ME 586 Review Questions
Exam # 4, Fall 2002

Do you understand?
1. How the rungs are processed on a PLC ladder?
2. The I/O scanning cycle?
3. Difference between the I and the O in I/O?
4. How to organize a truth table?
5. How an analog voltage value gets converted to a digital (binary) value at the sensor before being passed over the fieldbus network?
6. The application environment where the GEM standard is primarily applied?
7. Differences between the different fieldbus technology solutions?
8. The different symbols used to represent Boolean logic elements?

Could you?
1. Compare the differences between fieldbus I/O and PLC systems?
2. Compare the similarities between fieldbus I/O and PLC systems?
3. Specify the advantages and disadvantages of fieldbus and conventional PLC technologies?
4. Explain the network and hardware architecture of Profibus fieldbus?
5. Explain why different vendors can supply plug and play hardware for a fieldbus technology?
6. Explain the advantages and disadvantages of twisted pair versus fiber optic communication media?
7. Number and describe the 7 OSI communication layers?
8. Describe in logical words how a logic ladder is to be interpreted in a scanning cycle?
9. Estimate costs of the primary software and hardware elements for the different logic control technologies that we have discussed?