

Answer only 5 questions out of the following 6 questions**1. (12 Marks)**

- What are the key elements of any Protocol?
- What is the function of the Transport Layer in TCP/IP protocol?
- What are the key advantages of UDP protocol?
- In IPv4, What is the maximum length of the datagram?

2. (12 Marks)

- What is happen if a full-duplex Ethernet adapter cards and switching hub are used in LAN?
- Draw the IEEE 802.3 Frame Format ?
- What are the Gigabit Ethernet Differences compared to regular Ethernet?
- What are the Advantages of 10Gbps Ethernet?

3. (12 Marks)

- What are the requirements of Wireless LAN?
- Draw the IEEE 802.11 MAC Frame Format ?
- What is the main types of IEEE 802.11 Physical Layer Standards?
- What are the enhancement areas in IEEE 802.11n?

4. (12 Marks)

- Briefly explain the X25 layers?
- What is the Issues with X.25?
- What is the key differences between Frame Relay & X.25?
- What is the advantages of using Frame Relay?

5. (12 Marks)

- Name the different types DSL? What is the function of the filter before the ADSL modem?
- What is DMT? With the aid of drawing, state the frequency bands for DSL?
- in case of using the same DSL technology, what's the major factor controlling the maximum speed for different DSL's user? What are the maximum speed for the downstream and the upstream connection in ITU-T G. 992.5 Annex M (ADSL2+)?

6. (12 Mark)

- What are the Similarities between ATM and packet switching?
- What are the Advantages of Virtual Paths in ATM?
- What are the Characteristics of VP/VC in ATM?
- what are the different Categories in ATM Service?

Good Luck