



ed

1. Please give the information requested in the boxes below.
2. Enter your name in the space provided to the right, fold over and seal down (using the label provided) to hide your name.
3. The answers must be legibly written. The Examiners can either charge the cost of photocopying or the expense of typing.
4. Write your answers in ink.
5. Begin each answer on a fresh page. Do all rough work in the answer book and show your rough work.
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.**

$\frac{01}{100}$

[illegible]

(Gweler yr ochr arall am y fersiwn Cymraeg)

01/100 PLP
11/5/26

Q1 (i)

Even signal $x_e[n]$
 $= x_e[n]$ as the signal is already even

odd signal $x_o[n]$

$= x_o[-n]$ as the signal would just be flipped

(ii)

$$x_e[n] + x_o[n] = x[n]$$

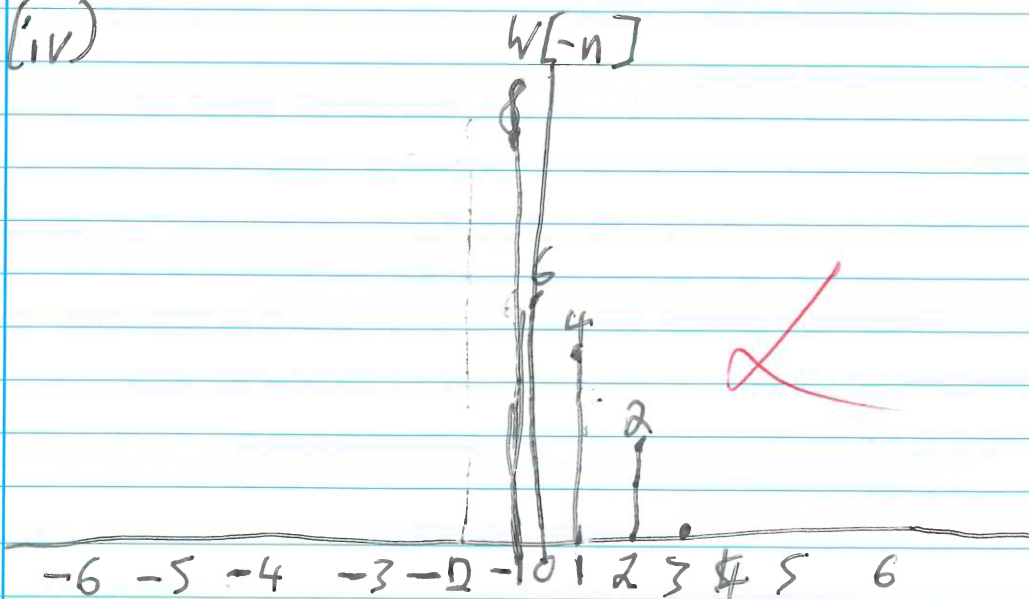
$$x_e[n] + x_o[-n] = x[n]$$

(iii)

$$\text{If } w[n] = x_o[n]$$

$$\text{Then } w[-n] \text{ is } = x_e[-n]$$

(iv)



Q2 (i)

$$h(t) = x(t-1)$$

(ii)

$$h(t) = \frac{1}{2} x(t-1) u(x(t-1)) dt$$

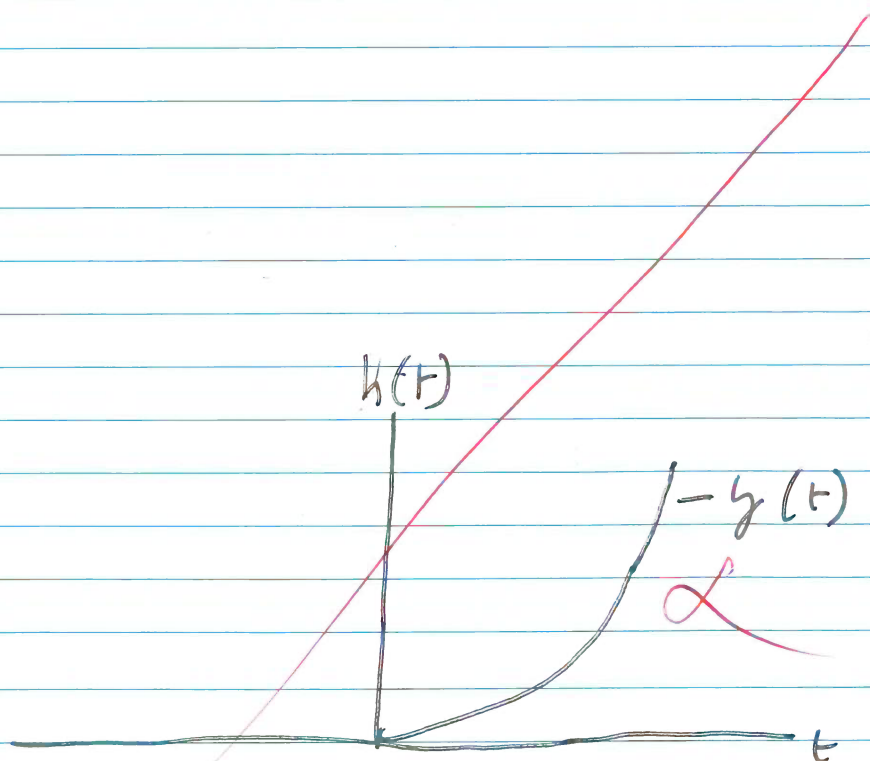
(iii)

