

BITS, Pilani-Dubai,Campus

Knowledge Village,Dubai

III Year SECOND Semester 2005-2006

Degree:B.E.(HONS) Branch:C.S.E

COURSE NO. : CS UC461

COURSE TITLE : Computer Networks

Time :30 mts

Date : . Marks: 15 quiz2

Answer all the questions . Closed book. All questions equal marks

Q1.How a IP datagram is converted into a frame by Ethernet ?(Draw the information for a full frame)

Q2.Justify the need for a ARP in Ethernet ?

Q3.What is the difference in gateway and router ?

Q4.What is the main difference in random access protocol and taking turns protocol in MAC?

Q5.What are the two main differences between datagram packet switching and cell switching ?

Q6. What is meant by statistical multiplexing in ATM?

Q7. What are two main advantages of packet switching compared to circuit switching?

Q8. Using AAL5 show a situation where we need

- a) zero bytes (no padding)
- b) 40 bytes padding
- c) 47 bytes padding

Q9. Calculate the efficiency of transmission at the IP level for a packet of 1024 bytes when the whole datagram is carried by ATM cells using AAL5.

Q10. Justify why ATM switch chooses a packet type of 53 bytes rather than choosing a smaller size or bigger size than 53 bytes?

Q11. Assume that I want to transfer a packet size of 106 bytes using AAL5 layer. In that case how many padding bytes have to be added?

Q12. What is the percentage overhead in transferring 94 bytes of data via AAL1 layer ?

Q13. What are the activities done by the ATM layer of ATM switches ?

Q14. When establishing communication between different lans Lan1, and Lan2 using hub or bridge what is the difference in collision domain ? justify with a diagram.

Q15. Assume that the link speed is 100 Mps. Assume that you want to queue and send a packet via cell switches. Assume that the transmission of low priority cell from the queue starts just before a high priority packet starts entering the queue. What is the waiting time for a high priority packet compared to a low priority packet in case a cell contains 4K bytes and a cell that contains 53 bytes.

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Time :50 mts

Date : 26-2-2006

Marks: 24 Test1

Answer all the questions . Closed book

Q1. With relevant examples outline any three different applications of computer networks.(3M)

Q2. Outline any three network topologies and compare their relative merits and demerits.(3 M)

Q3a) Outline the different layers in the OSI reference model stating clearly the function of each layer (3 M)

b) Outline what is meant by congestion control.(3M)

Q4. Assume that there are interconnection of three networks formed using 1. Bus topology, 2. ring topology and 3. bus topology via routers. Let there be a router at the junction of networks 1 and 2 and networks 2 and 3. Outline clearly how a packet is routed between a computer of network 1 to another computer of network 3 using network and physical addresses. Make necessary valid assumptions.(6)

Q5. Using relevant diagrams outline the steps involved in TCP socket communication between a web browser and web server applications running on different computers across the internet.(6)