



Examination Answer Books

12 Pages

Instructions to Candidates

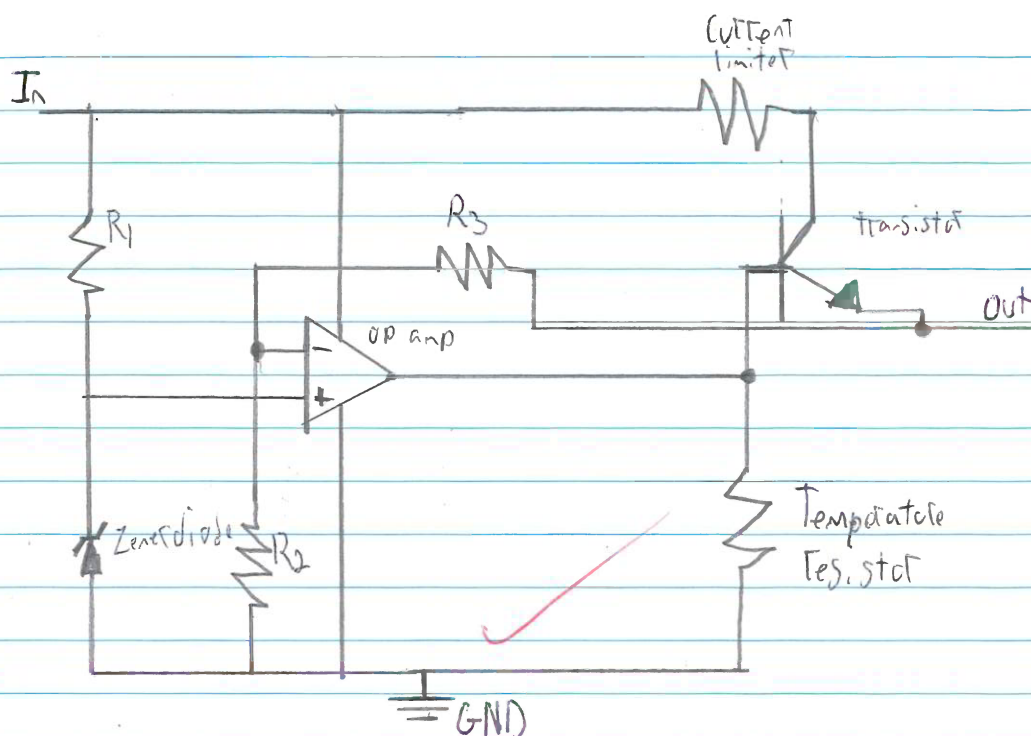
1. Please give the information requested in the boxes below.
2. Enter your name in the space provided to the right, fold over and seal down (using the label provided) to hide your name.
3. The answers must be legibly written. The Examiners can either charge to the candidate.
4. Write your answers in 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	Electronics 1
3	Module Code	ACDB5002
4	Date and Time of Examination	16/01/2026 10am-12pm
5	Examination Venue	19208
6	Seat Number	UOW0539
7	Number of Answer Books handed in	

List the numbers of the questions you have attempted	Office Use
(ia)	8
(ib)	8
(ii) (iii)	7 1/2
(iii) (iv)	20
(iv) (v)	20
(v) (vi)	14 1/2
(vi)	10
Total	88/100

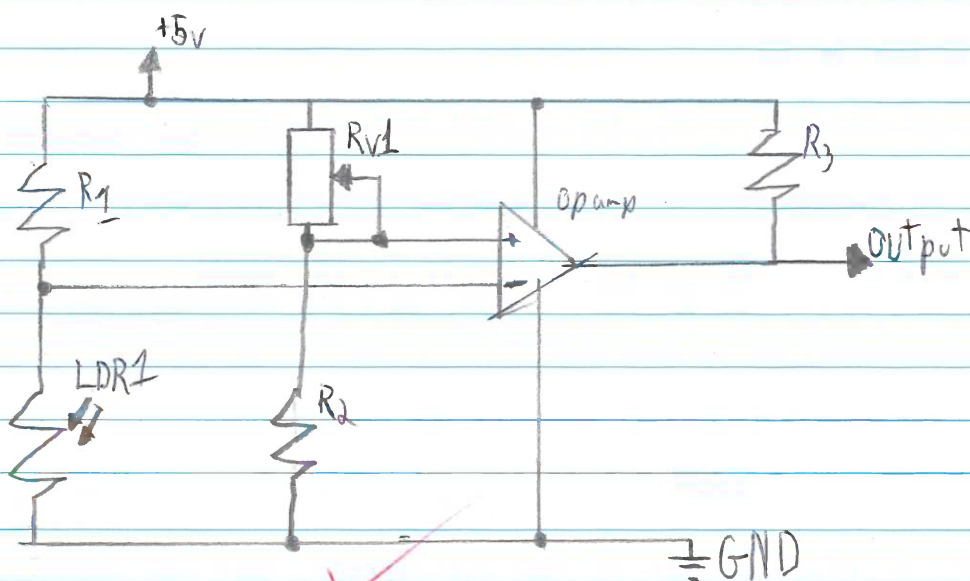
88/100
22/01/26
HC

Vb)



The Voltage Regulator limits voltage by using a Zener diodes forward bias and a summing amplifier to limit the voltage through the transistor. the feedback loop from the ~~output~~ output to the op amp is how the voltage Regulator ~~maintains~~ maintains the stepped down output. By adding a capacitor either side of the voltage Regulator the output ~~current~~ voltage will become smoother and look more like a straight line. like a DC signal. This is because the capacitor will discharge on any low section and charge on high ones.

