

**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.