VCD 01/05/15 F.Y.B.S.C (I.T.) - DCN -SEM-II - 2014-2015 – 75 – 2½HRS

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 short note on 1.DC 2. Analog and Digital signal.
B) List components required for data communication .Explain It.
C) What is composite signal? Explain with Fourier analysis concept.
D) Explain key elements of protocols and Explain standards.

Q.2) Attempt any two.   [10]
A) Describe TCP/IP suit.
B) Describe OSI model.
C) Find First, Last, and No of address of given address
   11001101 00010000 00100101 00100111 (n=28)
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) What is function of generator and checker in hamming code? Explain it.
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) Why signals are not perfect during transmission? Explain its causes.
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.Unicast   2. Multicast   3. Anycast
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 error ? Explain types of error.
C) Differentiate guided and unguided media.
D) Explain unipolar method.
E) Explain AM,FM,PM.
F) Describe unguided transmission media.