

**Computer Networks**  
**(CS-303, Dec-07)**

**Section-A**

- 1). a). What are the units of Period and Frequency?
- b). Can the bit rate be less than the pulse rate? Why or Why not?
- c). How is baud rate related to transmission bandwidth in ASK & FSK?
- d). How do guided media differ from unguided media?
- e). What are two types of switches used in circuit switching?
- f). What are the main users of ADSL technology?
- g). Discuss the concept of redundancy in error detection.
- h). Compare datagram and virtual circuits.
- i). Differentiate between error control and flow control
- j). Differentiate between FDM and WDM? Which multiplexing technique use digital signals?

**Section-B**

- 2). For the following frequencies calculate the corresponding periods. Write the result in seconds, milliseconds, microseconds, nanoseconds and picoseconds: 24 Hz; 8 MHz; 140 KHz; 12 THz.
- 3). If a bit rate of a signal is 100 bps, how many bits can be sent in 5 s? How many bits in 1/5 s? How many bits in 100 ms?
- 4). What is the significance of the twisting in twisted-pair cable? Why is coaxial cable superior to twisted-pair cable?
- 5). Compare the mechanism of a space division switch to the mechanism of a time division switch.
- 6). Compare SDSL and HDSL technologies.

**Section-C**

- 7). (a) Compare EIA-449 & EIA-530 structures.  
    (b) How is the STS multiplexer different from an add/drop multiplexer, since both can add signals.
- 8). (a) Compare Frequency hopping spread spectrum & direct sequence spread spectrum.  
    (b) Is bit padding a technique for FDM or TDM? Is the framing bit used in FDM or TDM?
- 9). Draw and explain TCP/IP protocol architecture and compare it with OSI model.