free.
   - XY routing can be non-realizable.
   - Odd even routing is deadlock free.
   - No, the answer is incorrect.
   - Accepted Answer: Odd even routing is deadlock free.

7. Which of the following routing algorithm chooses different paths between a pair of routers but without considering the network state?
   A. Obstacle
   B. Deterministic
   C. Load ahead
   D. Adaptive
   - No, the answer is incorrect.
   - Accepted Answer: Deterministic

8. Consider a 4×4 torus network in which cores are organized as regular square mesh topology. The system follows XY routing. A packet is travelling from node 00 to node 11. Which of the following is true? 1. The source and destination cores are from different corners. 2. The packet traverses through router 04. 3. The packet takes a hop in X direction after it takes a 90 degree turn from X direction. 4. The packet takes 60 degree turn at router 04.
   - No, the answer is incorrect.
   - Accepted Answer: Consideration

9. Consider a 4×4 mesh NoC in which cores are organized as regular square mesh topology. The south neighbour of router 13 is 14. Which of the following is true? 1. The core numbering starts from bottom-left corner as 0 and top right corner as 15, where 00-11. 2. Router 8 is the east neighbour of router 4.
   - No, the answer is incorrect.
   - Accepted Answer: Consideration

10. For the purpose of the next problem, assume that router 17 and 19 are immediate neighbours.
    - No, the answer is incorrect.
    - Accepted Answer: Consideration

11. In an NoC, 192 packets waiting to go to same output port in the same clock cycle, the winner is chosen by
    - No, the answer is incorrect.
    - Accepted Answer: Consideration

12. Consider a 4×4 mesh NoC in which cores are organized as regular square mesh topology. The south neighbour of router 13 is 14. Which of the following is true? 1. The core numbering starts from bottom-left corner as 0 and top right corner as 15, where 00-11. 2. Router 8 is the east neighbour of router 4.
   - No, the answer is incorrect.
   - Accepted Answer: Consideration