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**B.E. (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV / DEC 2012**

Computer Science and Engineering

Sixth Semester

**CS 9034 – TCP/IP DESIGN AND IMPLEMENTATION**

(Regulation 2008 )

Time : 3 Hours

Answer ALL Questions

Max. Marks 100

**PART-A (10 x 2 = 20 Marks)**

1. Convert the IP address whose hexadecimal representation is C22F31583.
2. State the difference between ARP and RARP.
3. List down the four actions required for TCP connection termination.
4. When will the persistence timer will be invoked ?
5. Can i design a routing table without the sequence number? State the reason.
6. Draw the ICMP message format table when there is a parameter problem.
7. List the message types used in TCP output process?
8. Draw the structure of TCP output process?
9. How to insert and delete TCP timer event?
10. What is silly window syndrome?

**Part-B (5 x 16= 80 Marks)**

- 11.a.i How is congestion avoidance and control done in TCP? Give its implementation. (10)
- ii. Explain how the push function is implemented in the TCP. (6)
- 12.a.i What is the need of protocols in communication? Draw the mapping of OSI & TC P /IP model showing different protocols included in TCP / IP. (10)
- 12.a.ii Explain the enhanced features of IPV6 (6)

(OR)

12.a.ii A router has the following(CIDR) entries in the routing table: (10)

Address / Mask	Next Hop
135.46.56.0/22	Interface 0
163.46.60.0/22	Interface 1
192.53.40.0/23	Router 1
default	Router 2

For each of the following IP address, what does the router do if a packet with the address arrives?

- (a) 135.46.63.10
- (b) 135.46.57.14
- (c) 135.46.52.2
- (d) 192.53.56.7
- (e) 192.53.40.7

12.b.i Explain subnetting and supernetting with examples. (6)

13.a.i With a neat diagram explain the structure of TCP header. (8)

13.a.ii Explain the adaptive retransmission policy used in TCP. (8)

(OR)

13.b.i Explain the implementation of the timer process. (8)

13.b.ii List the order in which the following functions should likely be called in a TCP server: accept (), bind (), close (), listen (), socket (), read (). Give the syntax of each system call. (8)

14.a.i How is multicasting implemented in internet? Explain the multicast processing. (10)

14.a.ii What is the function of the Type Of Service (TOS) field used in the header of the IP Datagram? How is this field modified after the introduction of differentiated services? Explain its function of Time To Live field and what is the maximum number of hops that a datagram can remain in the network before it is discarded (6)

(OR)

14.b.i What is count-to-infinite problem in distance vector routing? Show with the help of an example. (6)

14.b.ii Explain briefly the error processing in ICMP. (5)

14.b.iii With an example explain Routing Information protocol (RIP) method. (5)

15.a.i Explain the TCP Connection establishment using Finite state machine? (10)

15.a.ii How is input and output processing implemented in TCP? (6)

(OR)

15.b.i Discuss about the various data structures used in TCP implementation. (10)

15.b ii Explain the working of Sliding Window protocol with an example. Show the window status at sender and receiver . (6)