LAB 4 DEMO – Building a Microprocessor Based System

Reviewer _____

Team_____

Microprocessor Based System (485) **Extra Credit**_____

Microprocessor Based Serial I/O System		425
Peripheral Subsystem		180
Input and Output	80	
Serial Data In		
16x Clock		
Start Bit Detect → Enable Counters		
Bit Sample Count		
Bit Identification Count		
Shift Register In		
Receive Buffer		
Signal Receive Character Complete		
Serial Data Out	80	
16x Clock		
Transmit Enable → Enable Counters		
Bit Sample Count		
Bit Identification Count		
Transmit Buffer		
Shift Register Out		
Signal Transmit Character Complete		
Monitoring LEDs	20	

NIOS Processor		195
Serial Data In	75	
How is Received Data available signaled?		
Read data from Receive Buffer when available		
Display data		
Serial Data Out	75	
Generate Parity		
How is Transmit Buffer empty signaled?		
Load data to Transmit Buffer when available		
Display data in and out	25	
Protocol	20	
Received Message Complete		
Transmitted Message Complete		
Test		50
Test Plan	50	
Talk to Another System		60
Exchange Hello 1234 with another system	60	