

Exam.Code:0918
Sub. Code: 6792

1058
B.E. (Computer Science and Engineering)
Sixth Semester
CS-601: Computer Network 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 Section.

X-X-X

- 1 (i) List any four CA's for issuing digital signatures in India. 02
- (ii) For a communication session between two hosts, how to distinguish between client and server? 02
- (iii) How sending IP packets to non-existent addresses on a remote network can generate excess broadcast traffic on that network? 02
- (iv) Why do HTTP, FTP and SMTP run on top of TCP rather than UDP? 02
- (v) Find network-id and host id for IP address: 132.20.30.51 02

Section - A

- 2 How congestion can occur in a network? Discuss any two congestion control algorithms. 10
- 3 a) 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. 05
- b) What is TCP/IP Reference model? Why TCP/IP is in use instead of ISO-OSI? 05
- 4 a) Compare packet format of IPv4 and IPv6. 05
- b) A client uses UDP to send data to a server. The data is 15 bytes. Efficiency is ratio of useful bytes to total bytes. Calculate the efficiency of this transmission at (i) UDP level (ii) IP level. Assume no options for IP header 05

Section - B

- 5 a) What are Digital Signatures? How to use signatures for document transfer? 05
- b) How Pretty Good Privacy works on receiver side of an e-mail system? 05
- 6 What are firewalls? Explain working of firewalls? Discuss various issues and problems related with design of firewall. 10
- 7 a) In electronic mail, what are the tasks of user agent? 05
- b) List FTP commands along with their usage. 05

X-X-X