

LESSON PLAN (SUMMER-2021)			
Discipline: ETC	Semester: 4th	Name of the Teaching Faculty: SOMA DASH	
Subject: ANALOG ELECTRONICS & LINEAR IC	No of Days /per week class allotted: 5	Semester From date: 10.03.2022 To 10.06.2022 No of Weeks:15	
Week	Class Day	Theory / Practical Topics	Date
1st	1st	Unit-1: DIODE, TRANSISTORS AND CIRCUITS(10) 1.1 Working principle, of Diode & its current equation, Specification and use of p-n junction diode.	11.03.2022
	2nd	1.2 Breakdown of diode (Avalanche & Zener Breakdown) and Construction, working, Characteristics	12.03.2022
	3rd	1.3 Classification of Rectifiers and working of different types of Rectifiers- Half-Wave Rectifier, Full-Wave Rectifier (CT & BRIDGE type)	14.03.2022
	4th	continue	15.03.2022
	5th	1.4 Working principle of p-n-p and n-p-n transistor, different types of transistor connection (CB, CE and CC) & input and output characteristics of transistor in different connections.	16.03.2022
2nd	1st	continue	21.03.2022
	2nd	1.5 Define ALPHA, BETA and GAMMA of transistors in various modes. Establish the Mathematical relationship between them.	22.03.2022
	3rd	1.6 Basic concept of Biasing, Types of Biasing, h-parameter model of BJT, load line (AC & DC) and determine the Q-point.	23.03.2022
	4th	continue	25.03.2022
	5th	1.7 Types of Coupling, working principle and use of R-C Coupled Amplifier & Frequency Responses of R-C coupled Amplifier & draw the curve.	26.03.2022
3rd	1st	Unit-2: AUDIO POWER AMPLIFIERS(08) 1.1 Classify Power Amplifier & Differentiate between Voltage and Power	28.03.2022
	2nd	continue	29.03.2022
	3rd	1.2 Working principle of different types of Power Amplifier (Class-A, Class-AB, Class-B and Class-C & Class D amplifier).	30.03.2022
	4th	continue	02.04.2022
	5th	continue	04.04.2022
4th	1st	continue	05.04.2022
	2nd	1.3 Construction and working principle and advantages of Push Pull (Class-B) Amplifiers	06.04.2022
	3rd	continue	08.04.2022
	4th	Unit-3: FIELD EFFECT TRANSISTOR (FET)(10) 3.1 FET & its classifications & Differentiate between JFET & BJT.	09.04.2022
	5th	continue	11.04.2022
5th	1st	3.2 Construction, working principle & characteristics of JFET & Explain JFET as an amplifier, parameters of JFET & Establish relation among JFET parameters.	12.04.2022
	2nd	continue	13.04.2022
	3rd	continue	16.04.2022
	4th	3.3 Construction & working principle MOSFET & its classification & characteristics (Drain & Transfer)	18.04.2022
	5th	continue	19.04.2022
6th	1st	continue	20.04.2022
	2nd	3.4 Explain the operation of CMOS, VMOS & LDMOS.	22.04.2022
	3rd	continue	23.04.2022
	4th	Unit-4: FEED BACK AMPLIFIER & OSCILLATOR(08) 4.1 Define & classify Feedback Amplifier, principle of negative feedback with the help of block diagram, Types of feedback – negative & positive feedback.	25.04.2022
	5th	continue	26.04.2022
7th	1st	4.2 Types of negative feedback – voltage shunt, voltage series, current shunt & current series and characteristics voltage gain, bandwidth, input Impedance output impedance, stability, noise, distortion in amplifiers.	27.04.2022
	2nd	continue	29.04.2022
	3rd	4.3 Oscillator -block diagram of sine wave oscillator, Types Requirement of oscillation- Barkhausen criterion	30.04.2022
	4th	continue	02.05.2022
	5th	4.4 RC oscillators – RC phase shift, Crystal, LC oscillators – Colpitts, Hartley & Wien Bridge Oscillators: Circuit operation, circuit diagram, equation for frequency of oscillation & frequency stability	04.05.2022
	1st	continue	06.05.2022

