

**Department of Electrical Engineering
Assignment**

Date: 07/05/2020

Course Details

Course Title: Computer Communication Network

Module: _____

Instructor: _____

Total Marks: _____ 20

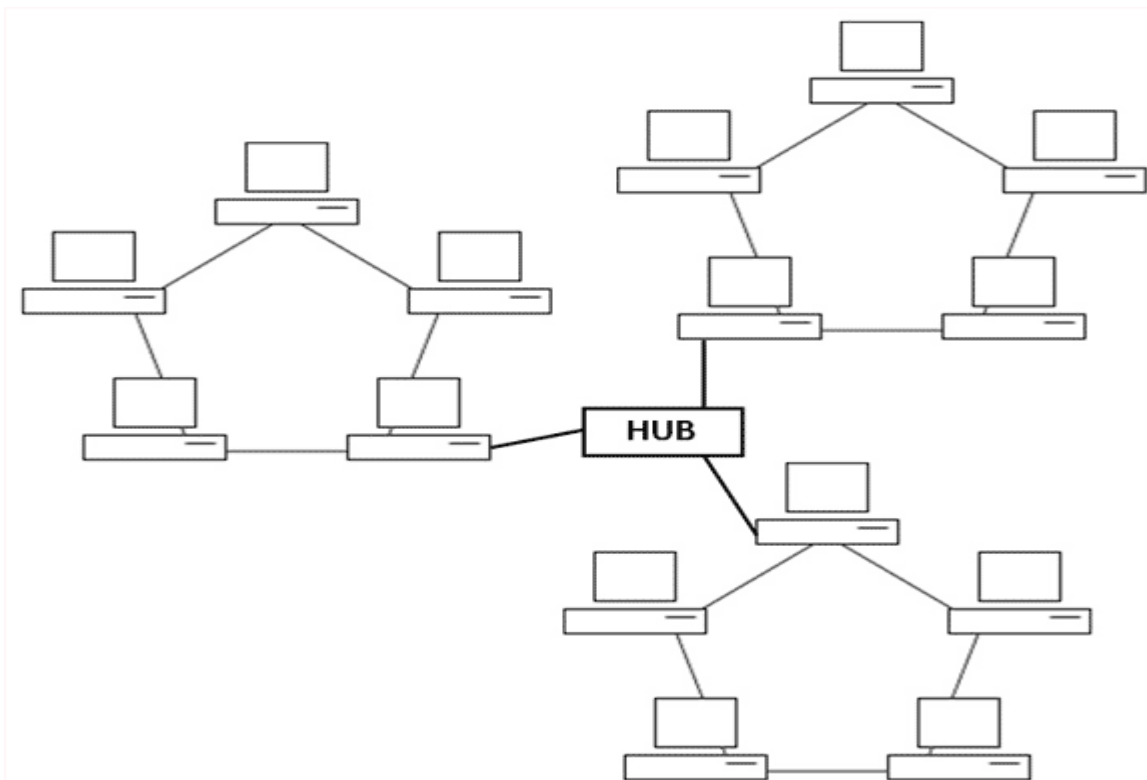
Student Details

Name: ABDUL BASIT

Student ID: 13684

Q1.	(a)	Draw a hybrid topology with a star backbone and three ring networks also simulate the topology in Opnet.	Marks 4
			CLO 1
Q2.	(a)	Suppose a computer sends a frame to another computer on a bus topology LAN. The physical destination address of the frame is corrupted during the transmission. What happens to the frame? How can the sender be informed about the situation?	Marks 4
			CLO 1
Q3.	(a)	Suppose a computer sends a packet at the transport layer to another computer somewhere in the Internet. There is no process with the destination port address running at the destination computer. What will happen?	Marks 4
			CLO 1
Q4.	(a)	Match the following to one or more layers of the OSI model: a. Reliable process-to-process message delivery b. Route selection c. Defines frames d. Provides user services such as e-mail and file transfer	Marks 4
			CLO 1
Q5.	(a)	Draw the graph of the NRZ-L, NRZ-I and Manchester scheme using each of the following data streams, assuming that the last signal level has been positive. From the graphs, guess the bandwidth for this scheme using the average number of changes in the signal level. a. 00000000 b. 11111111 c. 01010101 d. 00110011	Marks 4
			CLO 2

Q1(a) Draw a hybrid topology with a star backbone and three ring networks also simulate the topology in Opnet.



