

Registration no:

--	--	--	--	--	--	--	--	--	--

Total Number of Pages: 02

B.Tech
PEEC4304

6th Semester Regular / Back Examination 2015-16
COMPUTER NETWORK AND DATA COMMUNICATION
BRANCH: AEIE, BIOMED, ECE, EEE, EIE, ELECTRICAL, ETC, IEE
Time: 3 Hours
Max Marks: 70
Q.CODE: W577

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

- Q1** Answer the following questions: **(2 x 10)**
- a) What is the difference between half duplex and full duplex transmission modes?
 - b) Define Piggybacking and its usefulness.
 - c) A noiseless channel with a bandwidth of 4000 Hz is transmitting a signal with four signal levels. Find the maximum bit rate.
 - d) Differentiate between circuit switching and packet switching.
 - e) What is Hamming distance? Find the hamming distance between 10101 and 10010.
 - f) Differentiate between sub-netting and super-netting.
 - g) What is the purpose of the NAV?
 - h) What is a proxy server? How is it related to HTTP?
 - i) Distinguish between TCP and UDP.
 - j) Differentiate between physical address and logical address.
- Q2** a) Draw the OSI Model and discuss the layer functionalities of the OSI Reference Model. **(5)**
- b) Given a binary data stream of 011110010010. Encode this stream using NRZ-I, Manchester and Differential Manchester Encoding schemes. **(5)**
- Q3** a) What do you mean by multiple access? Briefly explain the operation of CSMA/CA. **(5)**
- b) Describe the Stop-and-Wait ARQ. What is the difference between Go-Back-N ARQ Protocol with Selective Repeat ARQ? **(5)**
- Q4** a) For a given dataword 1010011010 and divisor x^4+x^2+x+1 , generate the codeword using CRC. Verify the generated codeword at the receiver site. **(5)**
- b) What do you mean by Guided Media? Discuss briefly different types of Guided Media. **(5)**

Q5 a) Explain Time Division Multiplexing Technique and compare it with Frequency Division Multiplexing. **(5)**

b) What do you mean by HDLC? Define different HDLC frame formats. **(5)**

Q6 a) Discuss the datagram format of IPv4 Protocol. Give the advantages of IPv6 over IPv4. **(5)**

b) Compare and contrast Distance Vector Routing with Link State Routing. **(5)**

Q7 a) What is Congestion? Explain the principle and prevention policies of congestion control. **(5)**

b) How does the Frame Relay differ from ATM? **(5)**

Q8 Write short notes on any two: **(5 x 2)**

a) Domain Name System

b) Channelization

c) IEEE 802.11

d) SMTP