

2014
B.E. (Computer Science and Engineering)
Sixth Semester
CS-601: Computer Networks and Security

Time allowed: 3 Hours

Max. Marks: 50

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

x-x-x

I. Attempt the following:-

- a) Compare congestion control and congestion prevention.
- b) Differentiate between the role of transport and network layer.
- c) Out of Symmetric and Asymmetric key encryption algorithms, which are more secure and why?
- d) Compare the use of TCP and UDP protocols.
- e) What is the role of PGP protocol? (5x2)

UNIT - I

- II. a) Compare and map all layers of OSI and TCP/IP models while discussing the role of each layer using suitable examples.
b) How do different layers in a network communicate? Explain using examples. (2x5)
- III. a) How do various fields in IPv4 and IPv6 Packet Headers differ? Discuss the role of each field in both headers.
b) Compare Distance Vector and Link State routing algorithms using real-world examples. (2x5)
- IV. a) Demonstrate crash recovery in networks using a suitable example. In which layer does it take place?
b) Compare various transport protocols and discuss their respective pros and cons. (2x5)

UNIT - II

- V. a) Explain the working and usages of the Domain Name System using suitable examples.
b) Which protocol is used in network management? Explain its working in detail using real-world examples. (2x5)

P.T.O.

(2)

- VI. a) How does Digital Signatures work? Illustrate their working using a real-life example.
- b) How does a firewall work? What are different types of firewalls? How are Next Generation Firewalls different from others? (2x5)
- VII. a) Analyse and compare various protocols used to secure messages over the network using examples?
- b) Compare different protocols used for security in the transport layer using suitable examples. (2x5)

x-x-x