**Assignment 1** – To be submitted by 13th February 2016

1. a. What do you mean by Data Communication ?

b. What is a network ?

c. What are the categories of networks ?

d. What is Internet ?

e. What are protocols and standards ?

2. Briefly explain the OSI model and function of each layer .

3. Briefly explain the TCP/IP protocol suit.

4. Briefly explain the different types of addresses.

5. Briefly explain the following.

 a. Difference between Data and Signals

 b. Analog signals

 c. Digital signals

 d. Digital impairments.

 e. Limitation of data rates in transmission medias.

 f. Bandwidth, Delay and Jitter

6. Briefly explain the Line Coding and Block Coding.

7. Briefly explain the Pulse Code Modulation.

8. Briefly explain the “Digital to Analog Conversion”.

9. Briefly explain the “Analog to Analog Conversion”.

10. Briefly explain the following

 a. Frequency Division Multiplexing

 b. Time Division Multiplexing

 c. Wavelength Division Multiplexing

11. Briefly explain the different Transmission Media and their characteristics.

12. Briefly explain the different types of Switching technologies and their characteristics.

13. Briefly explain the “Error Detection” and “Error Correction “ principles.

14. Briefly explain the Wired LAN concepts and Wireless LAN concepts.

15. Briefly explain the important Networking protocols used in TCP/IP protocol suit.

a.TCP

b.IP

c.ICMP

d.IGMP

e.SNMP

f. Any other important protocols.

16. Briefly explain the concepts used in Multimedia transmission.