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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY WAKNAGHAT

MAKE-UP EXAMINATION (APRIL 2018)

B.Tech 6th Sem. (ECE)

COURESE CODE: 10B11EC611 MAX. MARKS: 25

COURSE NAME: Telecommunication Networks

COURSE CREDITS: 4 MAX. TIME: 1 Hr.30 Min.

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q1. Describe the need for switching and define a switch. Compute the delays of circuit switched network, datagram network and virtual circuit network with diagrams. What is Clos criteria and why is it required? **(1.5+2+1.5=5)**

Q2 (a). Discuss in detail the working of synchronous and statistical time division multiplexing (TDM). **(3)**

Q2 (b). In figure 1, computer A sends a message to computer D via LAN1, router R1, and LAN2. A process with port address i is running at computer A and a process with port address j is running at computer D. Show the contents of packets and frames at the transport layer and data link layer for each hop. **(2)**

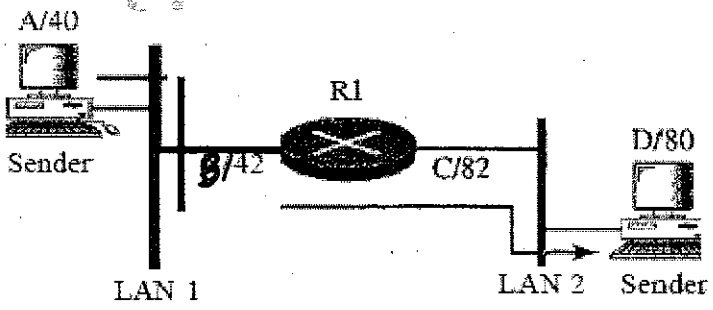

Figure 1

Q3 (a). Given the dataword **1010011110** and the divisor **10111**,

a. Show the generation of the codeword at the sender site.

b. Show the checking of the codeword at the receiver site (assume no error). **(2+1=3)**

Q3 (b). Discuss the working of Checksum method with an example. **(2)**

Q4 (a). Discuss in detail the working of Go-back-N ARQ and Selective repeat ARQ protocols. And compare these also. **(4)**

Q4 (b). Define piggybacking and its usefulness. **(1)**

Q5 (a). Discuss and compare the working of ALOHA and Slotted ALOHA protocols using their frame transmission, flow chart, vulnerable time, throughput etc. **(3)**

Q5 (b). A common channel has to be accessed by multiple users. How can it be achieved using Controlled Access method? **(2)**