

Code No: M5806/R19

M. Tech. I Semester Regular Examinations, February-2020

Advanced Computer Networks
Computer Science & Engineering (58)

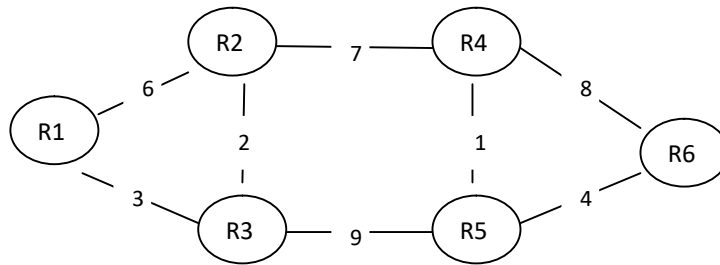
Time: 3 Hours

Max. Marks: 75

Answer any FIVE Questions One Question From Each Unit
All Questions Carry Equal Marks

UNIT-I

1. a Consider a subnet with 6 routers R1 to R6 connected with links having weights as shown in the following diagram. 13M



All the routers use the distance vector based routing algorithm to update their routing tables. Each router starts with its routing table initialized to contain an entry for each neighbor with the weight of the respective connecting link. After all the routing tables stabilize, Give the routing tables at the routers.

- b In continuation to Question 1(a), After stabilization of all the routing tables, how many links in the network will never be used for carrying any data? Give a brief explanation to your answer. 2M

OR

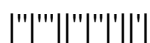
2. a Explain any three congestion control mechanisms designed for Datagram subnets 8M
b What is traffic shaping? Explain leaky bucket algorithm and compare it with token bucket algorithm. 7M

UNIT-II

3. a Why is fragmentation of an IP packet sometimes required? Explain about Transparent and Nontransparent fragmentation. 7M
b Explain about NAT in networking with an example. 8M

OR

4. a Explain in detail the format of IPv6 packet and its extension headers. 9M
b Explain the following Internet protocols 6M
i) ICMP ii) ARP



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UNIT-III

5. a Define UDP and Discuss different fields of the UDP header format 8M
b Explain the SCTP association establishment and termination 7M

OR

6. Draw TCP segment header and Explain about the fields in TCP segment header that are required for flow control and congestion control? Explain how these fields are used for flow control and congestion control? 15M

UNIT-IV

7. Draw the IEEE 802.11 frame format and Explain point coordination and distributed coordination functions. 15M

OR

8. a With a neat diagram, explain the Bluetooth layers. 8M
b Explain about the WIMAX IEEE 801.16 technology. 7M

UNIT-V

9. a Why conventional routing algorithms do not work well for MANETS? Give the classification of routing algorithms for MANETs. 8M
b What is a Wireless Sensor Network? List the applications of WSNs and give the various types of Wireless Sensor Networks. 7M

OR

10. a Discuss the characteristics of P2P networks. 8M
b Explain about the key components of Session Initiation Protocol. 7M

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