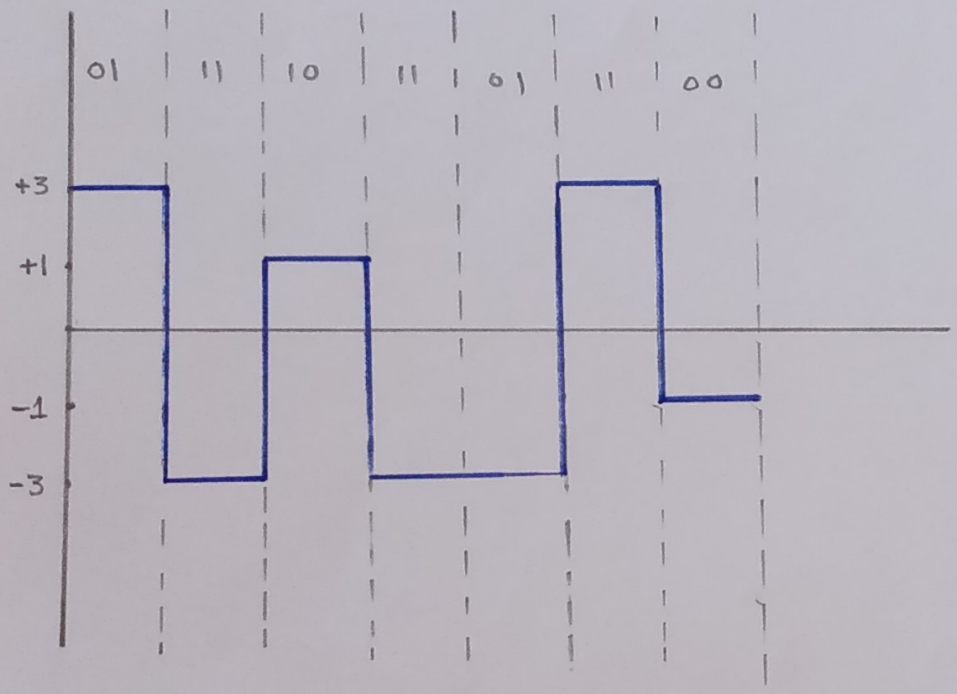
Ans ③

Part ⓑ : Draw the line code of sequence 01111011011100 by using 2B1Q

Sequence = 01111011011100

	previous level positive	previous level negative
Bits	positive level	Negative level
00	+1	-1
01	+3	-3
10	-1	+1
11	-3	+3



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Ans ①

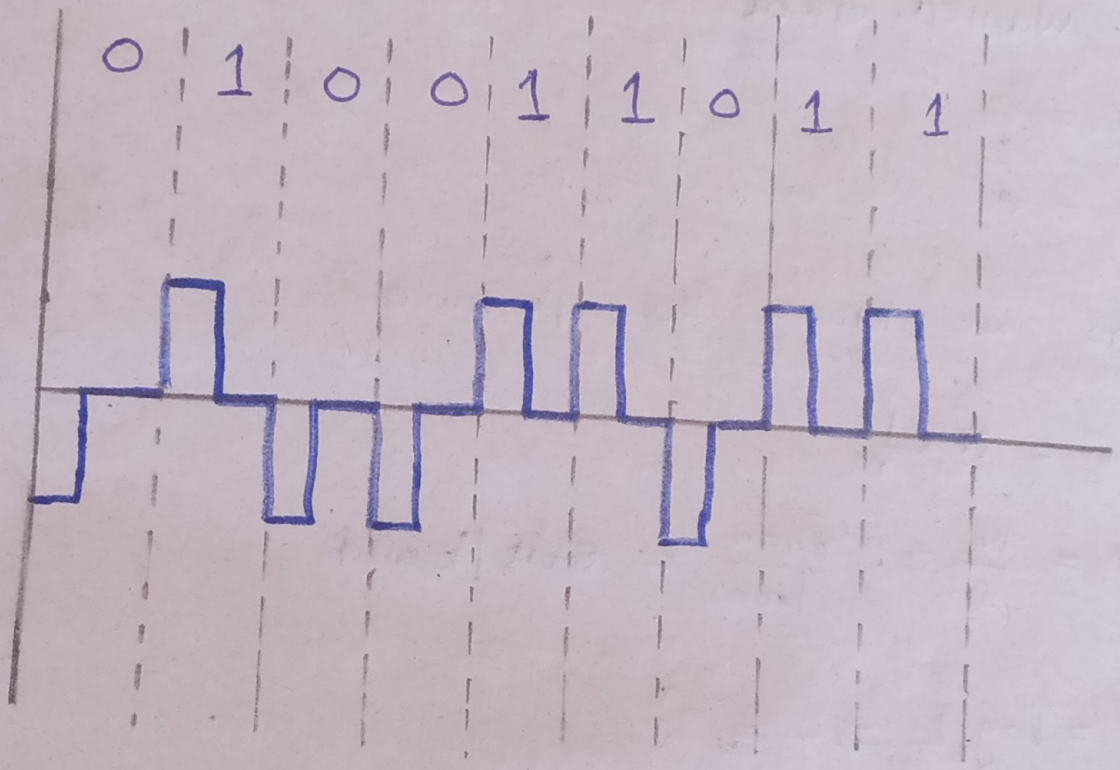
Part ① :

