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ANNA UNIVERSITY
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
END SEMESTER EXAMINATION – OCT/NOV 2011
B.E. (ELECTRICAL AND ELECTRONICS ENGINEERING) – VI SEMESTER
EE9354 DATA COMMUNICATION & COMPUTER NETWORKS

Time : 3 Hours

Answer ALL Questions

Max. Marks : 100

Part A**(10 × 2 = 20)**

1. Compare message switching and packet switching.
2. Explain the operation of store-and-forward network.
3. How is the next hop address returned by the routing algorithm used?
4. Consider a router with three interfaces. Suppose all 3 interfaces use class C addresses. Will the IP addresses of the three interfaces necessarily have the same first 8 bits? Why?
5. How can machines agree on sequence numbers for two streams after only three message exchanges during connection establishment?
6. What is out of band data?
7. What is mutable field? Give examples.
8. Draw the frame format of the datagram using IPsec Encapsulating security Payload.
9. What are the two distinct forms of file sharing? Define them.
10. How does a client find a name server at which to begin the search? How does a name server find other name server that can answer questions when it cannot?

Part – B**(5 X 16 = 80)**

11 i) Explain the following in detail:

- i) Different aspects of protection of Information security. (6)
- ii) Packet-Level Filters (5)
- iii) Firewall Architecture (5)

12.a) i) Explain CRC generator & CRC checks in detail with one example. (8)

12.a)ii) Explain sliding window protocol using go back n. (8)

(OR)

12.b) What are the three major problems transmission lines suffer? Explain them. How are these problems handled (Explain Modem technology in detail)? (16)

13.a) i) Describe in detail with respect to TCP “Karn’s Algorithm and Timer Backoff” and “Responding to High Variance in Delay”. (10)

13.a)ii) How is congestion control achieved in TCP? (6)

(OR)

13.b) i) Discuss silly window syndrome avoidance. (8)

13.b)ii) Draw the TCP finite state machine (for connection establishment and closing). (8)

14.a) i) Explain FTP process model with sketch. (8)

14 a)ii) What are the three basic services TELNET offers? Sketch the path of data in a TELNET remote terminal session. (8)

(OR)

14.b) i) Explain uses of HTTP headers for client and server negotiation. (8)

14 b)ii) Discuss Alias Expansion and Mail Forwarding with sketch (8)

15.a) i) Assume four networks 10.0.0.0, 20.0.0.0, 30.0.0.0 and 40.0.0.0 are connected serially using 3 routers Q,R and S. Draw the network and their interconnection details. Make your own assumption about IP addresses to the devices. Give the routing tables used by the routers and the nodes. (10)

15.a) ii) Draw the format of an Internet Datagram. (6)

(OR)

15.b) i) Write the IP Routing Algorithm. (8)

15.b) ii) Explain Internet Datagram options (8)

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