ROLL NO.....

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Odd Semester Examination-2024

Paper Name: Analog Electronic Circuits
Paper Code: BTCSEAI 301 Backlog
Time: 3 Hours Max Marks: 75

Note: Assume missing data, if any.
Attempt (i) Section-A: All questions are compulsory.
(ii) Section-B: Attempt any FOUR QUESTIONS.

Section –A (All questions are compulsory) 7×5=35 Marks

Sr.No.	QUESTIONS	Marks	CO	BL
Q1.	Explain Series Negative Clipper with Negative Biasing.	5	CO1	BL3
Q2.	Explain Barkhausen Criterion for oscillation.	5	CO5	BL6
Q3.	Why BJT is called as current controlled device?	5	CO2	BL2
Q4.	What are ideal and practical characteristics of Op-Amp?	5	CO4	BL5
Q5.	Why Mosfet is called as voltage controlled device?	5	CO3	BL2
Q6.	Explain Zener and avalanche breakdown in Zener diode.	5	CO1	BL1
Q7.	Explain the basic working of a npn BJT.	5	CO2	BL3

Section –B (Attempt any Four questions) 4×10=40 Marks

Sr.No...	QUESTIONS	Marks	CO	BL
Q1.	Explain with the help of circuit diagrams and waveforms (a)Full wave bridge rectifier and (b)Center-tapped rectifier	10	CO1	BL4
Q2.	Explain Common-Base configuration with its input and output characteristics. Also explain the Base width modulation in it.	10	CO2	BL6
Q3.	How BJT works as an amplifier? In common base connection, current amplification factor is 0.9. If the emitter current is 1mA, determine the value of base current.	10	CO2	BL2
Q4.	Explain working of a MOSFET with the help of circuit diagram. Draw its VI characteristics.	10	CO3	BL5
Q5.	A differential amplifier with a common-mode input of 500mV and a difference mode input of 30mV has an output of 5mV due to common mode input and 3V due to difference mode input. Find the difference-mode and common mode gains.	10	CO4	BL2
Q6.	Explain the concept of virtual ground and calculate the gain for inverting amplifier.	10	CO5	BL6