Registration no: | | | | | | | | | | |

Total Number of Pages: 02 **B.Tech**
PEEC4304

6th Semester Regular / Back Examination 2016-17
COMPUTER NETWORK AND DATA COMMUNICATION
BRANCH(S): AEIE, BIOMED, ECE, EEE, EIE, ELECTRICAL, ETC, IEE

Time: 3 Hours
Max Marks: 70
Q.CODE: Z871

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 are the major factors are involved in the performance of the network?
b) What is crosstalk?
c) For 4 devices in a network, what is the number of cable links required for a mesh, ring and star topology?
d) What is the difference between thick Ethernet and Thin Ethernet?
e) Specify the class, net-id, host-id of IP address 192.12.14.87.
f) Differentiate between half duplex and full duplex transmission modes?
g) Define piggybacking and its usefulness?
h) What is the difference between FTP and HTTP?
i) What is the significance of modulation?
j) Calculate the maximum bit rate for a channel having bandwidth 3100Hz and S/N ratio of 20db.

Q2

a) What are possible ways of data transmission? Explain with examples. **(5)**

b) Discuss the layer functionalities of the OSI reference model with neat diagram? **(5)**

Q3

a) Explain an advantages and disadvantages for each type of network topology with neat diagram? **(6)**
b) What do you mean by Guided Media? Discuss briefly different types of guided media. **(4)**

Q4

a) What is circuit switching? Discuss how packet switching is better than circuit switching for communication. **(5)**
b) A bit word 1011 is to be transmitted .Construct the even parity seven-bit Hamming code for this data. **(5)**

Q5

a) Define multiple access. Describe the CSMA/CD access method with suitable diagram. **(5)**

b) What do you mean by HDLC? Define the different frame format of HDLC? **(5)**

Q6

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

b) How Go-Back-N-ARQ is different from Selective Repeat ARQ, explain with example. **(5)**

Q7

a) An organization is granted the block 211.17.180.0/24. The administrator wants to create32 subnet. **(5)**

a. Find the subnet mask
b. Find the number of addresses in each subnet
c. Find the first and last address in subnet 1.

b) Draw the schematic diagram of IPv6 Header. Explain the various fields used in it. Give the advantages of IPv6 over IPv4. **(5)**

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

a) SMTP
b) Bluetooth
c) DNS
d) Channelization