(Please write your Exam Roll No.) Exam Roll No. .....

END TERM EXAMINATION

SIXTH SEMESTER [B.TECH] MAY-JUNE 2014

Paper Code: IT-304 **Subject: Computer Networks**

Time: 3 Hours **Maximum Marks: 60**

Note: Attempt five questions including Q.no.1 which is compulsory. Select one question from each Unit.

Q1 (a) What is the difference between connectionless and connection oriented communication? **(2)**

(b) Explain bit stuffing process. **(2)**

(c) What is the need of subnetting? **(2)**

(d) What is the difference between hub topology and star topology? **(2)**

(e) Explain the token early release. **(2)**

(f) What are Transmission impairments? **(2)**

(g) Which class does the following IP address belong to? **(2)**

(i) 157.143.252.207

(ii) 93.31.1.245

(h) Assume a Go-Back-N protocol is used with a window size of 4 and that the ACK for packet 2 gets lost. Show the events until packet 2 is acknowledged at the sender side. **(3)**

(i) Show NRZ and Manchester, encodings for the bit pattern shown below. **(3)**

1010111110101111100101111110110.

Unit-I

Q2 (a) Explain the various layers present in OSI model and their functions. **(7)**

(b) What does Shannon capacity have to do with communications? **(3)**

OR

Q3 (a) Explain all the main components of Telephone system. **(5)**

(b) Discuss various types of transmission media, highlighting their merits and demerits. **(5)**

Unit-II

Q4 (a) Explain all types of frames format in HDLC protocol. **(6)**

(b) Discuss various ATM layers and their functions. **(4)**

OR

Q5 (a) Compare and contrast G-Back-N ARQ protocol with Selective repeat ARQ. **(8)**

(b) In Hamming code, for a data of m bits how do you compute the number of redundant bits 'r' needed? **(2)**

Unit-III

Q6 Explain in detail the working principles of IEEE 802.3 standard. **(10)**

OR

Q7 (a) Discuss briefly about the high speed networks. **(6)**

(b) Explain the working of Carrier Sense Multiple Access protocol. **(4)**

Unit-IV

Q8 Discuss the following w.r.t IPv4:- **(10)**

(a) Datagram format

(b) Fields related to fragmentation and reassembly of an IPv4 datagram.

OR

Q9 Explain the working of distance vector routing protocol with an example. **(10)**

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