

2015
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 (Section-A) which is compulsory and selecting two questions each from Section B-C.

X-X-X

SECTION-A

Q1.

- | | | |
|-------|--|---|
| (i) | Differentiate between the use of the Physical layer and Data link layer. | 2 |
| (ii) | What do you mean by WWW? | 2 |
| (iii) | What is the role of SET protocol? | 2 |
| (iv) | On which network layers Firewall work and how? | 2 |
| (v) | What is the use of multicast routing? | 2 |

SECTION B

Q2 (a) To which layer of the OSI model, Internet layer of the TCP/IP model can be mapped and why?

Explain the working of the layer using real-life examples. 5

(b) Compare MAN and WAN networks in terms of speed, congestion, fault tolerance, etc using real-life examples. 5

Q3 (a) Compare various routing algorithms using examples. Discuss their pros and cons. 5

(b) How do congestion control and congestion prevention differ? Explain using examples. 5

Q4 (a) Demonstrate the difference in multiplexing and de-multiplexing using an example. What are the different types of multiplexing and de-multiplexing and in which layer do they work? 5

(b) What is the use of SCTP protocol? How does it differ from other transport protocols? 5

SECTION C

Q5 (a) How do HTTP and FTP protocols differ? Illustrate their usage using suitable examples. At which layer and ports do they work? Discuss their advantages and disadvantages respectively. 5

(b) Compare the working of various E-Mail protocols using examples. 5

Q6 (a) How is security implemented in different network layers? Explain with examples. 5

(b) How do private key and public key authentication differ? Compare their working using examples. 5

Q7(a) How are e-mails secured? Which protocols are used for the purpose? Explain using examples. 5

(b) Compare different IP Security modes using real-life examples. 5

X-X-X