

EE

Code - 2031

G. S. Mandal's

Maharashtra Institute of Technology, Aurangabad

(An Autonomous Institute)

END SEMESTER EXAMINATION

Second Year B.Tech (Electrical Engineering) – Feb/Mar-2023

Course Code : EED203

Course Name : Analog Electronics

Duration : 2 Hrs

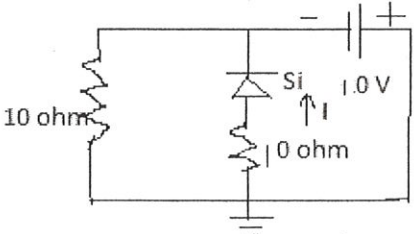
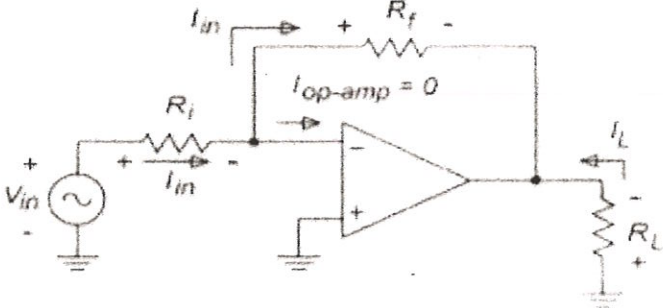
Max. Marks : 50

Date : /02/2023

Instructions :

10 FEB 2023

- i) All questions are compulsory
- ii) Assume suitable data wherever necessary and clearly state it
- iii) Figures to right indicate full marks

Q. No.	Answer any five(Marks:10)	Mark s	C O	B L	PI
a)	Define ripple factor and write its typical value for full wave rectifier.	2	1	1	1.2.1
b)	Differentiate between Zener breakdown and Avalanche breakdown	2	1	1	1.2.1
c)	Define Barkhausen's criteria for Sustained Oscillations?	2	1	1	1.2.1
d)	Determine the current I in the configuration shown using constant voltage drop model. 	2	1	1	1.3.1
e)	. In following circuit,if R_f is 10 K Ω and R_i is 1K Ω then the voltage gain for the given circuit? 	2	1	1	1.3.1
f)	Define slew rate and CMRR in op-amp.	2	1	1	1.2.1
g)	Write the classification of power amplifiers.	2	1	1	1.2.1
h)	Write the types of Active filters.	2	1	1	1.2.1

Q. 2	<p>Sketch the transfer curve for FET, if following are the parameters values are given:</p> <p>1) $IDSS = 14mA$ and $Vp = -8V$. 2) $IDSS = 12mA$ and $Vp = -6V$.</p> <p>OR(optional)</p> <p>Draw and explain with suitable diagram working of E-Type MOSFET.</p>	8	2	3	2.1. 2
Q. 3	<p>Illustrate Full wave bridge rectifier working with its input and output waveforms with capacitor filter.</p> <p>OR(optional)</p> <p>Why CE configuration of transistor used as an amplifier? Compare configurations of transistor connections.</p>	8	3	2	1.3. 1
Q. 4	<p>List the applications of Clipper and explain the clipper circuit with the help of input and output wave forms.</p> <p>OR(optional)</p> <p>Draw and explain a circuit of R-C Phase Shift oscillator with its phase shift equations.</p>	8	4	2	2.1. 2
Q. 5	<p>List the applications of Op-amp and explain the voltage to current converter using Op-amp with circuit diagram.</p>	8	5	3	1.3. 1
Q. 6	<p>What can be the range of frequency that generated by crystal oscillator? Draw and explain the working of Crystal Oscillator?</p>	8	6	2	1.3. 1