Question # 01 Part : A

Answer # The required bandwidth is realated to bit rate and the imulation order on.

* Id, is so that the divided - side bandwith

→ Symbol rate =

bit rate v/s divide by the number of bit per Symboln.

The number of bit per Symbol is = logam with M is = QAM modulation so the band-with. is

(*) w = v/s / logam.

Question = 01 Part (B)

Answer: Service Protocol

This is a computing a function that is provide by one program or machine for another protocol is (computing) a set of formal rules describing how to transmit or exchange data espically across the network.

*) Service of Protocol Discussion on Com / Network.

⇒

① Network is a set up with protocol is hevechy the divide the communication task into several layer. A protocol is a

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Set of rules for communication with-in a layer. a Service is the layer provides to the through in interface protocol at one layer universe issues at another layer.

Question = 02.

Answer = 02.

→ Formal Analysis (Verification) of Network.

Today internet is beganing increasing Complexes and fragile Current performance Centric techniques on network analysis and runtime verification have been inadequat in development of robust network.

(*) This talkes survay working on recent formal analyses techniques to aid design implemination and analysis of network protocol.

* There are four representative Case studies to present classification and taxonomy techiques such as (Meta routing) use alomatic formulation and allay based Analysis.

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⑧ Foumal Method use for protocol.

The formal method a particular kind of mathmatical based techinques that improve network Software Qualities with generated - Corrected.

(1) Addressing.
(2) Routing
(3) forwarding.

*) **Addressing:-**

Take is to prove target addressing schemes Continious to Provide nodes of network.

*) **Routing:-**

to verify BGP can efficently discover loop free rating Paths.

*) **forwarding:-**

To address various architetural ~~Invert~~ inveriants and fowarding operations.

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Question = 04 Part (A)

Answer = 04

→

Data

S = 1000

N = 8000

R and L are unknown. first find the value of R and then find the value of L.

formula = $S = N \times 1/R$

$$R = \frac{N}{S} = \frac{8000}{1000} = 8 \text{ bit / baud}$$

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

$$\boxed{2^8 = 256}$$

Question = 04 Part (B)

Answer = 04

The Normal Speed of the sender and receiver clock or same. whe the sender will send 1000,000 bides per sceond But since the sender clock is 0.3% faster then a receiver. So the data rate will be faster. and the sender will be able To send 1003000 bites per sceond now in this Saturation. .

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Question :05

Answer :05

we have received A 7.bit which hamming Code is 1011011 as (1) its mean's the error is there. and its even. So the value of parity bit is (0) its 'mean to detect wheather there are any errors in this receiver hamming Code.

$2^r - 1 \geq = m + k$, $2^3 - 1 \geq = 4 + 3$, $7 = 7$.

C_1 : 1011 → add

C_2 : 1001 → Even

C_4 : 1101 → odd.

Bit error = 1 + 4 = 5

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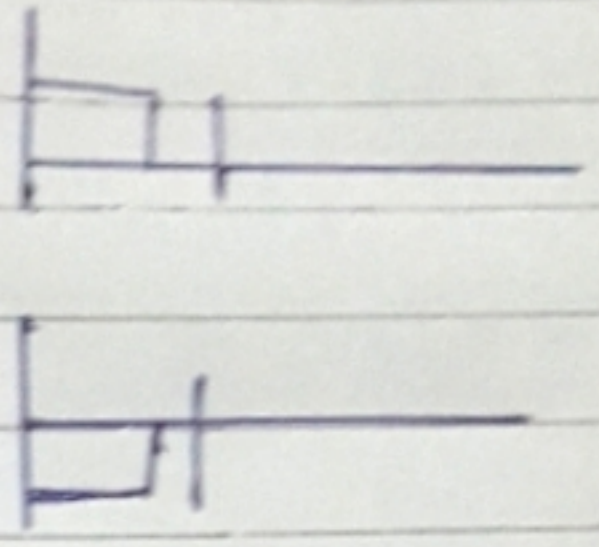
Question = 03 (A)

Answer = 03

Sequance 1 → 

0 →

01001101

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Question : 03 Part / B1

Answer : 03) Sequence 0111101100 using 8.B.E.

	Previous level +	Previous negative
Bits	Positive Level	Negative Level
00	+1	-1
01	+3	-3
10	-1	-1
11	-3	-3