R 8210

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2006.

Sixth Semester

Computer Science and Engineering

CS 339 — COMPUTER NETWORKS

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Name the different types of services and give an example for each.

2. What is token management?

3. Write the protocol for data transmission in one direction only.

4. Give the frame format for bit-oriented protocols.

5. Differentiate virtual circuits and datagrams (atleast two points).

6. What is flooding?

7. Define any 2 states used in the TCP connection management.

8. What is a socket? Name any 2 parts.

9. Differentiate cryptanalysis and cryptology.

10. What is M Bone?

PART B — (5 × 16 = 80 marks)

11. (a) Explain the OSI reference model based on the functionality of the different layers.

Or

   (b) (i) Explain the TCP/IP reference model.   (10)

        (ii) Explain about various switching techniques.   (6)

12. (a) (i) Explain the working of sliding window protocol of size 1 with a 3 bit sequence number. Give the corresponding diagram. (6)

(ii) Explain how pipelining can be implemented with respect to sliding window protocol. (6)

(iii) If the frame to be transmitted is 1101011011 and generator is 10011 find the frame that would be transmitted. (4)

Or

(b) Explain the HDLC and data link layer in the Internet.

13. (a) (i) Explain the working of distance vector routing and hierarchical routing. (8)

(ii) Apply shortest path routing and find the path from A to D. (8)
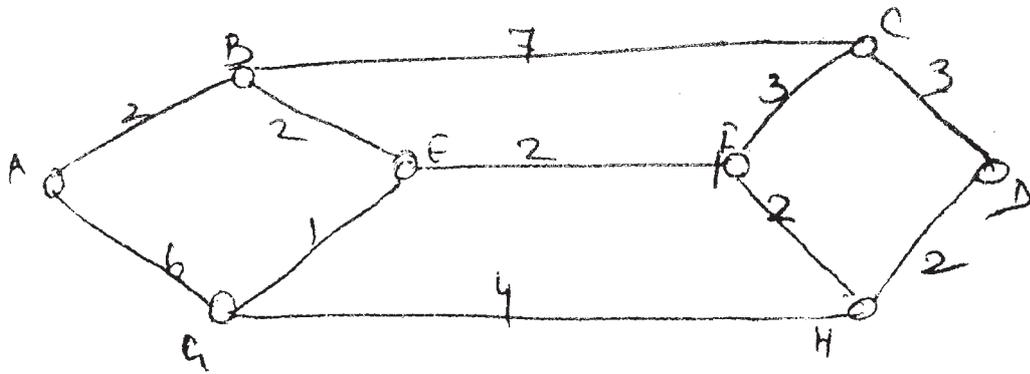
Or

(b) Explain the following : (4 × 4 = 16)

(i) Tunneling

(ii) Fragmentation

(iii) ICMP

(iv) IP options.

14. (a) (i) Explain the TCP segment header. (8)

(ii) Explain the silly window syndrome. (8)

Or

(b) (i) Explain the TCP transmission policy. (8)

(ii) Explain the UDP header. (8)

15. (a) (i) Explain substitution and transportation ciphers. (6)

   (ii) Explain the DNS with respect to the name space, resource records and name servers. (10)

Or

   (b) (i) Explain the built-in HTTP request methods. (5)

   (ii) Explain any four HTML tags with an example. (6)

   (iii) Explain how compression can be achieved. Give an example. (5)

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