No E-Mail submissions will be accepted.
Submission formats and file naming:
File name : Pts_firstName_lastName_lab_5
File format: pdf or MS Word format
e.g. Pts_Joe_Biden_lab_5.pdf

Reading materials

Use the following link and write a one page summary about the movie.

GPUs: Explained
https://youtu.be/LfdK-v0SbGI

1) Explain each of following terms in your own words:

a. Bus skew
signals may not traverse at the same speed causing skewing in the data
b. Multiplexed bus
the bus is used for both addresses and data
c. Synchronous and Asynchronous bus

Synchronous has a master clock. All bus activities take an integral number of these cycles, called bus cycles.

Asynchronous bus, does not have a master clock.

d. Half-duplex
a data flow occurs in both ways but not simultaneously e.g. walkie talkies.
e. Control, data, and address pins in CPU

Address pins are used to address memory locations.
Data pins are used to send or receive data.

Control pins as input or output pins are used for different purposes e.g.
Bus control: to control the rest of the system and tell it what it wants to do
Interrupts : inputs from other devices
Bus arbitration : needed to regulate traffic on the bus

2) What is difference between centralized and decentralized Bus arbitration?

Centralized: A bus arbiter is needed.
Decentralized: No bus arbiter is needed

3) What is the cycle time (in nano seconds) for a bus with a frequency of 66MHz?

$T = 1/f = 1/ (66 \times 10^6) = 15.15$ nsec

4) An analog signal carries 4 bits in each signal and the bit rate is 8 kbps. Obtain the Baud value for this system.

Baud rate = 8000/4 = 2000 symbol/s

5) A communication system has a bit rate of 9600 bps and each signal element represents 2 bits. What is the symbol (or signal) rate?
Symbol (or signal) rate = (bit rate)/(# of bits per symbol) = 9600/2 = 4800

6) An analog signal carries 16 bits in each signal. If 1000 signal units (symbols) are sent per second, find the bit rate.

Symbol (or signal) rate = (bit rate)/(# of bits per symbol)
Bit rate = symbol (or signal) rate x (# of bits per symbol) = 1000 x 16 = 16000 bit/s