

LESSON PLAN	
JHARSUGUDA ENGINEERING SCHOOL, JHARSUGUDA	
Name of the Faculty: SUNIL KUMAR PAL	Academic Year: 2022-23
Course No.- Th.4	Course Name: ANALOG ELECTRONICS & LINEAR IC
Programme: Diploma	Branch: Electronics & Telecommunication Engg.
Year/Sem: II / IV	Section: NA

Sl. No.	Period	Time (min)	Unit	Topic to be Covered	Teaching Method
1.	1.	55	1	Introduction to Analog Electronics	Chalk & Board
2.	2.	55	1	p-n junction Diode-working principle, current equation, its specification and uses.	Chalk & Board
3.	3.	55	1	Breakdown of Diode- Avalanche and Zener, Construction , working and characteristics of Diode	Chalk & Board
4.	4.	55	1	Classification & Working of Rectifiers- Half wave & Full Wave(CT & Bridge type)	Chalk & Board
5.	5.	55	1	Working of n-p-n & p-n-p Transistor, Transistor connections- CB,CE & CC and their i/o characteristics	Audio –Visual using Smart Class
6.	6.	55	1	Current Amplification factors of transistor- alpha, beta, gamma and relationship among them	Chalk & Board
7.	7.	55	1	Concept of biasing, its types, h- parameter model of BJT, Load Line- AC & DC and determination of Q-point	Chalk & Board
8.	8.	55	1	Types of Coupling, Working & use of RC coupled Amplifier	Chalk & Board
9.	9.	55	1	Frequency response of RC coupled Amplifier and its curve	Chalk & Board
12	12	55	2	Introduction to Power Amplifiers ,Classification of Power Amplifiers	Chalk & Board
13	13	55	2	Difference between Voltage & Power amplifier	Chalk & Board
14	14	55	2	Working of Class-A and Class-AB Power amplifier	Chalk & Board
15	15	55	2	Working of Class-B and Class-C and Class-D Power amplifier and Class-D Power amplifier	Chalk & Board
16	16	55	2	Construction, working & advantages of Push Pull(Class-B) Amplifiers	Chalk & Board
17	17	55	3	Introduction to Field Effect Transistor (FET),Classification of Field Effect Transistor	Chalk & Board
18	18	55	3	Difference between JFET and BJT	Chalk & Board
19	19	55	3	JFET- construction, Working & characteristics	Audio –Visual using Smart Class
20	20	55	3	JFET as an Amplifier ,Different Parameters of JFET and relationship among them	Chalk & Board
21	21	55	3	MOSFET- construction, Working & characteristics(Drain& Transfer)	Chalk & Board
22	22	55	3	CMOS and its Operation	Chalk & Board

23	23	55	4	Concept of Feedback-classification as Positive and Negative Feedback with Block Diagram	Chalk & Board
24	24	55	4	Working of feedback network, advantages & disadvantages of Negative and Positive Feedback	Chalk & Board
25	25	55	4	Types of Negative FB-Voltage shunt, Voltage Series, Current Series and Current Shunt	Chalk & Board
26	26	55	4	Characteristics of Negative FB- voltage gain, BW, I/p Impedance , o/p impedance, stability etc	Chalk & Board
27	27	55	4	Oscillator- Block diagram, Types, working and Barkhausen Criterion	Chalk & Board
28	28	55	4	RC oscillators- RC phase shift and crystal oscillators	Chalk & Board
29	29	55	4	LC oscillators- Colpitts, Hartley and Wein-Bridge Oscillators	Chalk & Board
30	30	55	5	Tuned amplifier- definition, classification	Chalk & Board
31	31	55	5	Working of Parallel Resonant circuit , resonance curve and Sharpness of Resonance	Chalk & Board
32	32	55	5	Working of Single Tuned Voltage amplifier	Chalk & Board
33	33	55	5	Working of Double Tuned Voltage amplifier and its limitations	Chalk & Board
34	34	55	5	Non linear circuits- Clippers and Clampers, types of Clippers and Clampers	Chalk & Board
35	35	55	5	Working and Application of Clippers and Clampers	Chalk & Board
36	36	55	5	Multivibrators- Astable ,Monostable and Bistable	Chalk & Board
37	37	55	5	Circuit diagram and working of multivibrators	Chalk & Board
38	38	55	5	Integrator- circuit diagram, working , frequency response, i/o characteristics and uses	Chalk & Board
39	39	55	5	Differentiator - circuit diagram, working , frequency response, i/o characteristics and uses	Chalk & Board
40	40	55	6	Introduction to Differential amplifier	Chalk & Board
41	41	55	6	Differential Amplifier- configuration, working and significance	Chalk & Board
42	42	55	6	Op-amp -Block Diagram , equivalent circuit, symbol	Chalk & Board
43	43	55	6	Integrated circuit – definition and types of IC's	Audio –Visual using Smart Class
44	44	55	6	Pin identification , temperature and ordering information of IC	Chalk & Board
45	45	55	6	Definition of various Op- amp characteristics- i/p offset voltage, i/p offset current,	Chalk & Board
46	46	55	6	Definition of CMRR, Slew Rate, Large signal voltage gain	Chalk & Board
47	47	55	6	Inverting Op- amp- circuit diagram and working	Chalk & Board
48	48	55	6	Non- Inverting Op- amp- circuit diagram and working	Chalk & Board
49	49	55	6	Voltage series feedback amplifier- circuit diagram and operation	Chalk & Board
50	50	55	6	Derivation of closed loop voltage gain, i/p and o/p resistances, bandwidth, Total o/p offset voltage of voltage	Chalk & Board

				series fb amplifier	
51	51	55	6	Voltage shunt feedback amplifier- circuit diagram and operation	Chalk & Board
52	52	55	6	Derivation of closed loop voltage gain, i/p and o/p resistances, bandwidth, Total o/p offset voltage of voltage shunt fb amplifier	Chalk & Board
53	53	55	7	Summing and Averaging amplifier using inverting & non-inverting amplifiers	Chalk & Board
54	54	55	7	DC & AC amplifiers using Op-amp	Chalk & Board
55	55	55	7	Integrator and Differentiator circuit using OP- amp	Chalk & Board
56	56	55	7	Active Filter, first order low pass Butterworth filter	Chalk & Board
57	57	55	7	Zero- crossing detector using Op-amp	Chalk & Board
58	58	55	7	Block diagram & Operation of IC 555 timer and its application	Chalk & Board
59	59	55	7	Working of current-to-voltage convertor using Op-Amp	Chalk & Board
60	60	55	7	Working of voltage-to-frequency convertor using Op-Amp	Chalk & Board