

Assignment-1

Introduction to Internet (IT30037)

1. Briefly explain about (i) Circuit switching, (ii) Packet switching and (iii) Message switching.
2. Briefly explain the services offered by various layers present in OSI reference model.
3. Briefly discuss about Nyquist and Shannon's channel capacity theorems.
4. Briefly explain various channel impairments present in data communication system
5. Briefly discuss the following line coding techniques:
(a) NRZ-L and NRZ-I, (b) RZ, (c) Manchester and differential Manchester coding, (d) Bipolar (AMI), (e) Multi-level schemes
6. Briefly explain Scrambling with the help of B8ZS and HDB3
7. Explain clearly various steps present in the process of analog to digital conversion.
8. Discuss about the philosophy of analog and digital transmission techniques, and explain their merits and demerits.
9. Briefly, explain the principle of time and frequency division multiplexing with appropriate illustrations.
10. Briefly, explain the characteristics of various transmission media (twisted pair, co-axial, optical fiber, radio channels: VHF, UHF, Microwave and satellite) used for data transmission in Internet.