

Question Paper



MANIPAL UNIVERSITY

SCHOOL OF INFORMATION SCIENCES
FIRST SEMESTER MASTER OF SCIENCE- M.Sc.(INFORMATION SCIENCE)
DEGREE EXAMINATION November-2017
DATE : Wednesday, November 22, 2017
TIME : 10:00AM - 1:00PM
Computer Networks [MIS 509]

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Describe the different types of transmission techniques used in Point-to-point networks (10)
- 2) Write a short note on Bridge and Routers. (10)
- 3) What is a subnet mask? How subnetting is accomplished with classful addressing, explain with necessary diagrams? (10)
(Marks 2+8)
- 4) Write a short note on the following special addresses with suitable diagrams: (10)
(Marks 5+5)
a. Direct Broadcast Address b. Limited Broadcast Address
- 5) An organization is granted a block of addresses with the beginning address 14.24.74.0/24. There are 256 addresses in the block. The organization needs to have 11 subnets as shown below. (10)

a. Two subnets, each with 64 addresses
b. Two subnets, each with 32 addresses
c. Three subnets, each with 16 addresses
d. Four subnets, each with 4 addresses
Design the subnet.
- 6) Describe RARP packet format and operations with neat diagram. (10)
- 7) Write a short note on the following routing techniques with suitable diagrams. (10)

a. Next-Hop Routing Method

b. Network-Specific Routing

Method

(Marks 5+5)

- 8) Explain how Link State (LS) routing algorithm computes the shortest path in the subnet between routers and update its routing tables. (10)
- 9) Explain different congestion reactive techniques used in virtual-circuits and in the datagram subnets. (10)
- 10) What are the flags used in TCP header? Explain their operations. (10)

(Marks 4+6)

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