Problem 5

1.Circuit switchingis used in and is the basis for private networks built on leased lines and using on-site circuit switches.

Circuit switching was developed to handle but can also handle digital data, although this latter use is often inefficient.

2.With circuit switching, a is established between two stations for communication. Switching and transmission resources within the network are reserved for the exclusive use of the circuit for the duration of the connection. The connection is : Once it is established, it appears to attached devices as if there were a direct connection.

3.Packet switchingwas designed to provide a more efficient facility than circuit switching for .With packet switching, a station transmits data in . Each packet contains some portion of the user data plus control information needed for proper functioning of the network. A key distinguishing element of packet-switching networks is whether the internal operation is .

4.The devices attached to the network are referred to as *.* The switching devices whose purpose is to provide communication are referred to as *.*

5.For switched networks,some nodes connect only to other nodes. Their sole task is . Other nodes have one or more stations attached as well; in addition to their switching functions, such nodes **.**

6.Communication via circuit switching implies that there is a dedicatedcommunication path between two stations. That path is .

On each physical link,  is dedicated to the connection.

Communication via circuit switching involves three phases, which can be **.**

7.A public telecommunications networkcan be described using four generic architectural components: .

8.Three elements of Circuit switch node are

9. In softswitch terminology, the physical switching function is performed by .

10. Packet switching features delivery of variable bit rate data streams (sequences of packets) over a computer network which allocates transmission resources as needed using . When traversing network adapters, switches, routers, and other network nodes, packets are , resulting in variable delay and throughput depending on the network's capacity and the traffic load on the network.

11. Packet switching has four advantages over circuit switching: .

12. Switching concerned with three types of delay:

13.ATM is designed to unify . ATM uses , and encodes data into . This differs from approaches such as the Internet Protocol or Ethernet that use variable sized packets and frames. ATM uses

a in which a virtual circuit must be established between two endpoints before the actual data exchange begins.