

Department of Electrical and Computer Engineering

Computer Engineering

Course ECSE-322B

Problem Set 10

11 March 2008

1. Draw a timing diagram for a read access for one device immediately followed by a write access for a second on a synchronous bus.
2. List the advantages and disadvantages of a synchronous protocol (in point form). (NOTE - this is a question on buses)
3. Draw the timing diagram for a Read-Modify-Write operation on the HGB bus
4. Draw the timing diagram for a Block Transfer operation on the HGB bus.
5. Draw the timing diagram for the operation of a single cell of the priority arbitration unit incorporating the Bus Release signal.
6. Describe a method of implementing a fairness based arbitration algorithm
7. Describe the difference between a non interlocked asynchronous protocol and a fully interlocked asynchronous protocol. What is the effective loss in speed of each of these protocols over a synchronous protocol?