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

END TERM EXAMINATION

SIXTH SEMESTER [B.TECH/M.TECH] MAY-2010

Paper Code: IT304
Paper ID: 15304
Subject: computer Networks
(Batch 2006 – onwards)
Time : 3 Hours
Maximum Marks : 60

Note: Question No 1 is compulsory .Attempt one question from each unit.

(4x5=20)

Q.1 Attempt **any five** parts:

(a) Explain TCP/IP reference model in brief.
(b) A digital signaling system is required to operate at 9600 bps. If a signal element encodes a 4-bit word, determine the minimum required bandwidth of the channel.
(c) A channel has a data rate of 4 kbps and a propagation delay of 20ms. For what range of frame sizes does stop and wait protocol give an efficiency of at least 50%?
(d) Draw the schematic diagrams showing different topologies of local area networks.
(e) Explain the difference between a store and forward switch and a cut through switch.
(f) What is multicasting? Mention its important applications?

UNIT – I

Q.2 (a) Discuss ISO – OSI reference model in detail. **(7)**
(b) What is the relationship between data rate and bandwidth? Explain in brief. **(3)**

Q.3 (a) Illustrate the difference between guided media and unguided media. **(3)**
(b) A typical channel has 300 Hz bandwidth and signal to noise ratio of 3 db. Assuming white thermal noise, determine the capacity of the channel. **(3)**
(c) What are impairments in wireless communication? Describe those. **(4)**

UNIT – II

Q.4 (a) Discuss different design issues of data link layer. **(5)**
(b) Explain the use of hamming code to correct burst errors. **(5)**

Q.5 (a) Describe one Bit sliding window protocol. **(5)**
(b) Discuss HDLC in detail. **(5)**

UNIT –III

Q.6 (a) Show that throughput of slotted ALOHA is twice that of pure ALOHA. **(6)**
(b) Explain the use of Binary exponential back off algorithm in case of collision. **(4)**

Q.7 (a) Discuss high speed LANs in detail. **(7)**
(b) Mention the functions performed by the following: **(3)**
i) Repeater ii) Switch iii) bridge

UNIT –IV

Q.8 (a) Explain the concept of routing within a virtual circuit subnet. **(4)**
(b) What is link state routing? How does router learn about its neighbors? **(6)**

Q.9 (a) what is congestion? Also mention congestion prevention policies. **(4)**
(b) Write a note on Internet work protocols. **(6)**

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