USN | | | | | | | | | | **10CS64**

Sixth Semester B.E. Degree Examination, Dec.2013/Jan.2014
Computer Networks – II

Time: 3 hrs.   Max. Marks:100

Note: *Answer FIVE full questions, selecting*
at least TWO questions from each part.

PART – A

1 a. Differentiate between connection oriented and connectionless services.   (04 Marks)
   b. Define routing and its goals.   (04 Marks)
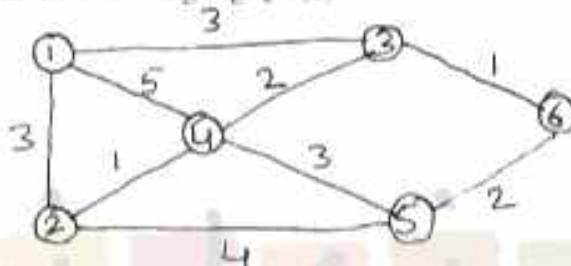   c. Consider the network, in the following Fig.Q.1(c):

Fig.Q.1(c)

   i) Use the diJkstra's algorithm to find the set of shortest path from node 4 to other nodes.
   ii) Find the set of associated routing table entries.   (12 Marks)

2 a. Explain the leaky bucket algorithm for policing the traffic at flow control.   (10 Marks)
   b. Explain fair queing at the packet level. Show the transmission sequences for field flow and packet by packet system by considering the two logical buffers (buffer 1, buffer 2). Assume each has a single L-bit packet to transmit at t = 0 and no sub-sequent packets arrive, assume C = L bits/second = 1 packet/second.   (10 Marks)

3 a. Write the advantages and disadvantages of UDP.   (06 Marks)
   b. What do you mean by tunneling? What are the needs to changes from IPV4 to IPV6? Write the IPV6 basic header and describe its fields.   (10 Marks)
   c. What is routing information protocol (RIP)? What is the maximum width of a RIP networks?   (04 Marks)

4 a. With a neat diagram, explain the TCP state transition diagram.   (08 Marks)
   b. Explain in detail, the operation of OSPF (open shortest path first) by considering on example network.   (12 Marks)

PART – B

5 a. Explain DNS message format with a neat diagram.   (06 Marks)
   b. Apply RSA and do the following:
      i)   Encrypt a = 3, b = 11, x = 3 and m = 9.
      ii) Find the corresponding y.
      iii) Decrypt the ciphertext.   (06 Marks)
   c. What is SNMP? List the PDUs of SNMPV2? Explain SNMP PDU format.   (08 Marks)

6 a. List the benefits of creating VPN's. Explain VPN types.   (10 Marks)
   b. Explain need for overlay networks and P2P connection.   (10 Marks)

7 a. What is an MPLS network? Explain with diagram how the packets are forwarded using MPLS.   (08 Marks)
   b. Write a note on VOIP signaling.   (04 Marks)
   c. Discuss the differentiated services QOS approach.   (08 Marks)

8 a. List and explain the applications and features of adhoc networks.   (08 Marks)
   b. Explain the structure of a typical sensor node.   (07 Marks)
   c. Write short notes on Zigbee technology.   (05 Marks)

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