10CS64

# Sixth Semester B.E. Degree Examination, June/July 2015
## Computer Networks – II

Time: 3 hrs.                                                              Max. Marks:100

**Note:** *Answer any FIVE full questions, selecting*
*atleast TWO questions from each part.*

## PART – A

1    a.  Explain datagram and virtual circuit packet switching with delay calculation diagrams.
                                                                          **(08 Marks)**
     b.  With neat diagram, explain the generic packet switch.            **(04 Marks)**
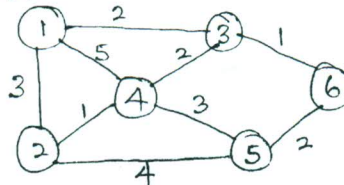     c.  Consider the network in Fig.Q.1(c).



Fig.Q.1(c)

   i)   Use the Dijkstra's algorithm to find the set of shortest paths from node 4 to other nodes.
   ii)  Find the set of associated routing table entries.                 **(08 Marks)**

2    a.  Discuss the priority and weighted fair queuing.                  **(06 Marks)**
     b.  Explain the concept of Random Early Detection (RED).            **(04 Marks)**
     c.  Give the classification of congestion control algorithms. Explain the leaky bucket and token bucket traffic shaper with neat diagram.                                     **(10 Marks)**

3    a.  Describe the various fields of IP version 4 header.             **(06 Marks)**
     b.  i)   A small organization has a class C address for seven networks each with 24 hosts. What is an appropriate subnet mask?
        ii)  Perform CIDR aggregation on the /24 IP address 200.96.86.0/24, 200.96.87.0/24, 200.96.88.0/24, 200.96.89.0/24.                                               **(06 Marks)**
     c.  Why transition from IPV4.0 to IPV6.0 is required? Explain the IPV6 network addressing.
                                                                          **(08 Marks)**

4    a.  Explain the TCP 3 way handshake for establishing a TCP connection.   **(06 Marks)**
     b.  What are the classification of internet routing protocols? Explain in detail routing information protocol (RIP).                                                      **(08 Marks)**
     c.  Write note on:  i) Reverse path multicasting     ii) Mobile IP.   **(06 Marks)**

## PART – B

5    a.  Explain the remote login protocols.                             **(06 Marks)**
     b.  What are the elements of network management? Discuss the interaction between SNMP management station and SNMP agent.                                            **(08 Marks)**
     c.  Write RSA algorithm. For RSA algorithm of 4 bit message 1001, choose a = 3 and b = 11, find the public keys and private keys for this and show the cipher text.   **(06 Marks)**

6  a. Describe the various types of resource allocation schemes. **(06 Marks)**
   b. Define VPN. Discuss the concept of tunneling and point to point protocol in VPN. **(06 Marks)**
   c. What is MPLS network? Explain MPLS operation. **(08 Marks)**

7  a. Explain the JPEG compression for still images. **(06 Marks)**
   b. Explain the following:
      i)   Huffman encoding
      ii)  Lempel – Ziv – wetch encoding with an example. **(08 Marks)**
   c. Briefly explain with neat diagram, how Content Distribution Network (CDN) interaction with DNS (Domain Name System). **(06 Marks)**

8  a. Explain DSDV, TORA routing protocols for mobile adhoc networks. **(08 Marks)**
   b. What are the classifications of sensor networks? Explain with relevant diagram DEEP clustering protocol in sensor network. **(06 Marks)**
   c. Describe the direct or multihop intracluster routing protocols with neat diagram. **(06 Marks)**

* * * * *