Va)



$$\frac{14 \frac{1}{2}}{20}$$

Va) When the Light Dependant resistor (LDR) has enough light the resistance is high and this means that when the Voltage through the LDR is enough the LED turns on. The principle is when the Reference Voltage on the ^{posit} ~~negative~~ pin is greater than the test Voltage on the negative pin the opamp in a comparing configuration will produce a 1.

4

the truth table is as follows

Op amp pins	+	-	Output
Voltage is the same	4.75v	4.75v	0
positive is less	4.25	4.25	1
negative is less	4.75	4.25v	0

3

⑦

Vi)

RS is the Register Selector pin which says where to Read/Write to in the Register.

2

RW is the Read/Write pin this is to tell the LCD to either Read or Write on the data pins.

2

E is the enable pin and tells the LCD to either listen to the other signals or to ignore them.

2

DO-D7 these are the data pins where information is Read or written to.

2

VSS is the ground pin

1

VDD or VCC is the power pin

1

VEE is the Contrast pin changing the colour of the LCD

1

from document

(i) (8) + (8) → 16/20

(ii) 7 1/2 / 10

(iii) 60/20

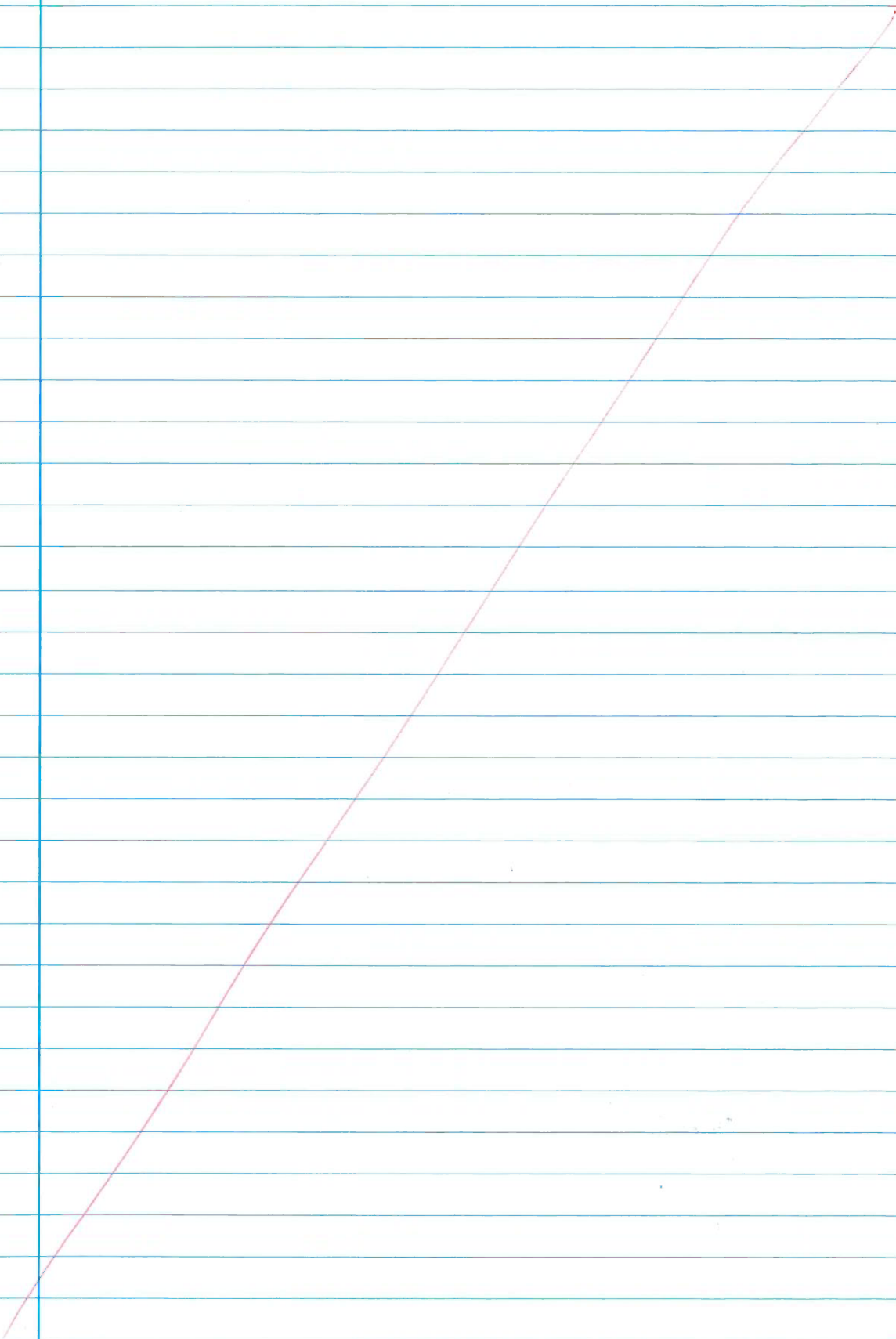
(iv) 60/20

10/10



Question No.

Examiner Only



Arholwr yn uni

Rhif y Cwestiwn

