

Examiner Only

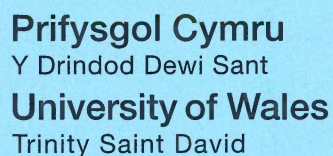
12 Pages

1. Please give the information requested in the boxes below.
2. Enter your name in the space provided to the right, fold over the flap and seal down (using the label provided) to hide your name.
3. The answers must be legibly written. The Examiners can either legibly script or have it typed and the expense of typing charged to the candidate.
4. Write your answers in ink.
5. Begin each answer on a fresh page. Do all rough work in the answer book and cross it through.
6. No part of this book is to be torn out; it must be handed in complete.
7. If more books than one are used, fasten them together using the tags available from the invigilator(s).
8. **Every book must be handed in. In no circumstances may answer books, used or unused, be taken out of the examination venue.**

1	Student Number	2419998
2	Title of Examination Paper	Signal and Systems
3	Module Code	ACDA4009
4	Date and Time of Examination	12/05/25
5	Examination Venue	iq103
6	Seat Number	14
7	Number of Answer Books handed in	1

[illegible]

(Gweler yr ochr arall am y fersiwn Cymraeg)



Examination Answer Books

12 Pages

Instructions to Candidates

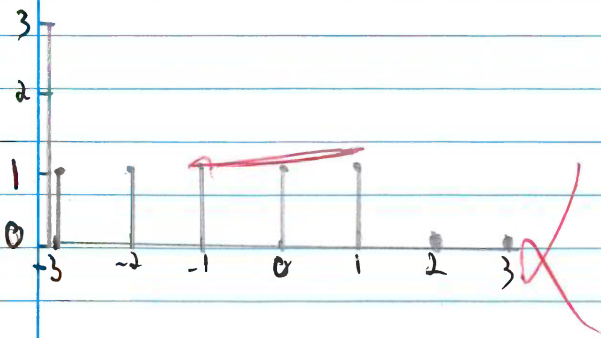
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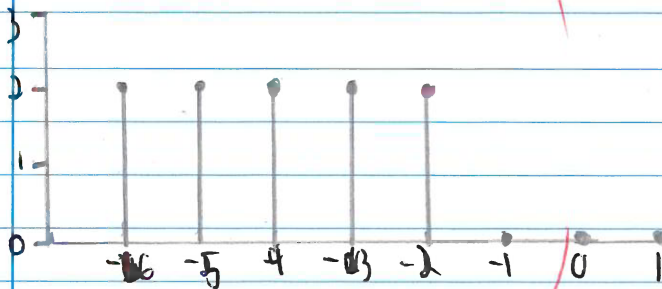
1 aii)



1 aiii)

$$x(t) = \begin{cases} 2, & \text{if } |t| \leq 2 \\ 0, & \text{otherwise} \end{cases}$$

2 aiv)



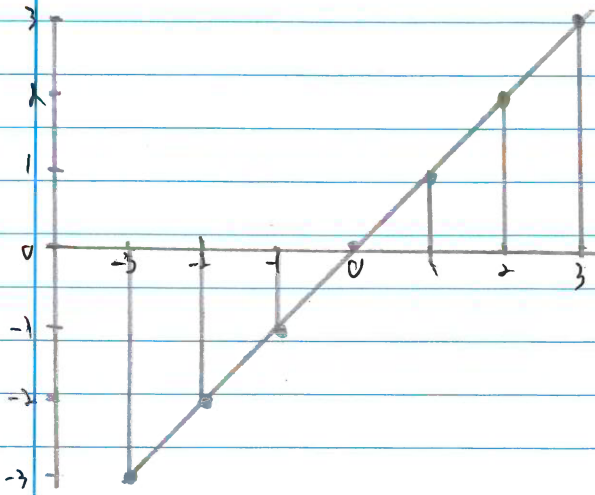
04
20

1b)

the time shifting property comes from ~~the~~ after the addition sign in this equation $y(t) = x(2t+3)$ the addition sign means the the signal is arriving earlier than expected which is why it moves to the left

3H

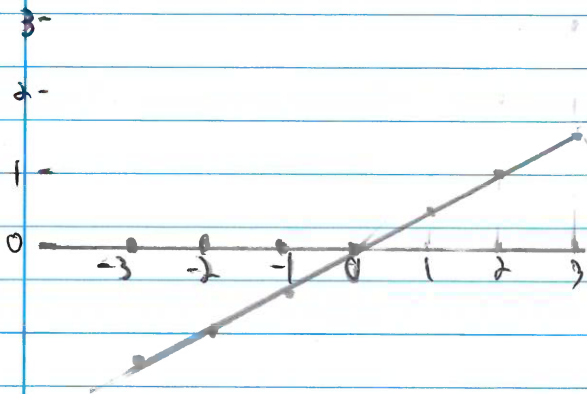
2a.ii)



