**Assignment -1**

**DCN**

**BCA & B.SC(IT) Sem-4**

1. Define a network. Explain the main purposes and advantages of using a network.
2. Compare and contrast the OSI Reference Model and the TCP/IP Reference Model. Highlight their similarities and differences.
3. Define transmission media. Explain the differences between guided and unguided transmission media with examples.
4. What is wireless transmission? Describe the importance of the electromagnetic spectrum in wireless communication.
5. Explain the basic structure of the telephone system and its key components.
6. Discuss the advantages and disadvantages of using satellites versus fiber optics for global communication networks.
7. What are the different types of transmission media? Briefly discuss their characteristics and applications.
8. Discuss the main features of IPv6 and compare them with IPv4.