GANDHI SCHOOL OF ENGINEERING

BHABANDHA, BERHAMPUR

PROPOSED WORK

4th SEM EE SUBJECT- Th2. Analog Electronics and OP-AMP

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SL NO.	TOPICS	NO OF	PLANNING DATES	REMARKS
CHAPTER		PERIODS		
		ASSIGNED		
		BY SCTE&VT		
1	P-N JUNCTION DIODE:	06	11/03/2022	
	1.1 P-N Junction Diode		То	
	1.2 Working of Diode		23/03/2022	
	1.3 V-I characteristic of PN junction Diode.		-,, -	
	1 . 4 DC load line			
	1.5 Important terms such as Ideal Diode, Knee			
	voltage			
	1 . 6 Junctions break down.			
	1.6.1 Zener breakdown			
	1.6.2 Avalanche breakdown			
	1.7 P-N Diode clipping Circuit.			
	1.8 P-N Diode clamping Circuit			
2	SPECIAL SEMICONDUCTOR DEVICES:	05	25/03/2022	
	2 . 1 Thermistors, Sensors & barretters		То	
	2 . 2 Zener Diode		02/04/2022	
	2 . 3 Tunnel Diode		• • •	
	2 . 4 PIN Diode			

3	RECTIFIER CIRCUITS & FILTERS:	07	05/04/2022	
	3.1 Classification of rectifiers		То	
	3.2 Analysis of half wave, full wave centre		16/04/2022	
	tapped and Bridge rectifiers and calculate:			
	3.2.1 DC output current and voltage			
	3.2.2 RMS output current and voltage			
	3.2.3 Rectifier efficiency			
	3.2.4 Ripple factor			
	3.2.5 Regulation			
	3.2.6 Transformer utilization factor			
	3.2.7 Peak inverse voltage			
	3.3 Filters:			
	3.3.1 Shunt capacitor filter			
	3.3.2 Choke input filter			
	3.3.3 π filter			
4	TRANSISTORS:	07	19/04/2022	
	4.1 Principle of Bipolar junction transistor		То	
	4.2 Different modes of operation of transistor		29/04/2022	
	4.3 Current components in a transistor			
	4.4 Transistor as an amplifier			
	4.5 Transistor circuit configuration & its			
	characteristics			
	4.5.1 CB Configuration			
	4.5.2 CE Configuration			
	4.5.3 CC Configuration			
5	TRANSISTOR CIRCUITS:	07	30/04/2022	
	5.1 Transistor biasing		То	
	5.2 Stabilization		13/05/2022	
	5.3 Stability factor			
	5.4 Different method of Transistors Biasing			
	5.4.1 Base resistor method			
	5.4.2 Collector to base bias			
	5.4.3 Self bias or voltage divider method			

6	TRANSISTOR AMPLIFIERS & OSCILLATORS:	13	14/05/2022	
	6.1 Practical circuit of transistor amplifier		То	
	6.2 DC load line and DC equivalent circuit		24/05/2022	
	6.3 AC load line and AC equivalent circuit			
	6.4 Calculation of gain			
	6.5 Phase reversal			
	6.6 H-parameters of transistors			
	6.7 Simplified H-parameters of transistors			
	6.8 Generalised approximate model			
	6.9 Analysis of CB, CE, CC amplifier using			
	generalised approximate model			
	6.10 Multi stage transistor amplifier			
	6.10.1 R.C. coupled amplifier			
	6.10.2 Transformer coupled amplifier			
	6.11 Feed back in amplifier			
	6.11.1 General theory of feed back			
	6.11.2 Negative feedback circuit			
	6.11.3 Advantage of negative feed back			
	6.12 Power amplifier and its classification			
	6.12.1 Difference between voltage amplifier and			
	power amplifier			
	6.12.2 Transformer coupled class A power			
	amplifier			
	6.12.3 Class A push – pull amplifier			
	6.12.4 Class B push – pull amplifier			
	6.13 Oscillators 6.13.1 Types of oscillators			
	6.13.2 Essentials of transistor oscillator			
	6.13.3 Principle of operation of tuned collector,			
	Hartley, colpitt, phase shift, weinbridge			
	oscillator (no mathematical derivations)			
7	FIELD EFFECT TRANSISTOR:	06	25/05/2022	
	7.1 Classification of FET		То	
	7.2 Advantages of FET over BJT		01/06/2022	
	7.3 Principle of operation of BJT			

	7.4 FET parameters (no mathematical			
	derivation)			
	7.4.1 DC drain resistance			
	7.4.2 AC drain resistance			
	7.4.3 Trans-conductance			
	7.5 Biasing of FET			
8	OPERATIONAL AMPLIFIERS:	09	03/06/2022	
	8.1 General circuit simple of OP-AMP and IC –		То	
	CA – 741 OP AMP		10/06/2022	
	8.2 Operat		10,00,2022	
	ional amplifier stages			
	8.3 Equivalent circuit of operational amplifier			
	8.4 Open loop OP-AMP configuration			
	8.5 OPAMP with fed back			
	8.6 Inverting OP-AMP			
	8.7 Non inverting OP-AMP			
	8.8 Voltage follower & buffer			
	8.9 Differential amplifier			
	8.9.1 Adder or summing amplifier			
	8.9.2 Sub tractor			
	8.9.3 Integrator			
	8.9.4 Differentiator			
	8.9.5 Comparator			

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