DISCIPLINE **EE/EEE**	SEMESTER **4TH**	NAME OF THE TEACHING FACULTY Niranjan Nayak (Lect.(S-II) IN AE&I)
SUBJECT Analog Electronics & op - Amp	NO. OF DAYS/WEEK CLASS ALLOTTED - 60	No. of week excluding holiday - 15
WEEK	CLASS DAY	THEORY TOPICS
1ST	1	Define diode and working principle of P-N Junction Diode.
	2	V-I characteristic of PN junction Diode.
	3	DC load line and important terms such as Ideal Diode, Knee voltage
	4	Junctions break down. 1. Zener breakdown
2ND	5	2. Avalanche breakdown
	6	P-N Diode clipping Circuit.
	7	P-N Diode clamping Circuit.
	8	Thermistors
3RD	9	Sensors & barrettes.
	10	Zener Diode, Tunnel Diode, PIN Diode
	11	Revision class of P-N Diode, Zener Diode ,clipping Circuit clamping Circuit.
	12	Classification of rectifiers. Analysis of half wave full wave Centre tapped
4TH	13	Bridge rectifiers and calculate DC output current and voltage
	14	RMS output current and voltage
	15	Rectifier efficiency, Ripple factor
	16	Regulation, Transformer utilization factor
5TH	17	Peak inverse voltage
	18	Filters: Shunt capacitor filter, Choke input filter, π filter
	19	Revision class of Shunt capacitor filter, Choke input filter and RMS output current and voltage of rectifier.
	20	Current components in a transistor Principle of Bipolar junction transistor
6TH	21	Different modes of operation of transistor and transistor as an amplifier.
	22	Transistor circuit configuration & its characteristics. CB Configuration
	23	CE Configuration
	24	CC Configuration
7TH	25	Transistor biasing. Stabilization, Stability factor.
	26	Different method of Transistors Biasing. Base resistor method.
	27	Collector to base bias.
	28	Self-bias or voltage divider method.
8TH	29	Revision class of biasing and Configuration of transistor.
	30	Practical circuit of transistor amplifier DC load line and DC equivalent circuit
	31	AC load line and AC equivalent circuit
	32	Calculation of gain, Phase reversal
9TH	33	H-parameters of transistors Simplified H-parameters of transistors
	34	Analysis of CB, CE, CC amplifier using generalized approximate model.
	35	Multi stage transistor amplifier
	36	R.C. coupled amplifier Transformer coupled amplifier

	37	Feed back in amplifier
10TH	38	Negative feedback circuit Advantage of negative feed back
	39	Power amplifier and its classification Difference between voltage amplifier and power amplifier
	40	Transformer coupled class A power amplifier
11TH	41	Class A push pull amplifier and Class B push pull amplifier
	42	Revision class of Feed back in amplifier and push pull amplifier
	43	Oscillators Types of oscillators, Essentials of transistor oscillator.
	44	Principle of operation of tuned collector, Hartley oscillator .
12TH	45	Colpitt and phase shift oscillator.
	46	Wein bridge oscillator.
	47	Classification of FET and advantages of FET over BJT
	48	Principle of operation of BJT and FET parameter.
13TH	49	DC drain resistance, AC drain resistance Trans-conductance and biasing of FET
	50	Revision class of DC drain resistance, AC drain resistance Trans-conductance and biasing of FET
	51	General circuit simple of OP-AMP and IC – CA – 741 OP AMP
	52	Operational amplifier stages and equivalent circuit of operational amplifier
14TH	53	Open loop OP-AMP configuration
	54	OPAMP with fed back
	55	Inverting OP-AMP, Non inverting OP-AMP, Voltage follower & buffer
	56	Differential amplifier and Adder or summing amplifier
15TH	57	Sub tractor Integrator
	58	Differentiator, Comparator
	59	Revision class of integrator ,differentiator and comparator
	60	Previous year questions and answers discussion.