

Module No.	Unit No.	Topics	Hrs.
1.0		Introduction of Electronic Devices	05
	1.1	Study of pn junction diode characteristics & diode current equation. Application of zener diode as a voltage regulator.	
	1.2	Construction, working and characteristics of BJT, JFET, and E-MOSFET	
2.0		Biasing Circuits of BJTs and MOSFETs	06
	2.1	Concept of DC load line, Q point and regions of operations, Analysis and design of biasing circuits for BJT (Fixed bias & Voltage divider Bias)	
	2.2	DC load line and region of operation for MOSFETs. Analysis and design of biasing circuits for JFET (self bias and voltage divider bias), E-MOSFET (Drain to Gate bias & voltage divider bias).	
3.0		Small Signal Amplifiers	06
	3.1	Concept of AC load line and Amplification, Small signal analysis (Z_i , Z_o , A_v and A_i) of CE amplifier using hybrid pi model.	
	3.2	Small signal analysis (Z_i , Z_o , A_v) of CS (for E-MOSFET) amplifiers.	
	3.3	Introduction to multistage amplifiers.(Concept, advantages & disadvantages)	
4.0		Frequency response of Small signal Amplifiers:	08
	4.1	Effects of coupling, bypass capacitors and parasitic capacitors on frequency response of single stage amplifier, Miller effect and Miller capacitance.	
	4.2	High and low frequency analysis of CE amplifier.	
	4.3	High and low frequency analysis of CS (E-MOSFET) amplifier.	
5.0		Large Signal Amplifiers:	06
	5.1	Difference between small signal & large signal amplifiers. Classification and working of Power amplifier	
	5.2	Analysis of Class A power amplifier (Series fed and transformer coupled).	
	5.3	Transformer less Amplifier: Class B power amplifier. Class AB output stage with diode biasing	
	5.4	Thermal considerations and heat sinks.	
6.0		Introduction to Differential Amplifiers	08
	6.1	E-MOSFET Differential Amplifier, DC transfer characteristics, operation with common mode signal and differential mode signal	
	6.2	Differential and common mode gain, CMRR, differential and common mode Input impedance.	
	6.3	Two transistor (E-MOSFET) constant current source	
		Total	39