Reg. No.	

B.E. (Full Time) DEGREE END SEMESTER EXAMINATIONS, APR/MAY 2012

Electronics & Communication Engineering

Sixth Semester

EC9353 COMMUNICATION NETWORKS

(Regulation 2008)

Time: 3 Hrs. Maximum: 100 marks

Answer **ALL** questions

Part A – (10 x 2 = 20 marks)

1. For n devices in a network, what is the number of cable links required for a mesh, ring, bus and star topology?
2. What is the significance of twisting in twisted pair cables?
3. What is piggybacking?
4. What is the purpose of an NIC?
5. State the advantages of IPV6 over IPV4.
6. What is the difference between the delivery of a frame in the data link layer and the delivery of a packet in the network layer?
7. What is a proxy server and how is it related to HTTP?
8. What is transmission sequence number? What is its function?
9. What are the limitations of space division switch?
10. Why do we employ combination switching schemes such as TST?

Part B – (5 x 16 = 80 marks)

11.i. With a neat sketch, discuss the ISO-OSI reference stack. (8)

ii. For each of the following four networks, discuss the consequences if a connection fails.

a. six devices arranged in a bus topology
b. four devices arranged in a ring topology
c. five devices arranged in a mesh topology
d. seven devices arranged in a star topology (not counting the hub) (4)

iii. Compare the characteristics of radiowave and microwave transmission schemes. (4)

12a.i. Given a 10-bit message 1010001101, and a 6-bit divisor 110101, generate 5 bit check bits using CRC concept. At the receiver, the bit stream received is 101000110101010. Check if the code is received without error. (8)

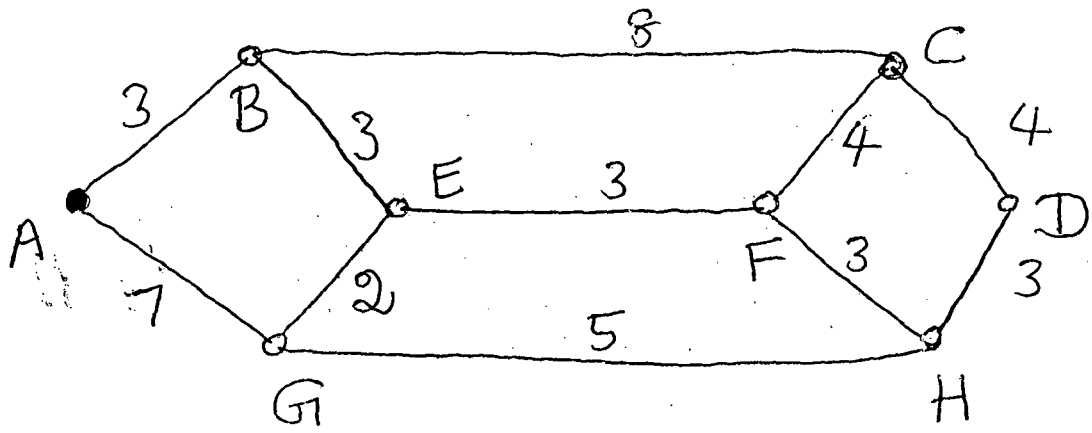
ii. With relevant flow diagram, and other related figures explain the concept of selective repeat ARQ scheme. (8)

(Or)

12b.i. Draw the flow diagram of Carrier Sense Multiple Access with Collision Avoidance and describe the concept(s) behind it. (8)

ii. What are the categories of standard Ethernet? Discuss in detail. (8)

13a. Explain the concept of Distance Vector Routing, Using the underlying principles, compute the routing table for node A.



(Or)

13b.i. Compare and contrast circuit switching, packet switching and message switching schemes. Also, compare their delay performance. (8)

ii. Explain IPV6 datagram format with suitable diagram. (8)

14a.i. Sketch the TCP segment format and discuss the details. (8)

ii. Explain the concepts of remote login and local login in TELNET. (8)

(Or)

14b.i. Discuss in detail SNMP. (10)

ii. Alice sends a message to a bank (Bob) and asks to transfer 10,000 rupees from her account to Ted's account. Alice later denies that she had sent this message. What can Bob do in such a situation? Justify your methodology. (6)

15a.i. Sketch the block diagram of a three stage space switch and derive the total number of cross points in the switch. (8)

ii. With a neat sketch, discuss the concept of Time Division Switch. (8)

(Or)

15b. Write short notes on

(i) No 4 ESS Toll switch (8)

(ii) Digital cross connect systems (8)

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