

on GN

2

and

Instructions to Candidates

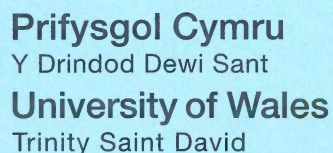
1. Please give the information requested in the boxes below.
2. Enter your name in the space provided to the right, fold over and seal down (using the label provided) to hide your name.
3. The answers must be legibly written. The Examiners can either ignore illegible script or have it typed and the expense 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	2410644
2	Title of Examination Paper	Electronics1
3	Module Code	ACDB 5002
4	Date and Time of Examination	
5	Examination Venue	IQ208
6	Seat Number	
7	Number of Answer Books handed in	1

[illegible]

(Gweler yr ochr arall am y fersiwn Cymraeg)

$\frac{p_2}{2010/26}$
 $\frac{60}{100}$



on GNI

2

and

12 Pages

1

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List the numbers of the questions you have attempted	Office Use
(i)	17
(ii)	8
(iii)	11½
(iv)	-0-
(v)	13½
(vi)	10
Total	60/100

(Gweler yr ochr arall am y fersiwn Cymraeg)

$\frac{p2}{2010/26}$
 $\frac{60}{100}$

(V)

- a) ~~At~~ The purpose of a night light sensor is to turn ON an LED when there is no light.
A light sensor can be used to measure illuminance & respond to changes

2

The LM393 IC is a low power, single supply, low offset Voltage

It calculates 2 ~~readings~~ output readings at dissimilar terminals and compares the dissimilarity in Voltage quantity. If the first terminal voltage is higher than the second terminal, the switch will activate.

3+1

However if the first terminal voltage is lower than the second terminal, the switch will deactivate.

6

If the circuit absorbs light, the output device will be off

- b) The Voltage regulator is an ~~unregulated~~ DC input which connected to the V_i terminal.
A regulated DC output voltage is from the second terminal V_o

2

The third terminal is connected to ground

The 7805 regulator is a three terminal device, that provides a fixed positive output

2

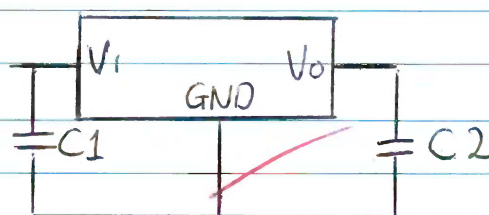
The ~~input~~ V_i terminal is filtered by Capacitor C_1 & is connected to the IC's IN Terminal.

2

The V_o terminal provides a regulated +5V, filtered by Capacitor C_2 , the third IC terminal is connected to ground

6

12



1 1/2

13 1/2
Rhif y Cwestiwn
20

VI)

RS - (Register Select)

Controls whether input is instruction
(RS=0) or display data (RS=1)

RW - (Read / Write)

Controls the direction of data

RW=0 for write operations

RW=1 for Read operations

E - Enable

Acts as a latch, on a high to low pulse

Data pins D0 - ~~D7~~ D7

Their role is to send instructions and Data,

4 bit & 8 bit modes

4 bit sends it in 2 parts

8 bit is faster

~~VSS~~

VSS - Ground

VDD - Positive Supply terminal

VEE - Used for adjusting display Contrast

Marks from screenshot

(i)

17/20

(ii)

8/10

(iii)

11 1/2 / 20

(iv)

0/20

Question No.

Examiner Only

Arholwr yn unig

Rhif y Cwestiwn