**ASSIGNMENT II**

**17/9/2013**

**CLASS: T.E. (CSE) I&II SUBJECT: Computer Network**

1. What is distance vector routing? Find the distance vectors for following network.
2. What is slow convergence problem in distance vector routing? How it can be solved? Explain with example.
3. Compare RIP, OSPF and BGP routing protocols.
4. Explain working of RIP2 protocol.
5. A router running RIP has a routing table with 20 entries. How many periodic timers are needed to handle this table? How many expiration timers are needed to handle this table? How many garbage collection timers are needed to handle this table if five routes are invalid?
6. What is link state routing? find link state of each node for the network shown in Q.1
7. Show the autonomous system with the following specifications:
   1. There are eight networks (N1 to N8)
   2. There are eight routers (R1 to R8)
   3. N1, N2, N3, N4, N5, and N6 are Ethernet LANs
   4. N7 and N8 are point-to-point WANs
   5. R1 connects N1 and N2
   6. R2 connects N1 and N7
   7. R3 connects N2 and N8
   8. R4 connects N7 and N6
   9. R5 connects N6 and N3
   10. R6 connects N6 and N4
   11. R7 connects N6 and N5
   12. R8 connects N8 and N5

Now draw the graphical representation of the autonomous system as seen by OSPF. Which of the networks is a transient network? Which is a stub network?

1. Explain the purpose and general header of OSPF protocol.
2. Explain the purpose and header following OSPF Packets
   1. Hello.
   2. Database description.
   3. Link state request.
   4. Link state update.
   5. Link state acknowledgement.
3. What is path vector routing? Explain its relation with Border Gateway Protocol.
4. Explain the function and header of following BGP packets
   1. Open
   2. Update
   3. Keepalive
   4. Notification.
5. What are the transport layer services? Explain with examples.
6. What is ICANN or IANA range? Explain in brief.
7. What is the maximum size of the TCP header? What is the minimum size of the TCP header?
8. The following is a dump of a UDP header in hexadecimal format.

**0045DF000058FE20**

* 1. What is the source port number?
  2. What is the destination port number?
  3. What is the total length of the user datagram?
  4. What is the length of the data?
  5. Is the packet directed from a client to a server or vice versa?
  6. What is the client process?

1. The following is a dump of a TCP header in hexadecimal format.

**(05320017 00000001 00000000 500207FF 00000000)16**

* 1. What is the source port number?
  2. What is the destination port number?
  3. What the sequence number?
  4. What is the acknowledgment number?
  5. What is the length of the header?
  6. What is the type of the segment?
  7. What is the window size?

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