Answer

①

Question 2(a):-

Answers:-

If the corrupted destination address does not match any station address in the network, the packet is lost. If the corrupted destination address matches one of the stations, the frame is delivered to the wrong station. In this case however, the error detection mechanism available in most data link protocols, will find the error and discard the frame.

Question 3(a):-

Answers:-

Most protocols issue a special error message that is sent back to the source in this case.

(2)

Question 4(a):-

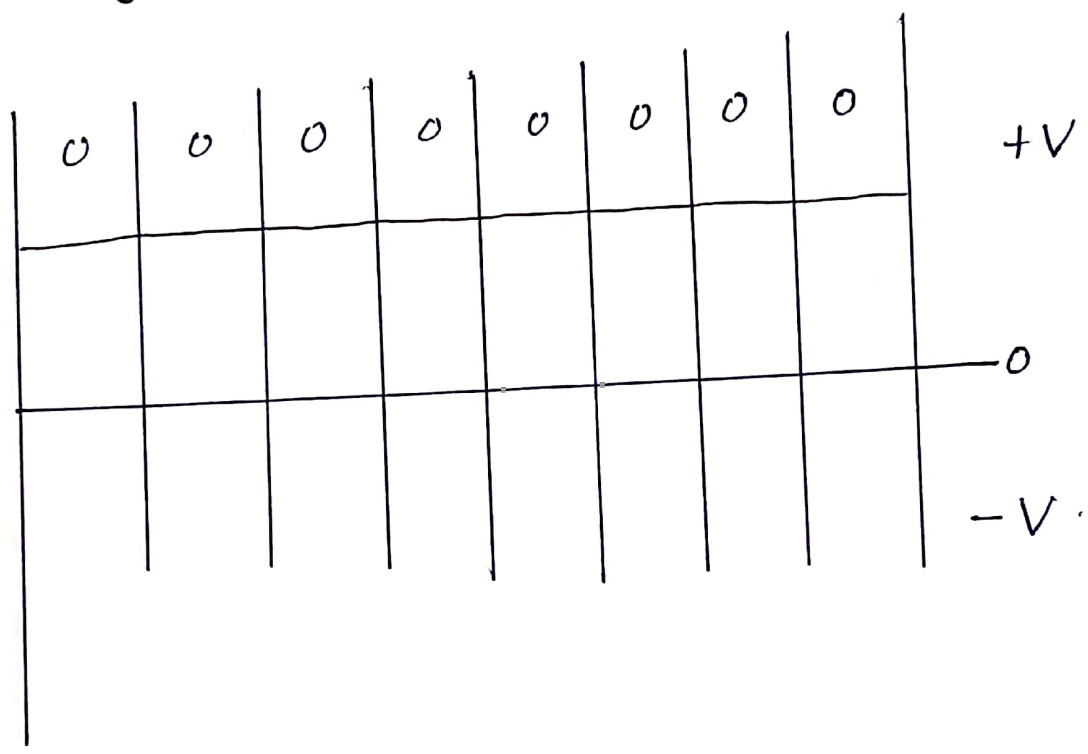
- (a) Route determination → Network layer
- (b) Flow control → Transport layer
- (c) Interface to transmission media → Physical layer
- (d) Provides access for the end user → Application layer.

