

UTKAL INSTITUTE OF ENGINEERING & TECHNOLOGY

DISCIPLINE: electrical engineering	SEMESTER: 4TH Sem	NAME OF THE TEACHING FACULTY: ENGG .PRIYADARSHINI PARIDA		
SUBJECT: Th 2 Analog Electronics and OP- AMP	No of Days/Per week class allotted: 5 Class P/W(60)	Semester From Date:16 /01/2024 No of Weeks: 12	Semester From To Date:26/04/2024 Date:16 /01/2024	
WEEK	CLASS DAY			
1st	1 st	P-N Junction Diode ,Working of Diode	Date	Dean/Principal
	2nd	V-I characteristic of PN junction Diode.,DC load line		
	3rd	Important terms such as Ideal Diode, Knee voltage		
	4th	Junctions break down. 1: Zener breakdown. 2: Avalanche breakdown		
	5th	P-N Diode clipping Circuit		
2nd	1 _{st}	P-N Diode clamping Circuit		
	2 _{nd}	PART-b (SPECIAL SEMICONDUCTOR DEVICES): Thermistors, Sensors & barretters	_	
	3rd	Zener Diode		
	4th	Zener Diode		
	5th	Tunnel Diode		
3rd	1st	PIN Diode		
	2 _{nd}	part c (RECTIFIER CIRCUITS & FILTERS) : Classification of rectifiers		
	3rd	2 Analysis of half wave, full wave centre tapped and Bridge rectifiers and calculate: 1: DC output current and voltage 2: RMS output current and voltage 3: Rectifier efficiency		
	4 _{th}	4:Ripple factor 5:Regulation		
	5th	6: Peak inverse voltage		
4 _{th}	1st	6: Peak inverse voltage		
	2 _{nd}	Filters: Shunt capacitor filter and Choke input filter		
	3rd	π filter		
	4 _{th}	part d (TRANSISTORS): Principle of Bipolar junction transistor		
	5 _{th}	Different modes of operation of transistor		
5th	1st	Current components in a transistor		
	2 _{nd}	Transistor as an amplifier		

	3rd	Transistor circuit configuration & its characteristics	
	4th	1: CB Configuration 2: CE Configuration	
	5th	3:CC Configuration	
6th	1st	part e (TRANSISTOR CIRCUITS) : Transistor biasing	
	2nd	Stabilization	
	3rd	Stability factor	
	4 _{th}	Stability factor	
	5th	Different method of Transistors Biasing	
7th	1st	Base resistor method	
	2 _{nd}	Collector to base bias and Self bias or voltage divider method	
	3rd	PART-d (TRANSISTOR AMPLIFIERS & OSCILLATORS:) : Practical circuit of transistor amplifier	
	4 _{th}	DC load line and DC equivalent circuit	
	5th	AC load line and AC equivalent circuit	
8th	1st	Calculation of gain	
	2 _{nd}	Phase reversal	
	3rd	H-parameters of transistors	
	4 _{th}	Simplified H-parameters of transistors	
	5th	Generalised approximate model	
9 _{th}	1st	Analysis of CB, CE, CC amplifier using generalised approximate model	
	2 _{nd}	Multi stage transistor amplifier	
	3rd	Feed back in amplifier	
	4 _{th}	Power amplifier and its classification	
	5th	Oscillators	
10th	1st	part f (FIELD EFFECT TRANSISTOR) : Classification of FET	
	2 _{nd}	Advantages of FET over BJT	
	3rd	Principle of operation of BJT	
	4 _{th}	FET parameters (no mathematical derivation)	
	5th	DC drain resistance	
11th	1st	2 AC drain resistance and Trans-conductance	
	2nd	PART-g (OPERATIONAL AMPLIFIERS): General circuit simple of OP-AMP and IC – CA – 741 OP AMP	
	3rd	Operational amplifier stages	
	4th	Equivalent circuit of operational amplifier	
	5th	Open loop OP-AMP configuration	
12th	1 _{st}	OPAMP with fed back	
	2nd	Inverting OP-AMP	
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	3rd	Non inverting OP-AMP		
	4 _{th}	Voltage follower & buffer		
		Differential amplifier: 1: Adder or summing amplifier 2: Sub tractor 3: Integrator. 4: Differentiator 5: Comparator		
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