8th	2nd	Unit-5: TUNED AMPLIFIER & WAVE SHAPING CIRCUIT(12) 5.1 Defined and classify Tuned amplifier, Explain parallel Resonant circuit, Resonance Curve & sharpness of Resonance.	07.05.2022
	3rd	continue	09.05.2022
	4th	5.2 working principle of Single tuned Voltage & Double tuned Amplifier & its	10.05.2022
	5th	continue	11.05.2022
9th	1st	5.3 Different type of Non-linear circuits - Clipper, diode series & shunt, positive & negative biased & unbiased and combinational clipper clippers circuit & its application.	13.05.2022
	2nd	continue	14.05.2022
	3rd	5.4 Different type of Clamper circuit (positive & negative clampers) & its	17.05.2022
	4th	continue	18.05.2022
	5th	5.5 Working of Astable, Monostable & Bistable Multivibrator with circuit	20.05.2022
10th	1st	continue	21.05.2022
	2nd	5.6 Working & use of Integrator and Differentiator circuit using R- C circuit (Linear), input / output waveforms & frequency response.	23.05.2022
	3rd	continue	24.05.2022
	4th	Unit-6: OPERATIONAL AMPLIFIER CIRCUITS & FEEDBACK CONFIGURATIONS(14)	25.05.2022
	5th	continue	27.05.2022
11th	1st	6.2 Block diagram representation of a typical Op- Amp, its equivalent circuits and draw the schematic symbol	28.05.2022
	2nd	continue	31.05.2022
	3rd	6.3 Discuss the types of integrated circuits manufacturer's designations of ICs, Package types, pin identification and temperature and ordering information.	01.06.2022
	4th	continue	03.06.2022
	5th	6.4 Define the following electrical characteristics input offset voltage, input offset current, CMRR, Large signal voltage gain, Slew rate	04.06.2022
12th	1st	continue	06.06.2022
	2nd	6.5 Draw and explain the Open Loop configuration (inverting, non-inverting	07.06.2022
	3rd	continue	08.06.2022
	4th	6.6 Draw the circuit diagram of the voltage series feedback amplifier and derive the close loop Voltage gain, gain of feedback circuits input resistance, and output resistance, bandwidth and total output offset voltage with feedback.	10.06.2022
	5th	continue	Extra Class
13th	1st	6.7 Draw the circuit diagram of the voltage shunt feedback amplifier and derive the close loop, Voltage gain, gain of feedback circuits and input resistance, and output resistance, bandwidth and total output offset voltage with feedback.	Extra Class
	2nd	continue	Extra Class
	3rd	Unit-7. APPLICATION OF OPERATIONAL AMPLIFIER, TIMER CIRCUITS & IC voltage regulator (13) 7.1 Discuss the summing scaling and averaging of inverting and non-inverting amplifiers	Extra Class
	4th	7.2 DC & AC Amplifiers using OP-AMP.	Extra Class
	5th	7.3 Integrator and differentiator using op-amp.	Extra Class
14th	1st	7.4 Active filter and describe the filter design of fast order low Pass Butterworth	Extra Class
	2nd	7.5 Concept of Zero-Crossing Detector using Op-Amp , 7.6 Block diagram and operation of IC 555 timer & IC 565 PLL & its applications.	Extra Class
	3rd	continue	Extra Class
	4th	7.7 Working of Current to voltage Converter using Operational Amplifier	Extra Class
	5th	7.8 Working of the Voltage to Frequency Converter using Operational Amplifier.	Extra Class
15th	1st	7.9 Working of the Frequency to Voltage Conversion using Operational	Extra Class
	2nd	7.10 Operation of power supply using 78XX and 79XX, LM 317 Series with their PIN configuration	Extra Class
	3rd	continue	Extra Class
	4th	7.11 Functional block diagram & Working of IC regulator LM 723 & LM 317.	Extra Class
	5th	continue	Extra Class

Signature of the Faculty