




**SYNERGY SCHOOL OF ENGINEERING
DEPARTMENT OF ELECTRICAL ENGINEERING**

Discipline :-Electrical Engineering	Semester:- 4thsem	Name of the teaching faculty:- PRAJNAPARAMITA KABI
Subject:- Analog electronics and op-amp	No. of Days/week class Allotted:-4	No. of weeks:-15 SESSION-2023-2024 SUMMER
No. of week	No. of class	Topic to be Taught
1st	1st	Introduction class
	2nd	P-N Junction Diode Working of Diode
	3rd	V-I characteristic of PN junction Diode.
	4th	Dc load line
2nd	1st	Important terms such as Ideal Diode, Knee voltage
	2nd	Important terms such as Ideal Diode, Knee voltage . Junctions break down. Zener breakdown Avalanche breakdown
	3rd	P-N Diode clipping Circuit. P-N Diode clamping Circuit
	4th	Thermistors,
3rd	1st	Sensors & barrettes
	2nd	Zener Diode
	3rd	Tunnel Diode
	4th	PIN Diode
4th	1st	Classification of rectifiers
	2nd	Analysis of half waverectifiersand calculate
	3rd	full wave centre tapped and Bridge rectifiers and calculate:
	4th	DC output current and voltage RMS output current and voltage Rectifier efficiency
5th	1st	Ripple factor Regulation Transformer utilization factor Peak inverse voltage
	2nd	Shunt capacitor filter Choke input filter
	3rd	Choke input filter and π filter
	4th	Principle of Bipolar junction transistor
6th	1st	Principle of Bipolar junction transistor
	2nd	Different modes of operation of transistor
	3rd	Current components in a transistor
	4th	Transistor Transistor as an amplifer
7th	1st	Transistor circuit configuration & its characteristics
	2nd	CB Configuration CE Configuration CC Configuration
	3rd	Transistor biasing
	4th	Transistor biasing Stabilization

8th	1 st	Stability factor
	2 nd	Different method of Transistors Biasing
	3 rd	Base resistor method
	4 th	Collector to base bias
9th	1 st	Self bias or voltage divider method
	2 nd	transistor amplifier
	3 rd	DC load line and DC equivalent circuit
	4 th	AC load line and AC equivalent circuit
10th	1 st	Calculation of gain
	2 nd	Phase reversal
	3 rd	H-parameters of transistors
	4 th	Simplified H-parameters of transistors
11th	1 st	Generalised approximate model
	2 nd	Analysis of CB, CE, CC amplifier using generalised approximate model
	3 rd	Multi stage transistor amplifier
	4 th	Feed back in amplifie
12th	1 st	Power amplifier and its classification
	2 nd	Oscillators Types of oscillators
	3 rd	Classification of FET
	4 th	Advantages of FET over BJT
13 th	1 st	Principle of operation of BJT
	2 nd	FET parameters (no mathematical derivation)
	3 rd	DC drain resistance
	4 th	AC drain resistance Trans-conductance
14 th	1 st	General circuit simple of OP-AMP and IC – CA – 741 OP AMP
	2 nd	Operational amplifier stages
	3 rd	Equivalent circuit of operational amplifier
	4 th	pen loop OP-AMP configuration
15 th	1 st	OPAMP with fed back
	2 nd	Inverting OP-AMP
	3 rd	Non inverting OP-AMP Voltage follower & buffer
	4 th	Differential amplifier Adder or summing amplifie
	5 th	Integrator Differentiator Comparator


Signature of the faculty


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