Registration No:

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B.Tech
PCCS4302

5th Semester Regular / Back Examination 2016-17
DATA COMMUNICATION AND COMPUTER NETWORK
BRANCH: CSE, IT, ITE
Time: 3 Hours
Max Marks: 70
Q.CODE: Y172
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) A signal has Eight data levels with pulse duration of 2ms. What are its Pulse rate and Bit rate?

b) Distinguish between 1-persistent and P-persistent strategies.

c) What is traffic shaping? Name two methods to shape the traffic.

d) Distinguish between virtual circuit approach and datagram approach of packet switching.

e) What is the purpose of Jam signal in CSMA/CD?

f) Suppose we want to digitize the human voice (0 to 4000 Hz). What is the bit rate assuming 10 bits per sample?

g) Distinguish between Synchronous and Asynchronous serial transmission modes.

h) Distinguish between Polling and Selecting.

i) What is the difference between recursive resolution and iterative resolution of names in case of DNS?

j) How does a UNI differ from an NNI in ATM?

Q2 a) What do you mean by Hamming distance? Using Hamming Encoding Algorithm, construct the Hamming code for the bit sequence 1001010.   **(5)**

b) Discuss various IP address classes according to classful addressing. Distinguish between unicast, multicast and broadcast address.   **(5)**

Q3 a) Explain CSMA/CA procedure with a suitable flow diagram. How does it differ from CSMA/CD?   **(5)**

b) Explain the various operation mechanism of Go-Back-N ARQ. What are its advantages over Stop-and-Wait ARQ?   **(5)**

Q4 **a)** Give an account of the frame format of U-Frame in HDLC protocol, describing the function of each field. **(5)**

b) What do you mean by an Error? What are various types of errors you know? Explain any one of the error detection mechanisms with suitable example. **(5)**

Q5 **a)** Discuss various types of topologies with advantages and disadvantages of each one. **(5)**

b) What do you mean by Quality of service? What are the techniques used to improve QOS? Explain any one. **(5)**

Q6 **a)** Explain the working principle of connection oriented Concurrent server with suitable client and server algorithms. **(5)**

b) Discuss the Frequency Division Multiplexing technique. How it differs from Time Division Multiplexing? **(5)**

Q7 **a)** What do you mean by Block Coding? Discuss the major steps used in block coding. **(5)**

b) Mention the difference between Traditional Ethernet and Fast Ethernet. Discuss various sub layers in Physical layer of a Traditional Ethernet. **(5)**

Q8 **Write short answer on any TWO:** **(5 x 2)**

a) IPV6

b) Transmission Impairment

c) Point-to-Point Protocol

d) Sampling