NRZ-L

0 changes in one

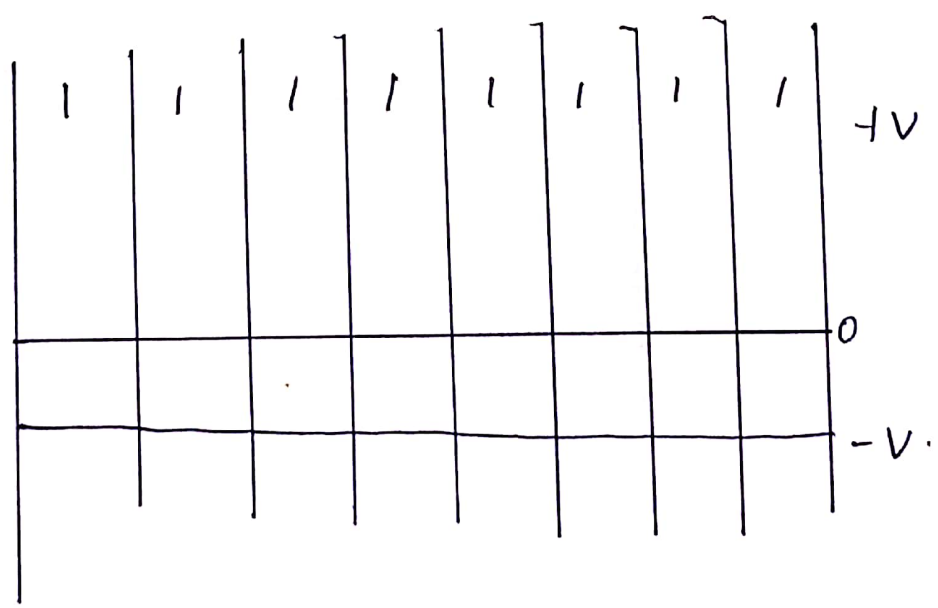
1 changes in zero.

(a)



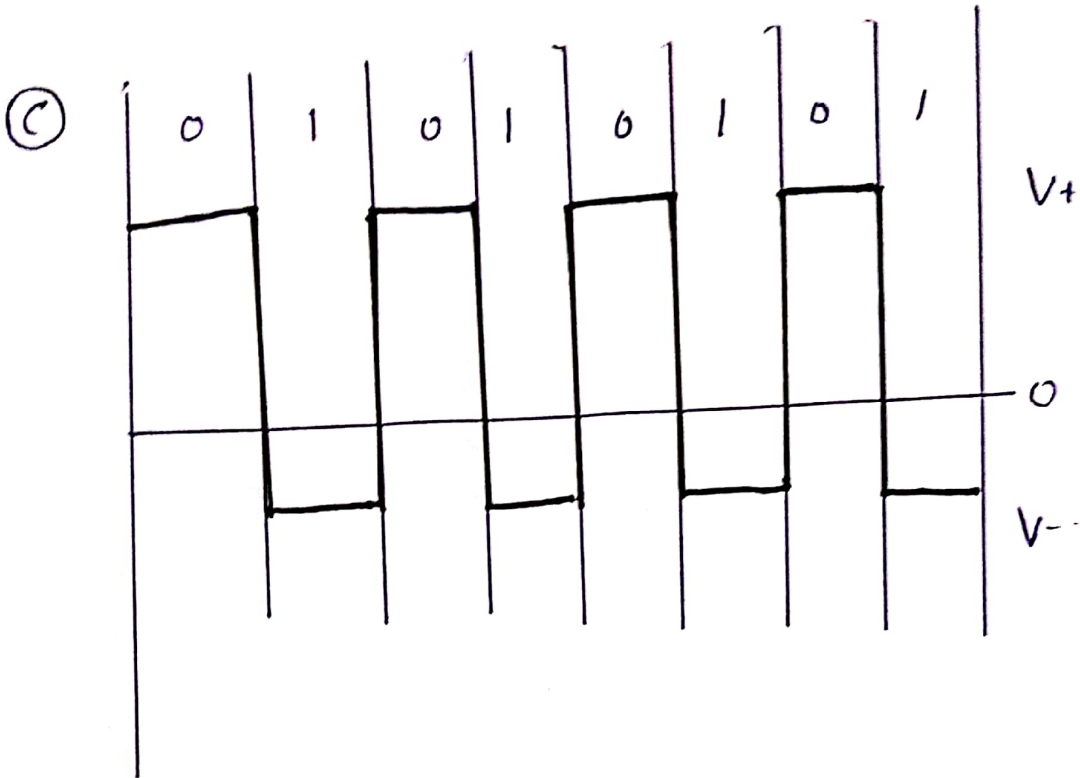
The last signal is positive.

