**Mid Semester Assignment**

**Spring 2020**

**Subject: Telecom Networks and Protocols**

**Note: Attempt all questions.**

**Q1:** We measure the performance of a telephone line (4kHz of bandwidth). When the signal is 10V, the noise is 5mV. What is the maximum data rate supported by this telephone line?

**Q2:** What is the difference between direct dialing-in in which there are multiple ISDN numbers, one for each of multiple S reference points and the use of multiple ISDN numbers at a single T reference point?

**Q3:** Write your comments on the following figure.



**Q4: Discuss**

1. Conceptual view of ISDN connection features.
2. Name principles for ISDN; also suggest its key objectives
3. Show the configuration of primary access for ISDN channel group

**Q5:** Briefly explain the following with respect to data over a link?

1. frame synchronization
2. flow control
3. error control
4. addressing