

- NOTE:**
- 1) Diagrams should be Neat and labeled.
 - 2) All Questions are compulsory.
 - 3) Right side indicates marks.

- Q.1) Attempt any two.** [10]
- A) Write a short note on 1. Wavelength 2. Phase 3. Frequency..
 - B) List components required for data communication .Explain It.
 - C) What is composite signal? Explain with Fourier analysis concept.
 - D) Define protocol with standards
- Q.2) Attempt any two.** [10]
- A) Describe TCP/IP suit.
 - B) What are the responsibilities of SCTP, TCP, UDP in TCP/IP suit.
 - C) How we can find First, Last, and No of address? Explain with example.
 - D) What is IP address? Describe different types of classes in IP address.
- Q.3) Attempt any two.** [10]
- A) What is hamming distance for each of following code and also find out Minimum hamming distance.
1. d(10000,01000) 2. d(10101,10010) 3. d(1111,1111) 4. d(0000,0000)
 - B) Explain CRC method.
 - C) Describe JPEG process for video compression.
 - D) What is one's compliment method in checksum? Explain with example.
- Q.4) Attempt any two.** [10]
- A) Explain unguided transmission media.
 - B) What is purpose of cladding in an optical fiber? Explain it with diagram.
 - C) Explain serial and parallel transmission modes.
 - D) Explain scrambling in digital-digital Conversion.
- Q.5) Attempt any two.** [10]
- A) Define topology. Explain following topologies with advantages and disadvantages
1. Hybrid 2. RING 3. STAR
 - B) What are two approaches required for packet switching? Explain it.
 - C) Write short note on 1. message switching 2. Circuit switching
 - D) Explain static and dynamic routing.
- Q.6) Attempt any two.** [10]
- A) Write short note on 1. loopback 2. Unspecified. Address.
 - B) How to transit IPV6 to IPV4? Explain its mechanism.
 - C) Differentiate IPV4 and IPV6.
 - D) Describe ipv6.

Q.7) Attempt any three.

[15]

- A) Describe bipolar method.
- B) What is parity? Explain single parity method.
- C) Differentiate guided and unguided media.
- D) Explain unipolar method.
- E) Explain AM, FM, PM.
- F) Describe twisted pair transmission media.