Lecture Plan

Name of Subject:……Elements Of Electronics Engg.……..

Class: B.Tech (ECE)

Semester:……II …….

Unit	Name of Topic	Lectures Required
I. Semiconductor Physics [12]	Overview of Semiconductors, PN junction diode and Zener diode.	**2**
	Diode circuits: rectifiers (bridge type only), filters, clippers and clampers.	**4**
	BJT construction, operation, characteristics (CB, CE and CC configurations) and uses.	**3**
	JFET and MOSFET construction, operation, characteristics (CS configuration) and uses.	**3**
II. Digital Electronics [6]	Binary, Decimal, Octal and Hexadecimal number systems and conversions, Boolean Algebra	**2**
	De Morgan‘s theorem, logic gates (AND, OR, NOT, NAND, NOR, XOR, XNOR),Combinational and sequential circuits,	**2**
	Introduction to flip-flops (S-R & J-K).	**2**
III. Electronics Instruments [5]	Role, importance and applications of general-purpose test instruments like Multimeter: Digital & Analog, Function/Signal Generator.	**3**
	Cathode Ray Oscilloscope (CRO)	**2**
IV. Optoelectronic Devices and Displays [9]	Photoconductive cell - photovoltaic cell - solar cell – photodiodes – phototransistors	**3**

	Seven segment display: Common anode and Common cathode connections and applications	**2**
	LED DISPLAY: Construction, Working, Advantages, Disadvantages and Applications	**2**
	LCD DISPLAY: Types of liquid crystals; Types of LCD display:- Dynamic scattering and field effect type; Construction, Working, Advantages, Disadvantages and Applications	**2**
V. Communication System [10]	Block diagram of a basic communication system – frequency spectrum - need for modulation	**2**
	methods of modulation - principles of AM, FM, PM	**2**
	pulse analog and pulse digital modulation	**3**
	AM / FM transmitters & receivers (block diagram description only)	**3**