(b)

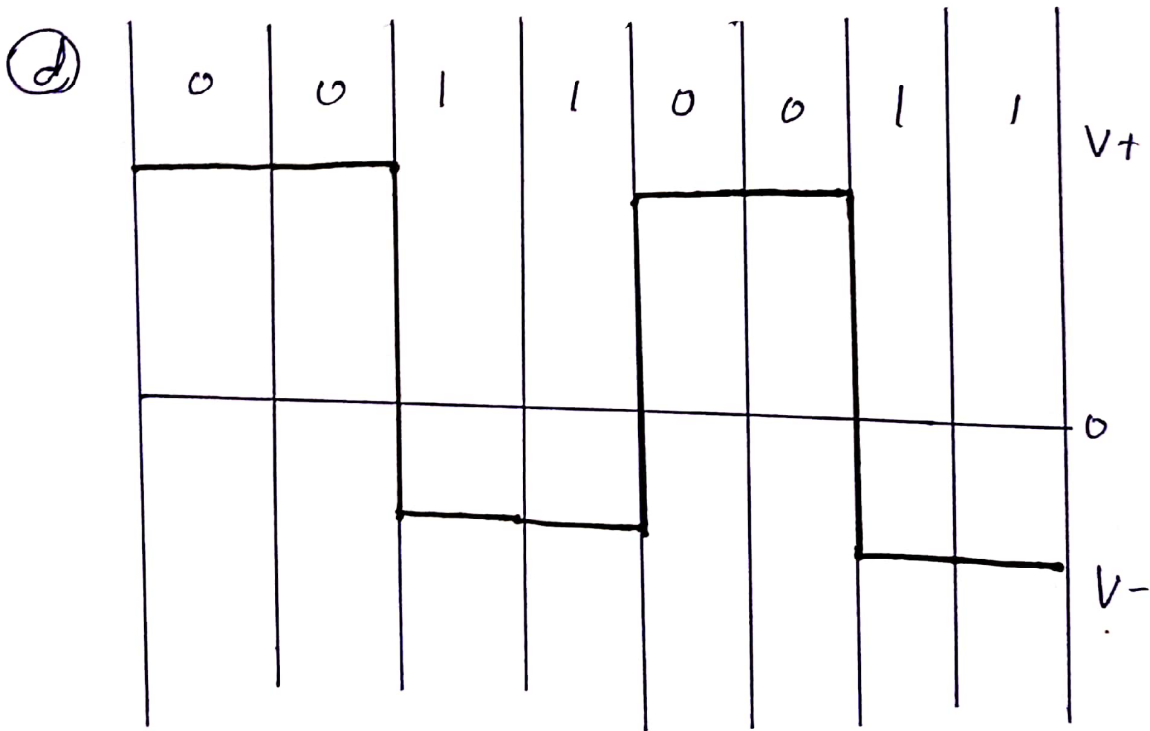


The last sig -ve due to change to zero.

(4)



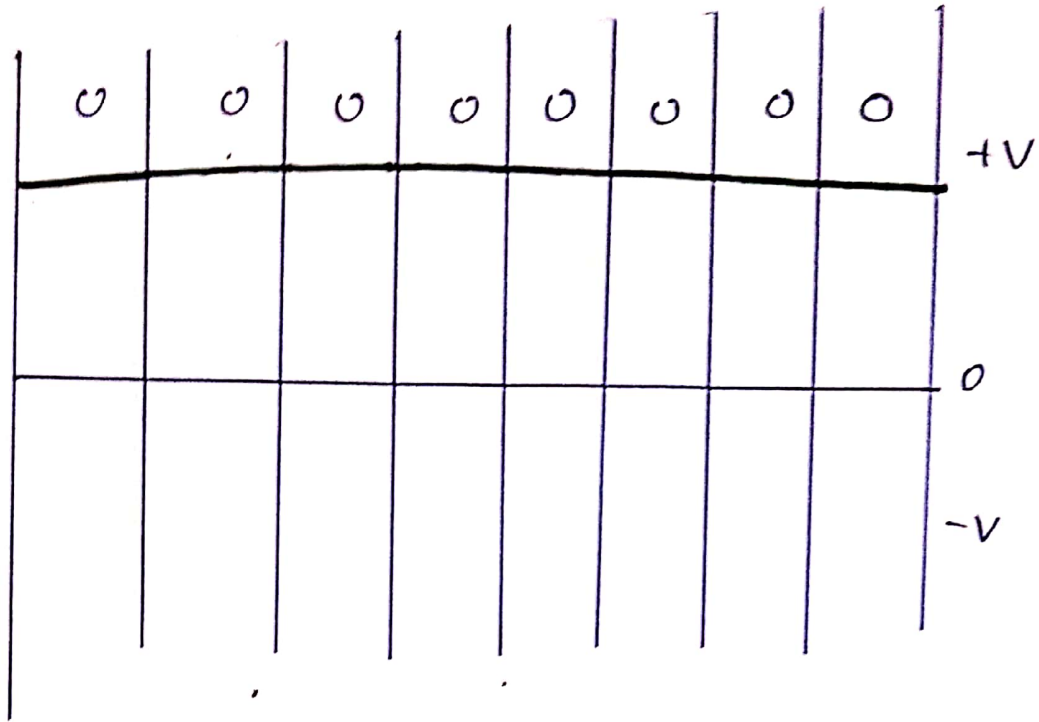
The last signal -ve due to changes.



