Roll No.

Dec 2018

B.Tech. VI SEMESTER Examination (Under CBS)

Computer Networks (EIC-306 Scheme 2010)

Time: 3 Hours **Max. Marks:60**

Instructions:
1. *It is compulsory to answer all the questions (2 marks each) of Part -A in short.*
2. *Answer any four questions from Part -B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART -A

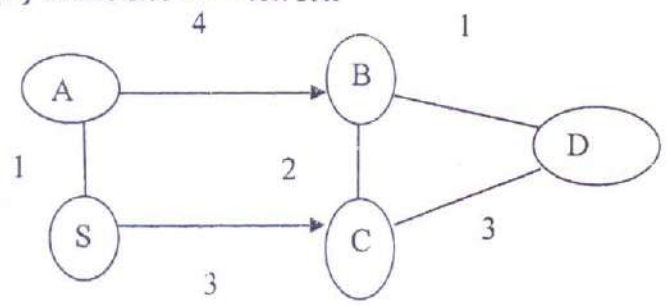
Q1 (a) At Which layer translation of data takes place in OSI model. (2)
(b) What is tri-alteration principle. (2)
(c) Why is error detection more important than error correction. (2)
(d) Which has higher efficiency reservation technique, pure and slotted ALOHA. (2)
(e) Differentiate between implicit and explicit signaling congestion control mechanism. (2)
(f) What is the problem of Distance vector routing. (2)
(g) How is confidentiality achieved in communication networks. (2)
(h) How many hosts are there in class B network. (2)
(i) Why Zig-zag ordering is used in JPEG compression (2)
(j) Why twisting of cables is done. (2)

PART -B

Q2 Explain TCP/IP model in detail? Give brief description of various layers of protocols used Model? (10)

Q3 (a) Explain various transmission media in detail. (5)
(b) Differentiate between pure and slotted aloha. A pure Aloha networks transmits 200 bit frames on a shared channel of 200 Kbps. What is the throughput of the system if there are 10 nodes and one system produces 1000 frames/sec. (5)

Q4 Differentiate between distance vector and path vector routing schemes. Also, using distance vector routing find the shortest path from source (S) to destination (D) of the shown network (10)



Q5 (a) Explain the throughput and delay VS load graph for a congested network. Also explain open loop congestion control mechanisms in detail. (5)
(b) Explain Video Compression in detail. (5)

PTO.....cont page 2

Q6 (a) An ISP is granted a block of addresses starting with 150.80.0.0/16. The ISP wants to distribute these blocks to 2600 customers as follows: (5)

- The first group has 200 medium size businesses; each needs 16 address.
- The second group has 400 small businesses; each needs 8 addresses.
- The third group has 200 house hold; each needs 4 addresses.

Design the sub-blocks and give the slash notation for each sub-block. Find out how many addresses are still available after these allocations?

(b) Explain the network security requirements in detail. (5)

Q7 Write short note on the following (5,5)

- Email Security
- SNMP