

Time allowed: 3 Hours

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.
x-x-x

Max. Marks: 50

I. Attempt the following:-

- What is the significance of Time to Live value in IP header?
- Why do HTTP, FTP, SMTP, POP3 and IMAP run on top of TCP rather than UDP?
- Find network-id and host id for IP address: 132.20.30.51
- What is routing?
- List all the layers of OSI reference model.

(5x2)

UNIT – I

- How congestion can occur in a network? Discuss any one congestion control algorithms. (10)
- Differentiate between TCP and UDP.
 - How LAN can be distinguished from MAN and WAN? (2x5)
- Suppose instead of using 16 bits for the network part of a class B address, 20 bits have been used. Calculate subnet mask for this arrangement. How many class B sub-networks will be there? In each network, what will be maximum number of nodes? Explain your answer. (2x5)
 - Explain the distance vector routing algorithm.

UNIT – II

- What is DNS? Explain working of DNS Server. (2x5)
 - What are various methods for implementing digital signatures? (10)
- Explain the architecture of E-mail system. (10)
- What are firewalls? Explain working of firewalls? Discuss various issues and problems related with design of firewall.

x-x-x