



ANNA UNIVERSITY, COLLEGE OF ENGINEERING
B.Tech DEGREE EXAMINATIONS, NOV 2012
VII Semester (Elective)
IT9026-TCP/IP DESIGN AND IMPLEMENTATION

Time: 3Hrs

Max.Marks: 100

Answer all questions

PART A (10 x 2 = 20 Marks)

1. You have sub-netted your class C network 192.168.1.0 with a subnet mask of 255.255.255.240. List the full range of the first three networks and the usable address range from those first three networks.
2. List down the features of IPv6.
3. Compare Persist Timer with Keepalive Timer.
4. State the need for Connection Establishment to have a reliable communication. What messages are actually exchanged between the sender and receiver?
5. Specify the contents of a routing table. With an example simple network scenario show how those contents are used by the routers.
6. State the need for maintaining Reassembly Timeout at the destination. What is the effect after this timeout?
7. State the relation between TCB and TCP connection.
8. List down the states of TCP FSM.
9. HOW Flow control between the sender and receiver is maintained in TCP connection?
10. List down the various TCP Timers.

PART B (5 x 16 = 80 Marks)

11. a) Explain about ARP and RARP techniques with their message format. (8)
b) Assume that a service provider has given you the Class C network range 209.50.1.0. Break the network into as many subnets as possible as long as there are at least 50 clients per network. (4)
c) Show the behavior of a bridge and switch with respect to collision domain. (4)

12. a) Explain the fields of TCP header in detail stating with the reason for having the appropriate field lengths. (16)

Or

b) i) Write notes on Timeout and Retransmission. (8)

ii) Write down the routine for implementing the States involved in TCP graceful shutdown. (8)

13. a) Write down the routines for implementing Fragmentation and reassembly of IP Datagrams. (16)

Or

b) i) Write down the appropriate routines for handling ICMP messages. (16)

14. a) Write notes on TCP input and output Processing in detail. (16)

Or

a) Write notes on

i. TCB (8)

ii. Connection Establishment states in TCP FSM (8)

15. a) Explain in detail about Flow Control and adaptive retransmission. (16)

Or

b) Write routines for Inserting and Deleting TCP Timer events. (16)