ANNA UNIVERSITY, COLLEGE OF ENGINEERING

B.E DEGREE EXAMINATIONS, MAY 2012

IT9026-TCP/IP DESIGN AND IMPLEMENTATION

Time: 3Hrs **Max.Marks: 100**

Answer all questions

PART A (10 x 2 = 20 Marks)

1. Why subnetting reduces the number of nodes per network?
2. State the functionalities of switch and hub.
3. What is the need for timers in TCP transmissions?
4. Draw the flow diagram for TCP connection termination.
5. Which class of IP is used for multicasting? Mention the protocol used for multicasting.
6. What is the need for fragmentation?
7. List the contents of TCB.
8. Why the port number field in the TCP header is 16 bits?
9. What is the need for adaptive retransmission?
10. State the need for push function in TCP.

PART B (5 x 16 = 80 Marks)

11. i. State the functionalities of any four internetworking devices in detail. Specify the layers upon which they perform their operations. (12)

    ii. Draw the IPV6 header format. (4)

12. a) Explain the various services of TCP in detail. What is the need for retransmission? How it is performed in TCP connection? (16)

    Or

    b) i. Draw the format of TCP header and explain all the fields. State the reasons for the various field lengths for each field. (12)

    ii. How TCP connection is established between a sender and receiver? List the TCP states involved. (4)

13. a). Write down the routines for implementing the routing operation in a router. Explain any one of the routing algorithms to perform routing table updation. (16)

    Or

    b) i. Write a routine for checking the connectivity of a machine using ICMP request /reply packets. (16)

14. a) i) Write the data structure in C for implementing any four TCP FSM's states. (16)

Or

a) Write notes on

i) TCP input processing (8)
ii) TCB (8)

15. a) Explain in detail about TCP congestion avoidance and adaptive retransmission. (16)

Or

b) i. Write notes on Urgent data processing in TCP. (8)
ii. Write the data structure for Deleting and inserting timer event in TCP. (8)