Module#3 (LogBook–Contents)

* Write your answer with suitable diagram.

submission deadline: May 30, 2024 (*Before 3:00 PM*)

1. Explain how communication takes place between PC (DB9 Port) and printer (DB25 Port) using Null modem connection. What are common USB packet field? Explain different USB packets. **[2079 Bhadra]**
2. Show the interfacing circuit of TTL logic with RS232, appropriate line drivers and line receivers. Describe the enumeration process in USB2.0 appropriate flow diagrams. Compare and contrast between USB device and host interface chips and list three examples of each type **[2079 Baishakh]**
3. Explain simplex, half duplex and full duplex operation of RS232 serial standard. Describe different types of USB protocols along with the common USB packet fields. **[2078 Bhadra]**
4. Define bit rate and baud rate. Describe the problems occur when you try to connect RS232 devices that both are configured as DTE. How this problem can be resolved? **[2078 Kartik]**
5. Explain the Null modem with and without handshaking mechanism. Explain Cyclic Redundancy Code with suitable example. **[2076 Chiatra]**
6. What is the importance of RS232-C in serial communication? Explain the RS232-C working principle with its different types of signals. What is USB? **[2076 Ashwin]**
7. Explain the transferring of serial data using asynchronous transfer. Describe up to date USB standards. Differentiate different USB data transfer mechanism with suitable example of each. **[2075 Chaitra]**
8. Explain how communication takes between two terminal equipments in NULL modem connection. Differentiate between USB1.0 and USB2.0. **[2075 Ashwin, 2070 Chaitra]**
9. Describe the various error detection techniques used in serial data transmission. Explain the function of USB Host, USB Hub, and USB Device. Discuss different packets used in USB protocols. **[2074 Chaitra, 2072 Chaitra]**
10. Explain USB protocols which should be followed during the USB design. **[2071 Shawan]**
11. Explain the design of USB to RS232 adapter with the aid of a neat circuit diagram, appropriate voltage translation chips, and necessary handshake/control signals. **[2074 Ashwin]**

12. Describe the functions of RS232C signals used in handshaking. Why RS422A can transfer data in longer distance and at higher rate than RS232C and RS423A? Explain USB-OTG in brief. Discuss the type of data packets in USB Protocols. **[2073 Chaitra, 2073 Shrawan]**

13. What are the criteria involved during the design of RS232A in simplex, half duplex and full duplex modes. Explain the USB signals and associated bus states. Also mention the signal levels to achieve these bus states. **[2072 kartik]**

14. What is USB interface chip? Why are they required? Compare and contrast USB device interface chips and USB host interface chips. **[2071 Chaitra]**

15. Illustrate digital transmission using modem and standard phone lines, explain check sum error detection technique with suitable example **[2080 Baishakh]**