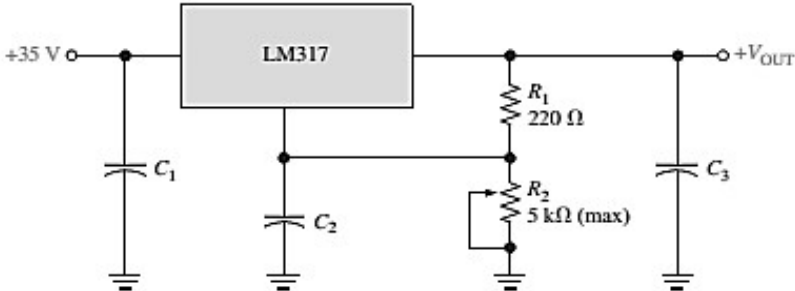


	DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE Regular & Supplementary Winter Examination-2023 Course: B. Tech. Computer/Electronics & Computer Science Subject Code & Name: BTECPC302 Electronics Devices and Circuits Max Marks: 60 Date:04-01-24 Duration: 3 Hr.	
	Instructions to the Students: 1. All the questions are compulsory. 2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question. 3. Use of non-programmable scientific calculators is allowed. 4. Assume suitable data wherever necessary and mention it clearly.	
		(Level/CO)
Q. 1	Solve Any Two of the following.	Marks
A)	Explain Construction and working of N type Enhancement MOSFET in details?	2/CO1
B)	Explain FET Configurations (CS/CD/CG) and their Comparison.	2/CO1
C)	Explain Construction and working of P channel FET.	2/CO1
Q.2	Solve Any Two of the following.	12
A)	Draw the block diagram of the OP-amp and explain each block in detail.	2CO2
B)	Explain the operation of OP-amp differentiator with expression for its output Voltage	3/CO2
C)	Draw an inverting summing amplifier with three inputs and derive expression for its output Voltage Vo	3/CO2
Q. 3	Solve Any Two of the following.	12
A)	Draw the Circuit diagram of Hartley oscillator and calculate output frequency For Hartley oscillator with L ₁ =L ₂ =10mH and C=0.01μF.	3/CO3
B)	Define negative feedback. Explain the effect of feedback on any three characteristics of amplifier.	2/CO3
C)	What is a barkhausen criterion for sustain oscillation? Explain Construction and working of RC Phase shift oscillator.	2/CO3
Q.4	Solve Any Two of the following.	12
A)	Explain fixed positive and fixed negative three terminal IC voltage regulators.	3/CO4
B)	Draw construction & working of Shunt voltage regulator using transistor.	2/CO4

C)	<p>Determine the minimum and maximum output voltages for the voltage regulator in the following Figure. Assume $I_{ADJ} = 50 \mu A$. ($R_1=220\Omega$ and $R_2=5K\Omega$).</p> 	3/CO4	6
Q. 5	Solve Any Two of the following.		12
A)	Define transducer. Explain the working principle and constructional details of Thermistor.	1&2/CO5	6
B)	Explain the working of LDR with neat diagram. state its advantages and applications.	2/CO5	6
C)	Explain with the help of circuit diagram, working of LVDT.	2/CO5	6
	*** End ***		

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