Reg No.										

प्रज्ञानं ब्रह्म
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V SEMESTER B.TECH MAKE-UP EXAMINATION
Date: 14/12/2013

SUBJECT: COMPUTER COMMUNICATION AND NETWORKS (CSE 311)

TIME :3 HOUR MAX.MARKS :50

Instructions to Candidates

- ***Answer any 5 full questions.***

1A.What is the primary difference between connection-oriented and connectionless communication? Give one example of a protocol that uses (i) connection-oriented communication (ii) connectionless communication.
1B. Explain the relationship between the data rate and bandwidth considering three cases.
1C. Explain any three types of noise.
(2+5+3)

2A. Explain the physical description, transmission characteristics and applications of optical fiber with neat diagrams.
2B. Define channel capacity and mention the factors affecting channel capacity.
2C. With explanation encode the data sequence 01001100011 in pseudoternary and differential Manchester encoding techniques.

(5+2+3)

3A.What is the purpose of using modulo-2 arithmetic rather than binary arithmetic in CRC(Cyclic Redundancy check) process?
3B. Draw the shift register implementation for the given data D=1001 and the pattern (pre-determined number) P=1011.
3C. What do you mean by scrambling and give its purpose.
3D. A telephone modem is used to connect a personal computer to a host computer. The speed of the modem is 56kbps and the one-way propagation delay is 100 ms.Find the efficiency of Go-Back-N ARQ if three-bit sequence numbering is used with frame size of 256 bytes. Assume a bit error rate of 10^{-4}.
(2+2+2+4)

4A. Give example of a encoded digital signal with neat diagram where
(i) Data rate is equal to signal rate(baud rate or symbol rate)
(ii) Data rate is less than the signal rate(baud rate or symbol rate)
4B. List and briefly define some of the requirements for effective communications over a data link.
4C.Explain the frame structure of IEEE 802.11 with a neat diagram.

((1+1)+3+5)

5A. Explain how the statistical time division works with necessary diagrams.
5B. Explain Interframe spacing in 802.11 with neat diagram and give its importance.
5C. With neat diagram explain exposed and hidden station problem in wireless LAN's and how it is overcome?

(4+3+3)

6A. List and explain in brief the any three approaches to congestion control in networks.
6B.Give any four differences between virtual-circuit and datagram networks.
6C. Explain distance vector routing with respect to the network figure Q.6.Cgiven below. Also write the routing table at each node. Also mention the desirable properties which any routing algorithm should have.

(3+2+5)

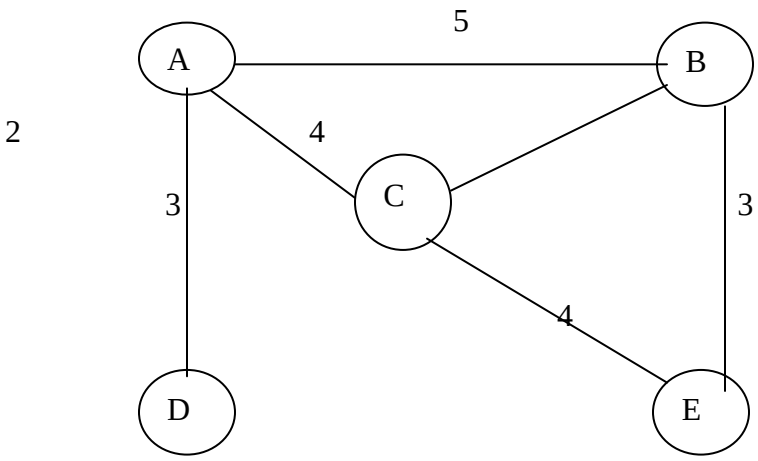

Figure Q.6.C

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