The last signal -ve due to changes.

NRZ-I

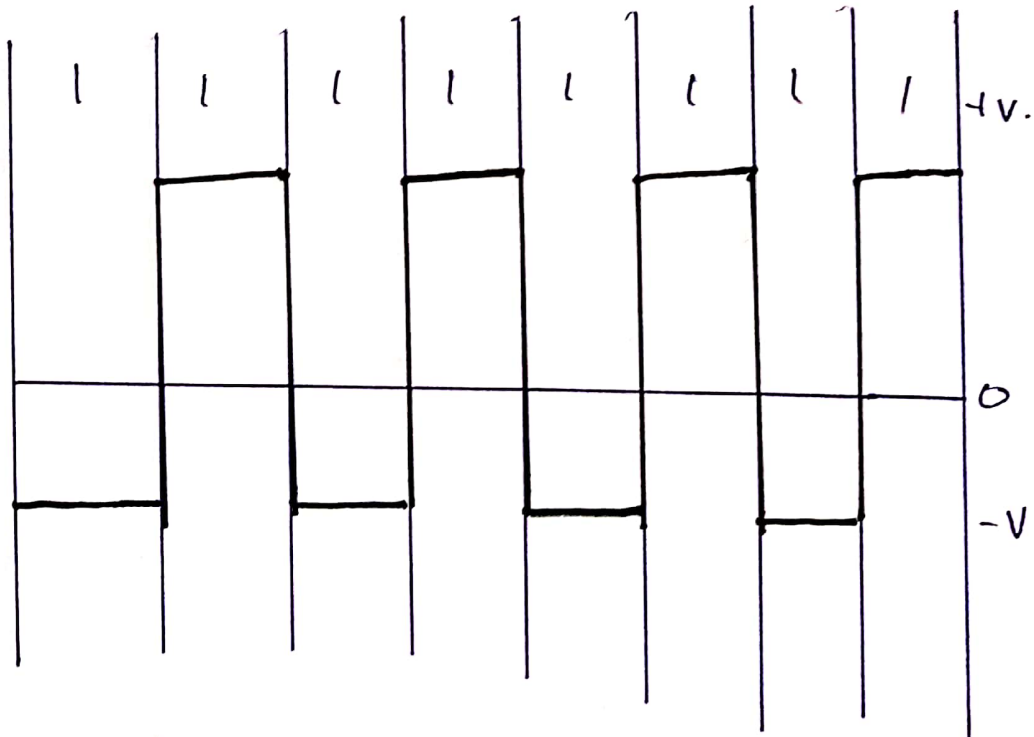
(a)



last signal positive.

if 1 - transition occur
 0 - No transition occur.

