

**Sixth Semester B.E. Degree Examination, June/July 2011**  
**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. Distinguish between connectionless packet switching and virtual circuit packet switching. (08 Marks)
- b. Consider the network in Fig. Q1(b). Use the Bellman – Ford algorithm to find the shortest paths from all the nodes to the destination node 2. (05 Marks)

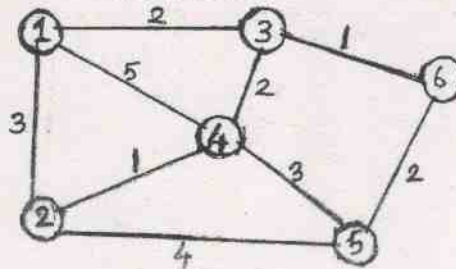


Fig. 1(b)

- c. Explain briefly the structure of a generic packet switch, with the help of a diagram. (07 Marks)
- 2 a. Discuss the different FIFO techniques briefly. (08 Marks)
- b. A host in an organization has an IP address 150.32.64.34 and a subnet mask 255.255.240.0. What is the address of this subnet? What is the range of IP addresses that a host can have on this subnet? (05 Marks)
- c. With the help of a diagram, explain the token bucket traffic shaper for congestion control. (07 Marks)
- 3 a. Give any four differences between IPV4 and IPV6. (04 Marks)
- b. Explain the significance of the following fields in the TCP segment.  
 i) Sequence ii) Acknowledgement number iii) Checksum iv) Window size. (08 Marks)
- c. Discuss in detail, the Routing information protocol. (08 Marks)
- 4 a. Briefly explain the packet formats and functionalities of AAL 3/4. (12 Marks)
- b. Discuss the UNI signaling in ATM network, with an example. (08 Marks)

**PART - B**

- 5 a. Explain the secret key and public key cryptographic systems, with relevant block diagrams. (06 Marks)
- b. Apply RSA algorithm for the following :  
 i) Encrypt the plain text P = 25 for p = 7, q = 11, e = 17  
 ii) Find the value of d and decrypt the ciphertext. (06 Marks)
- c. What is SNMP? Discuss the interactions between the SNMP management station and SNMP agent. (08 Marks)
- 6 a. What is MPLS? Explain how the packets are forwarded using MPLS. (06 Marks)
- b. Discuss the differentiated services QoS approach. (08 Marks)
- c. Write a note on virtual private networks. (06 Marks)
- 7 a. Explain the session initiation protocol, in detail. (10 Marks)
- b. Discuss the Huffman encoding technique. (10 Marks)
- 8 a. Explain the DSDV protocol for mobile Ad – Hoc networks. (10 Marks)
- b. Describe the DEEP clustering protocol for wireless sensor networks. (10 Marks)