

Department of Electrical Engineering
Assignment 3
Date: 26/06/2020

Course Details

Course Title: Data and computer communication Module: 6
Instructor: Engr. Zulvurnam Total Marks: _____

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Q4, Part 1

Ans: Given data

$$S = 1000$$

$$N = 8000$$

and r and L are unknown. we find first. The value of r then the value of L

Formula

$$S = N \times r$$

$$r = \frac{N}{S} = \frac{8000}{1000} = 8 \text{ bit / bit second}$$

$$r = \log_2 L = L = 2^r$$

$$2^8 = 256$$

$$\boxed{256}$$

Q4 Part 2

Ans Solution

A normal speed when the sender and receiver loads are same. The sender

would send 1,000,000 bte per second. But since the sender clock is 0.3 percent faster than the receive clock the data rate would be faster and the sender will be able to send 1,003,000 bte per second now.

Q 1

Ans. The receiver bandwidth is related to the bit rate and the modulation order. $f \Rightarrow 1/d$ is so that the double sided bandwidth $w =$ symbol rate $=$ bit rate $|v_b|$ divide by the number of bit per symbol. The number of bit per symbol is $= \log_2 m$ where m is QAM modulation order. So the bandwidth $w = |v_b| \log_2 m$

~~Q1 part A~~

Q1 part B

Ans. service / Protocol.

The is a complicity of foundation that is provide by one program or machine of another Protocol is (computing) a set of formal or exchange how to. turn is or. exchange especially over network.

⇒ service and protocol discussion on computer network.

A network is a set up with protocol is hereby the divide the communication task into several layer is a set of rules for communication with a layer A so service is what the layer provide to the layer above it through in interface protocol at one layer network of issue another layer.

Q 5

Ans

You have received a 7 bit
Hamming code is 1011 011 As
1 which means the error is there
and if it is even then the value
of parity bit is 0 which means to
detect whether there are any
error in this receive hamming code.

Q2)

Ans. Protocol Analysis.

Protocol Analysis (PA) use verbal
description of through process and
task to generate data about a
given scenario or cognitive act. The
primary technique used in protocol
analysis to ask subject to think
aloud while performance a task.

Protocol analysis is a psychological research method that elicits verbal reports from research participants.

Protocol analysis is used to study thinking in cognitive psychology (Crutcher) 1994 - cognitive science (Simon and Kaplan 1989) and behavior analysis (Austin and Delany 1998) - Cero and McNeill 1998.

Q2 Part 1

Ans. In telecommunication and data storage Manchester code also known as phase encoding or PAF is a line code in which the encoding of each data bit is either low then high or high then low for equal time. As a result electrical connection using a Manchester code are easily galvanically isolated.

Manchester coding is a special case of binary phase-shift (BPSK), where the data control the phase of a square wave carrier whose frequency is the data rate.