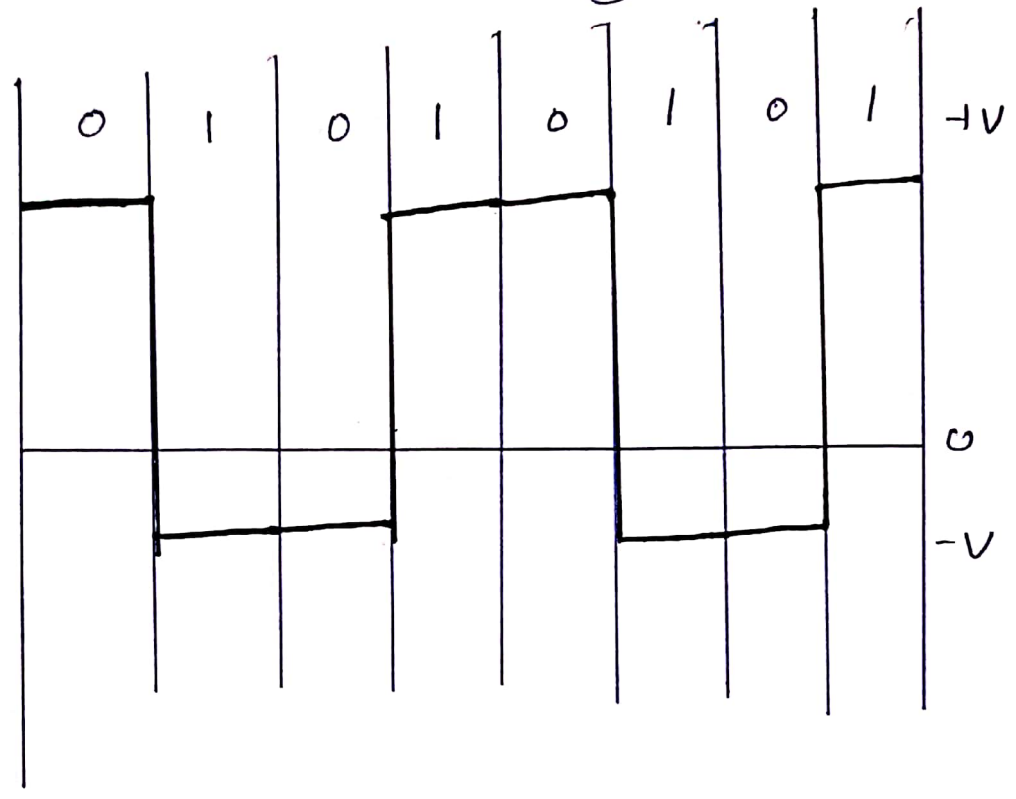
(b)



last signal positive.

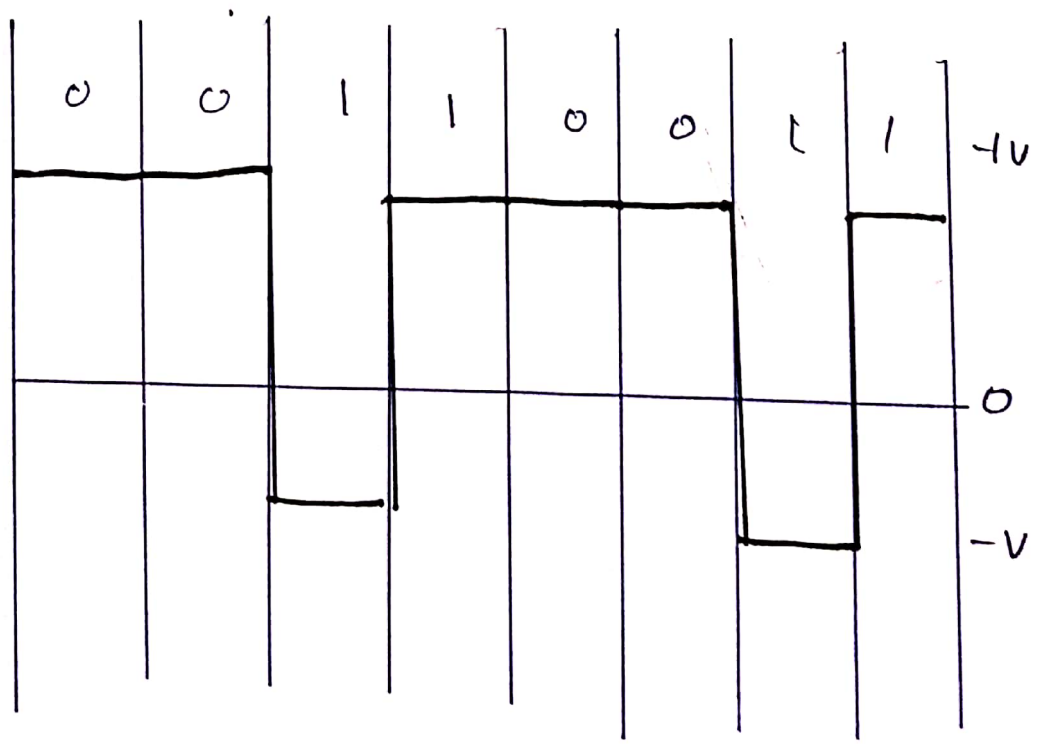
(6)

(c)



last signal positive.

(d)



last signal positive.