✓

3

2a.iii) $Re[n]$



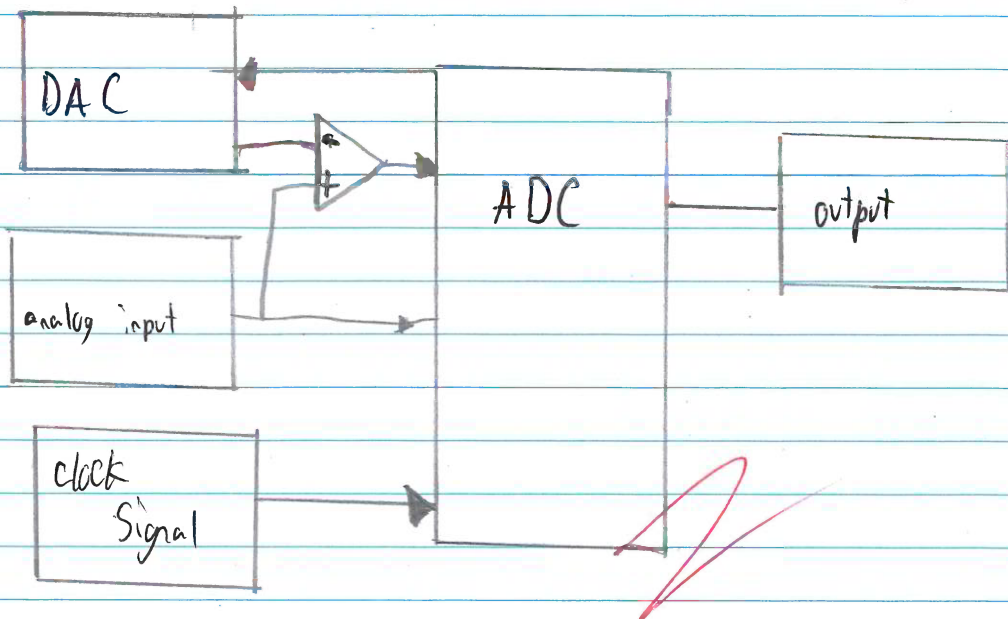
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0

3/30

3

4a(i)



4a(ii)

analog to digital converter
~~a digital to analog converter~~
 or clock signal
 a digital to analog converter
 or Comparator

4a(iii)

The Comparator is used to compare the digital output against the analog input. The analog input is first put into the ADC to be converted and is then put into a DAC to be used by a Comparator to check if the conversion was correct. If the signal is different then the Comparator won't give the correct input to the ADC and the analog signal will be converted again.

4a(iv)

The Comparator would not be able to compare 2 different input types which is why we convert it back to analog to compare the signals.

~~Q11~~ PRINT

7a) hex dec

P 50 80

R 32 82

I 49 73

N 4E 78

T 54 84

P 128 64 32 16 8 4 2 1
0 1 0 1 0 0 0 0 = 01010000

R 128 64 32 16 8 4 2 1
0 1 0 1 0 0 1 0 = 01010010

I 128 64 32 16 8 4 2 1
0 1 0 0 1 0 0 1 = 01001001

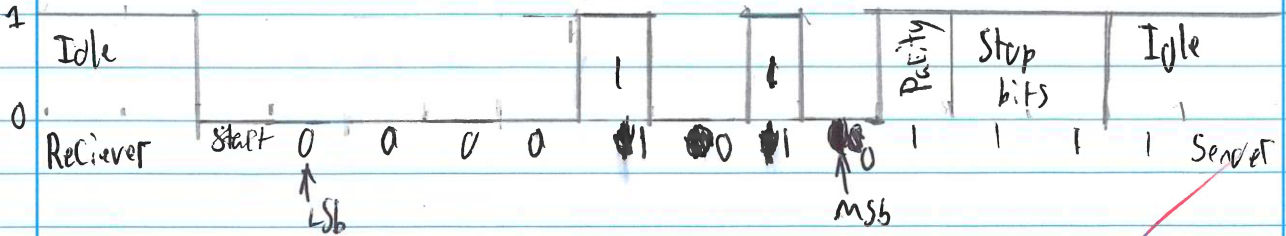
N 128 64 32 16 8 4 2 1
0 1 0 0 1 1 1 0 = 01001110

