

Sixth Semester B.E. Degree Examination, Jan./Feb. 2023
Computer Networks – II

Max. Marks:100

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

PART – A

- 1 a. Differentiate between connectionless and connection oriented services. (06 Marks)
- b. Consider a network given in Fig.Q1(b). Use Dijkstra’s algorithm to find shortest paths from node 5 to all other destination nodes. Find the shortest path tree from node 5 to other nodes.

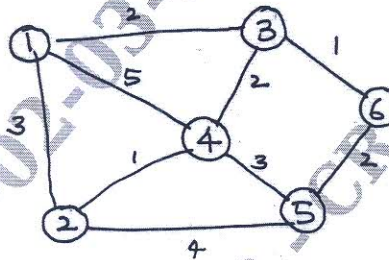


Fig.Q1(b)

- c. Discuss the effect of flooding on network traffic. (10 Marks)
- d. Explain the effect of congestion on network traffic. (04 Marks)
- 2 a. Explain fair queuing and weighted fair queuing mechanisms of traffic managements at packet level with examples. (10 Marks)
- b. Explain leaky bucket algorithm for closed loop congestion control. (10 Marks)
- 3 a. Identify the address class of the following IP addresses:
 (i) 200.58.20.165 (ii) 128.167.23.20 (iii) 16.196.128.50
 (iv) 150.156.10.10 (v) 250.10.24.96 (05 Marks)
- b. Explain IPv6 header format. (10 Marks)
- c. Expand the following IPv6 address to its full form:
 4BF5 :: BA5F : 039A : BE9A : 2176 (05 Marks)
- 4 a. Describe three way handshake procedure in TCP connection establishment. (10 Marks)
- b. Discuss the features of OSPF and explain its operation. (10 Marks)

PART – B

- 5 a. Discuss following Name/Address mapping mechanisms in DNS:
 (i) Recursive mapping (ii) Iterative mapping (10 Marks)
- b. Explain the following components of RSA algorithm:
 (i) Key generation (ii) Encryption (iii) Decryption (10 Marks)
- 6 a. With a neat diagram, explain the functioning of differentiated QoS services. (08 Marks)
- b. What is peer-to-peer connection? Derive the expression for the peer connection efficiency. (08 Marks)
- c. Write a note on traffic engineering. (04 Marks)
- 7 a. Explain various stages of still image compression using JPEG. (10 Marks)
- b. Discuss Huffman coding algorithm. (10 Marks)
- 8 a. Discuss four types of security attacks in Ad Hoc networks. (10 Marks)
- b. With a neat diagram, explain the architecture of wireless sensor node. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.