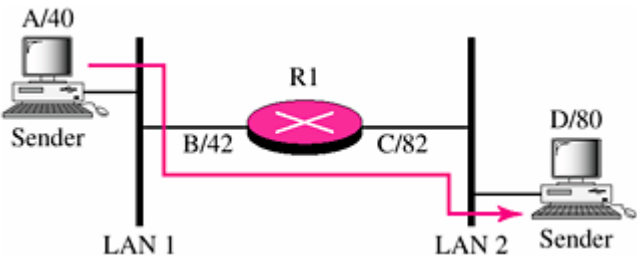
	B.M.S. COLLEGE OF ENGINEERING, BANGALORE-19 (Autonomous Institute, Affiliated to VTU)		
Computer Science and Engineering			
Course Code : 20CS5PCCON		Course Title : Computer Networks	
Semester : V		Maximum Marks: 40	Date: 21/10/2020
Faculty Handling the Course:		Prof. Lohith J J, Dr. Kavitha Sooda	
Instructions: i) <i>Answer all Part A and Part B Questions</i> ii) <i>In Part C - Answer 3a or 3b and 4a or 4b</i>			

PART –A (5 marks)

No.	Question	Marks	CO
1	Differentiate between OSI Model and TCP/IP Protocol suite and specify how the data movement is termed in different layers	5	1

PART –B (15 marks)

No.	Question	Marks	CO
2a	<p>Analyze the signal which is carrying data in which one data element is encoded as one signal element . If the bit rate is 1000 kbps, what is the average value of the baud rate if c is between 0 and 1?</p> <p>In a digital transmission, the receiver clock is 0.1 percent faster than the sender clock. How many extra bits per second does the receiver receive if the data rate is 1 Mbps?</p>	5	1
2b	<p>In the below Figure ,</p> <p>Case A) Assume that the communication is between a process running at computer A with port address i and a process running at computer D with port address j</p> <p>Case B) Computer A sends a message to computer D via LAN1, router R1, and LAN2.</p> <p>Identify the contents of packets and frames at the network, data link, and transport layer for each hop for both the case.</p> 	5	1
2c	<p>Apply 2B1Q Multilevel scheme and MLT3 to obtain the timing diagram for the input sequence 11011100.</p>	5	C02

PART –C (20 marks)

No.	Question	Marks	
3a	Construct the signals for the stream 1100111100 using Differential Manchester, AMI, MLT-3, NRZ-I, NRZ-L.	10	1
OR			
3b	Design two channels, one with a bit rate of 190 kbps and another with a bit rate of 180 kbps, are to be multiplexed using pulse stuffing TDM with no synchronization bits. For the above scenario calculate the size of a frame in bits, the frame rate, duration of a frame, the data rate and also specify the need for pulse stuffing in this scenario.	10	2
4a	Design normalized PAM values, normalized quantized values, normalized error quantization code, and encoded words for the following frequency samples: 14, 16, 12, 4, -5, -12, -15, 8 and plot the graph for normalized amplitude. Assume $L=8$, Max:+20V, Min:-20V.	10	2
OR			
4b	Given the dataword 10100111 and the divisor 10111 in CRC(12,8) a) Design the generation of the codeword at the sender site (using binary division). b) Design the checking of the codeword at the receiver site (assume no error). c) Design the checking of the codeword at the receiver site (assume one bit error in any position)	10	2