Sequence :

0 1 0 0 1 1 0 1 1

1 →

0 →



Ans 4

Part (1) &

Given data

$S = 1000$

$N = 8000$

Wanted data

$r = ?$

$L = ?$

As we know the formula

$$S = N \times \frac{1}{r}$$

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

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

Put values

$$L = 2^8 \Rightarrow 256$$

So

$$\boxed{L = 256} \Rightarrow \text{Ans}$$

Ans 4

(b) In normal speed when sender and e reciever clock are same, The sender would send 1000,000 bites per second but the sender clock is 0.3 per fast than receiever data double will be and sender will be able to send 1,003,000 bites per second.

Ans

Part (b) :

Service:

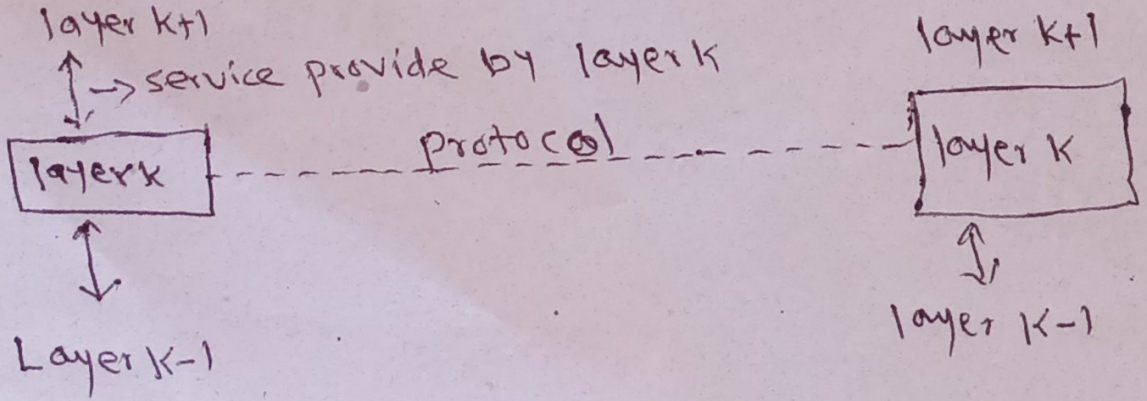
=> A service is a set of primitives (operation) that a layer provides to the layer above it.

=> A service defines what operation the layer is prepared to perform but cannot tell how they will be performed.

Protocol:

A protocal is a set of rules govering the format and meeting of the packers are message that are exchanged by the peer entries with in a layer.

Service to protocal Relationship:



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⇒ Internet transfer of individual block of information

→ Internet reliable transfer of stream of byte

→ Real time transfer of voice signal.

→ Email and web build on reliable stream service

→ Sms build on internet reliable stream service and cellular telephone text.

→ The overall communication process between machine connected across one or more networks is very complex

→ laying partition related communication functions into groups that are managable.

→ Eeach layer provide a service to the layer above

→ Each layer opearation according to protocol.

Ans (1)

(a):

The required bandwith is related to bit rata and the madulation order M. it is so that double sided bandwidth

⇒ w = sybol , rate = bit

⇒ rate/divide by number of bit per symbol symbol n.

⇒ number of bit per symbol n is $\log_2 m$ with n—@Am madulation.

order so bandwidth = $w = rb/\log_8 m$

Ans 5

The received data is 1101101

$2^K - 1 >= m + k$, $2^3 - 1 > 4 + 3$, $7 = 7$

$C_1 = 1011 \rightarrow$ odd

$C_2 = 1001 \rightarrow$ Even

$C_4 = 1101 \rightarrow$ odd

Bit error $= 1 + 4 = 5$

The correct data is 1001011

Q2:

Ans: Formal Analysis Techniques:

Now adays internet becoming fastly complex and fragic, current performance centrix techniques on network analysis and runtin verification have been in development of robust network. This talk surveys working on recent formal analysis techniques to aid in design, implementation and analysis of network protocol These are four representative case, studie to present classification and Taxonomy of techniques such as (meta routing, Vccs. aximative formulation and alloy bassed analysis

=> Formal method used for protocol:
Formal method are particular kind of mathimatical based techniques that improve network software egalities with guronted correctness.

① Addersing:
Task is to prove target addersing schemes continous provide valid nodes of network.

② Routing:
To verify BGP can efficiently discover loop free rating path.

③ Forwarding:
To adress various architectrual invariant & forwarding operation.