T 128 64 32 16 8 4 2 1
0 1 0 1 0 1 0 0 = 01010100

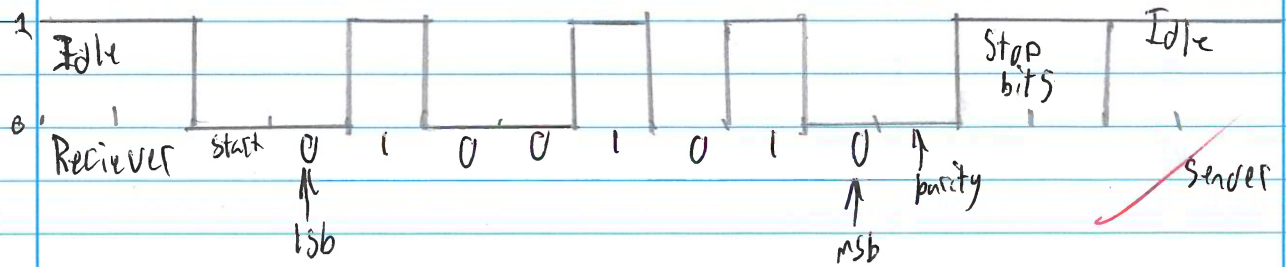
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5a)) I'm doing ^{even} ~~odd~~ parity

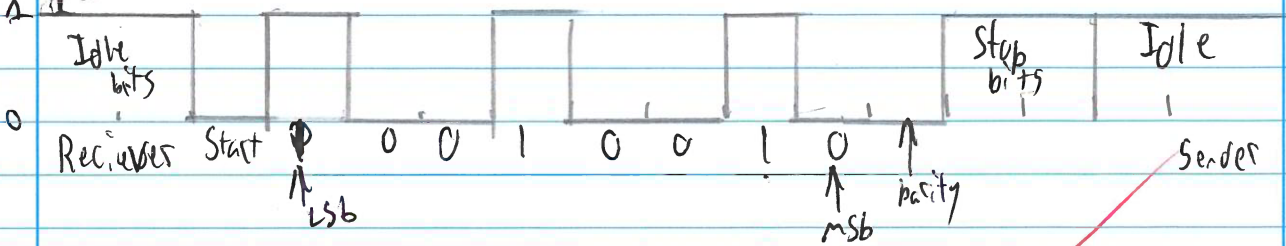
P



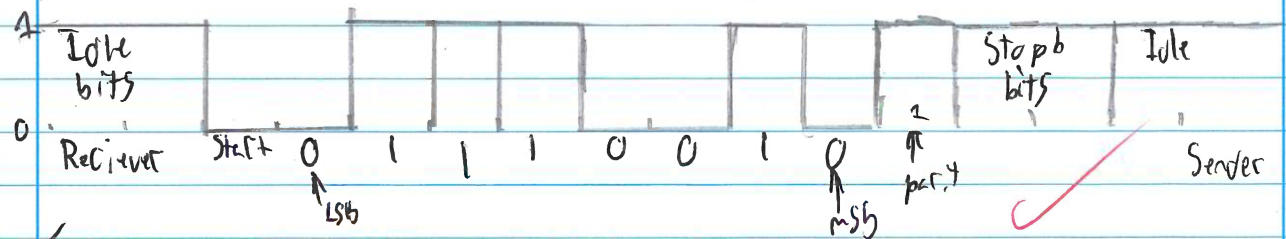
R



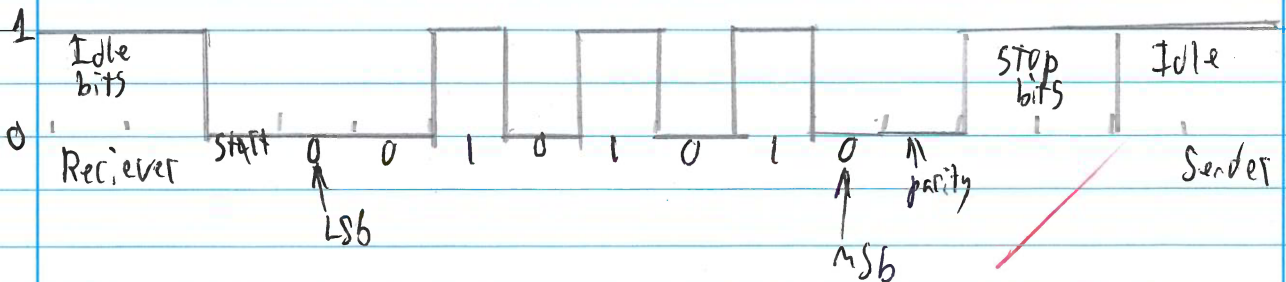
I



N



T





Question No.

Examiner Only

Rhif y Cwestiwn

Arholwr yn unig