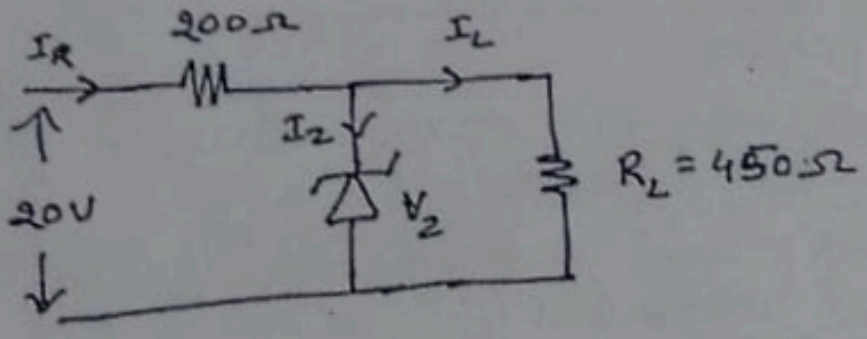
Vivekananda College of Engineering & Technology, Puttur
[A Unit of Vivekananda Vidyavardhaka Sangha Puttur ®]
Affiliated to VTU, Belagavi & Approved by AICTE New Delhi

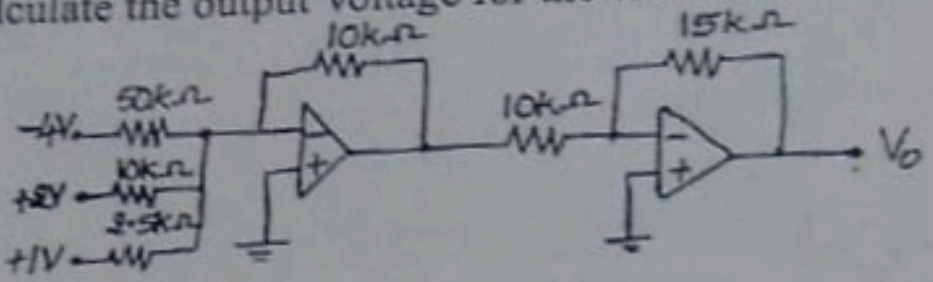
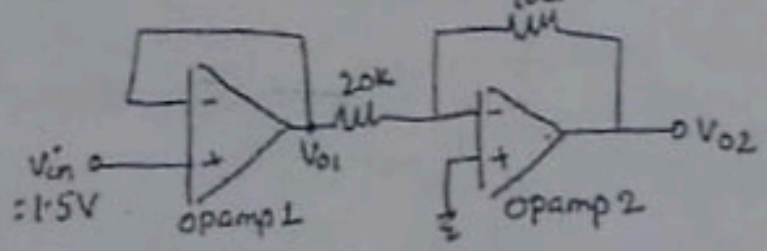
CRM08	Rev 1.10	<EC>	<29/01/2021>

CONTINUOUS INTERNAL EVALUATION - I

Dept: FY	Sem / Div: I D,E,F	Sub: Basic Electronics	S Code: 18ELN14
Date: 02/02/2021	Time: 3:00-4:30pm	Max Marks: 50	Elective: N

Note: Answer any 2 full questions, choosing one full question from each part.

QN		Questions	Marks	RBT	CO's
		PART A			
1	a	Explain the working of PN junction diode under forward and reverse biased conditions.	8	L2	CO1
	b	Explain V-I characteristics of photo-diode and its operation.	5	L2	CO1
	c	Explain the construction working and characteristics n-channel JFET.	8	L2	CO2
	d	For the circuit shown in Fig, find current and voltages in the circuit for R_L= 450Ω. (Assume V_Z=4V) 	4	L3	CO1
		OR			
2	a	what is semiconductor diode? Explain the different equivalent circuits of diode	6	L2	CO1
	b	Write a short note on (i) Light emitting diode and (ii) Photo coupler.	6	L1	CO1

	c	Calculate the output voltage of a summer. Given R1=200kΩ, R2=250KΩ, R3=500KΩ, Rf=1MΩ, V1=-2v ,V2=-1v, V3=+3v	4	L2	CO3
	d	Explain BJT as a switch.	5	L2	CO1
		PART B			
3	a	Explain the VI characteristics of SCR.	6	L2	CO2
	b	Calculate the output Voltage for the circuit shown below 	8	L2	CO3
	c	Design an op-amp circuit to get output voltage of Vo= -(0.1V1+0.5V2+20V3). Select Rf=10kΩ	6	L2	CO3
	d	Explain a simple application of a transistor switch.	5	L2	CO1
		OR			
4	a	Explain the working of SCR using two transistor model	5	L2	CO2
	b	Explain the operation of op-amp as a non-inverting amplifier with a neat diagram and waveform.	8	L2	CO3
	c	For an op-amp circuit shown find output voltage Vo1 and Vo2 	6	L2	CO
	d	In a transistor amplifier circuit determine the voltage gain and ac outout voltage if Vb=100mV, Rc=1kΩ and re'=50Ω .	6	L2	CO

Prepared by: SHRUTHI P R

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