$$\begin{aligned} h(t) &= \frac{1}{2} x(t-1) u(x(t-1)) dt \\ &= \frac{1}{2} x(t-1) u(x(t-1)) dt \\ &= \frac{1}{2} x(t+1) u(x(t)) dt \end{aligned}$$

(iv)

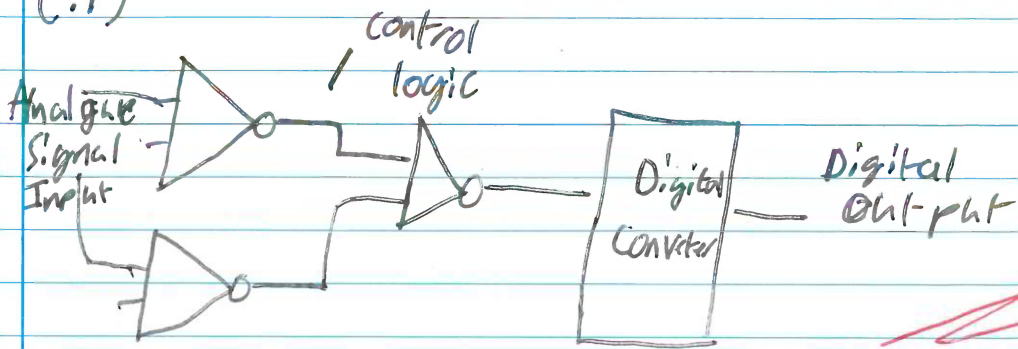
(v)

(vi)



Flash Type ADC is a Analogue to Digital Converter it turns Analogue Signals to digital signals

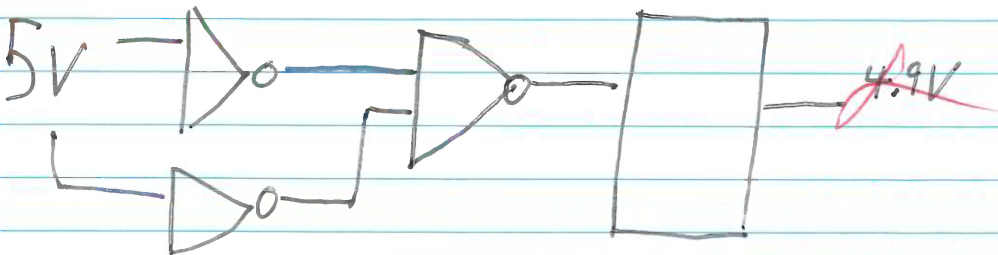
(i)



(iii)

Flash Type ADC works by putting the Analogue Signal through the 3-bit control logic to clean the signal before the Digital Converter.

(iv)



Q4

(A)

The Transmission and Reception Frame of UART Converts binary Input into visual display in simple to read format

(b)

(i)

	64	32	16	8	4	2	1	0
P=	1	0	1	0	0	0	0	0
R=	1	0	1	0	0	1	0	0
I=	1	0	0	1	0	0	1	0
N=	1	0	0	1	1	1	0	0
T=	1	0	1	0	1	0	0	0

(ii)

	64	32	16	8	4	2	1	0
P=								
R=								
I=								
N=								
T=								



Question No.

Examiner Only

Arholwr yn unig



Rhif y Cwestiwn