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08SCS23

Second Semester M.Tech. Degree Examination, Dec.09/Jan.10
Computer Networks

Time: 3 hrs. Max. Marks:100

Note: ***Answer any FIVE full questions.***

1 a. Discuss briefly the computer network, and design requirements. **(10 Marks)**

b. List and explain the various APIs used to interface operating system to networking subsystems. **(06 Marks)**

c. Consider a point to point link 50 km in length, at what bandwidth would propagation delay (at a speed of 2×10^8 m/sec) equal transmit delay for 512 byte packets. **(04 Marks)**

2 a. Explain NRZ, NRZI, Manchester and 4B/5B encoding methods. Discuss their advantages and disadvantages. **(10 Marks)**

b. Give the complete algorithm for cyclic redundancy check (CRC) generation and verification. **(06 Marks)**

c. Explain the HDLC frame format and also explain bit stuffing technique. **(04 Marks)**

3 a. Explain how token ring maintenance is done for token ring network. **(06 Marks)**

b. Explain the virtual circuit switches, with reference to the following set up when host A wants to send packets to host B. Show the virtual table entries for the concerned switches. ref. Fig.Q.3(b). **(10 Marks)**

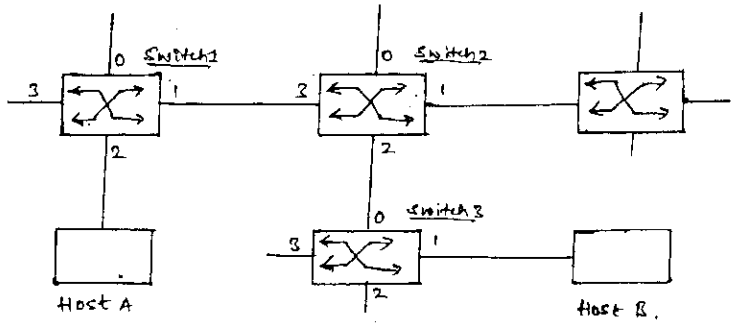

Fig.Q.3(b)

c. Briefly explain the packet formats of AAL ¾ and AAL 5 protocols of ATM. **(04 Marks)**

4 a. Explain with an example; how IP handles fragmentation and reassembly of packets. **(08 Marks)**

b. Consider the network in Fig.Q.4(b). Using distance vector routing, find the final routing table at node A, explain the steps. **(06 Marks)**

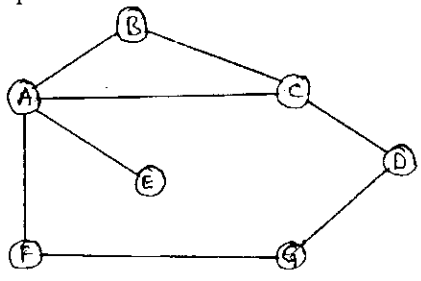

Fig.Q.4(b)

c. Explain the packet format of IPV6 **(06 Marks)**

...at is ARP? Why is it needed? Explain format of ARP packet and describe how ARP ...ations on the internet. **(10 Marks)**

...scribe TCP header format and explain TCP connection management with state transition ...gram. **(10 Marks)**

...ain in detail random early detection mechanism of congestion avoidance, discuss merits ...demerits. **(10 Marks)**

...at is the difference between congestion control and flow control? Describe additive ...rease multiplicative decrease method of TCP congestion control. **(10 Marks)**

...at is DNS? Explain how name servers are used in the name resolution process. **(10 Marks)**

...ain how HTTP is used to communicate between web browsers and web servers, discuss ...tail HTTP request and response message. **(10 Marks)**

...te short notes on:

...ay networks

...ing window protocol

...S (Quality of Service)

... **(20 Marks)**

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