

Seat Number: - \_\_\_\_\_

Duration: 2 1/2 Hrs 543 H45A23CN -

Marks:- 75

Note:- 1) All questions are compulsory.

2) Figures to the right indicate maximum marks.

**Q1. Attempt any "Four" of the following:**

(20)

1. What are the components of a data communication system? (CO1-R)
2. How would you define topology and what are the various types of topologies? (CO1-R)
3. Draw and explain the layers of the OSI model. (CO1-U)
4. What is latency and what are its four components? (CO1-U)
5. Explain multiplexing and de-multiplexing with the help of a diagram. (CO1-R)
6. How do LAN, MAN, and WAN differ from each other? (CO1-A)

**Q2. Attempt any "Four" of the following:**

(20)

1. Provide a brief explanation of quantization? (CO1-U)
2. How would you define transmission model and what are its types. (CO1-U)
3. How do wired and wireless media compared to each other? (CO1-R)
4. What is error, and what are the various types of errors? (CO1-U)
5. How would you define switching and what are its types? (CO1-U)
6. What is the sampling theorem? (CO1-A)

**Q3. Attempt any "Four" of the following: (5X4)**

(20)

1. What is multiple access, and what techniques are used to deal with it? (CO2-U)
2. How would you define switching, and what are the different types of switches. (CO2-U)
3. Draw and explain the IPv4 address format? (CO2-A)
4. What are the types of routing algorithms and how do they work? (CO2-U)
5. Explain the services provided by the transport layer. (CO2-A)
6. Draw and explain the TCP header format in detail. (CO2-U)

**Q4. Write short notes on : (any five)**

(15)

1. Bridges (CO2 -A)
2. Routers (CO2-A)
3. TDM (CO1-U)
4. Based band Transmission (CO1-U)
5. Bit Rate (CO1-A)
6. HUB (CO2-A)