Lesson Plan

Name of the Assistant/ Associate Professor: - Dr. Rajesh Malik

Class and Section: M.Sc. Physics 2nd Sem.

Subject: Electronic -II   Paper code: 18PHY22SC1

Week	Date	Topics
1	1st March-7th March	Binary operation of a system:
		Different logic gates
		Symbols
		truth table and their realization usingdiodes/ transistors
		De Morgan's law
		logic symbol of NAND and NOR using diode transistor logic
2	7th March-14th March	Transistor-Transistor logic(TTL);
		Resistor-Transistor logic(RTL)
		Propagation delay times
		Standard gate assemblies, Binary adders
		halfadder, parallel operation Decoder/Demultiplexer:
		BCD,system, BCD to decimal decoder, assignment
3	15th March-21th March	conversion of decoder to demultiplexer
		4-to-16 line decoder/demultiplexer; Data selector/multiplexer:;
		parallel to serial conversion,
		sequential data selection
		Encoders; Read only memory:
		code converters, programming of ROM and its applications
		Seven segment display; Digitalcomparator and parity checker
		-bit memory: A sequential system, 1-bit storage cell;
4	29th March-4th April	Flip flops: SR flip flop, clocked SR flip flop,
		Preset and Clear, Race around condition
		JK flip flop, Master-slave JK flip flop,
		D and T Flip flop. ShiftRegisters

5	5th April-11th April	Serial-to-Parallel converter, test 1
		Parallel-to-serial converter, Parallel in parallel out
		serial in serial out, Right and left shift register
		Counters: Shift register ring counter
6		Twisted ring counter, Ripple Counter
		Up down counter, Divideby N counter
		Synchronous counter and applications of counters Digital MOSFET circuits: Inverter
		NAND and NORoperation using MOSFET, CMOS, Dynamic and static MOS Shift Register
	12th April-18th April	MOS based ROM and RAM
7		Fndamentals of modulation, Frequency spectra in AM modulation
		power in AM modulated class Camplifier, Efficiency modulation
		linear demodulation of AM waves, frequency conversion
		SSB system, Balanced modulation, filtering the signal for SSB, Resonant Cavity,
	19th April-25th April	phase shift method, product detector,
8		Pulse modulation: PAM, PTM, PWM, PPM, PCM;
		Klystrons and Magnetron velocitymodulation, assignment 2
		basic principle of two cavity klystron and reflex klystron
		principle of operation of magnetron, Hotelectrons
		Transferred electron devices, Gunn effect, principle of operation
	26th April-2nd May	Modes of Operation,Read diode, IMATT diode, TRAPATT diode
9		Integrated Circuits and their Fabrication: Types of Integrated Circuits
		Analog and Digital IntegratedCircuits,
		Semiconductor Device Fabrication: Crystal Growth, Epitaxial Growth, Thermal Oxidation
		Photolithography, Dry and Wet Etching,
	3rd May-9th May	Impurity Doping: Thermal Diffusion and Ion Implantation

		Metallization: Thermal Evaporation, e-Beam
		Evaporation and DC Sputtering, test 2
10		Packaging and Testing, ,
		Process Flow for the Fabrication of Monolithic Transistor
		Monolithic Diodes,Integrated Resistors
		revision
	10th May - 16th May	