Model Questions (ADT#2)

Subject: Instrumentation II (BCT-III)
Subject Teacher: Dhawa Sang Dong

1. Explain the function of USB Host, USB Hub, and USB Device. Discuss different packets used in USB protocols. Differentiate between USB1.0 and USB2.0.
2. Explain USB protocols which should be followed during the USB design.
3. Explain USB-OTG in brief. Discuss the type of data packets in USB Protocols.
4. Explain the USB signals and associated bus states. Also mention the signal levels to achieve these bus states.
5. What are the parameters to characterize ADCs? Design a circuit to interface ADC0808 with 8085 microprocessor using 8255A PPI and write a program which use status.
6. Explain the interfacing technique of 12-bit DAC to 8-bit Data Bus. Explain different types of errors in ADC and DAC.
7. What are characteristics of A/D and D/A converters? With necessary diagram explain the interfacing of 10 bit DAC with 8085 along with timing diagram.
8. Explain the principle involved while interfacing an 8-bit ADC using interrupt; including suitable block diagram, process flow diagram and necessary Assembly Language Program {ALP) subroutine.
9. What are the components used in Data Acquisition system? Explain with suitable block diagram; explain Bluetooth protocol architecture with suitable block diagram.
10. What is spread spectrum frequency hopping in Bluetooth? Write the application of Bluetooth. Explain the operation of data logger along with its block diagram.
11. How can you design the communication system with satellite as an unguided transmission scheme? Explain the data acquisition system with the help of compact data logger.