Lesson Plan

Name of the Faculty : - Ms. Vineet

Discipline : - ECE

Semester : - Fourth

Subject : - Communication Systems

Lesson Plan Duration: - 15 Weeks (From February 2024 to June 2024)

Workload (Lecture / Practical) per week (in hours):- Lectures-03, Practicals-02

Week	Theory		Practical	
	Lecture day	Topic(topic including assignment/test)	Practical day	Topic
1st	1st	AM/FM Transmitters -Classification of transmitters on the basis of modulation, service, frequency and power -Block diagram of AM transmitters and working of each stage -Block diagram and working principles of reactance FET and Armstrong FM transmitters	1st	To observe the waveforms at different stages of a AM low power transmitter
	2nd	AM/FM Transmitters -Classification of transmitters on the basis of modulation, service, frequency and power -Block diagram of AM transmitters and working of each stage -Block diagram and working principles of reactance FET and Armstrong FM transmitters		

	3rd	AM/FM Transmitters -Classification of transmitters on the basis of modulation, service, frequency and power -Block diagram of AM transmitters and working of each stage -Block diagram and working principles of reactance FET and Armstrong FM transmitters		
2nd	4th	AM/FM Transmitters -Classification of transmitters on the basis of modulation, service, frequency and power -Block diagram of AM transmitters and working of each stage -Block diagram and working principles of reactance FET and Armstrong FM transmitters	2nd	To observe the waveforms at different stages of a Radio Receiver
	5th	AM/FM Transmitters -Classification of transmitters on the basis of modulation, service, frequency and power -Block diagram of AM transmitters and working of each stage -Block diagram and working principles of reactance FET and Armstrong FM transmitters		
	6th	AM/FM Radio Receivers -Principle and working with block diagram of super heterodyne AM receiver, Function of each block and typical waveform at input and output of each block		

		-Performance characteristics of a radio receiver: sensitivity, selectivity, fidelity, S/N ratio, image rejection ratio and their measurement procedure. Concepts of simple and delayed AGC Block diagram of an FM receiver, function of each block and waveforms at input and output of different blocks.		
3rd	7th	AM/FM Radio Receivers -Principle and working with block diagram of super heterodyne AM receiver, Function of each block and typical waveform at input and output of each block -Performance characteristics of a radio receiver: sensitivity, selectivity, fidelity, S/N ratio, image rejection ratio and their measurement procedure. - Concepts of simple and delayed AGC -Block diagram of an FM receiver, function of each block and waveforms at input and output of different blocks.	3rd	To align AM broadcast radio receiver
	8th	AM/FM Radio Receivers -Principle and working with block diagram of super heterodyne AM receiver, Function of each block and typical waveform at input and output of each block -Performance characteristics of a radio		

		receiver: sensitivity, selectivity, fidelity, S/N ratio, image rejection ratio and their measurement procedure. - Concepts of simple and delayed AGC -Block diagram of an FM receiver, function of each block and waveforms at input and output of different blocks.		
	9th	AM/FM Radio Receivers -Principle and working with block diagram of super heterodyne AM receiver, Function of each block and typical waveform at input and output of each block -Performance characteristics of a radio receiver: sensitivity, selectivity, fidelity, S/N ratio, image rejection ratio and their measurement procedure. - Concepts of simple and delayed AGC -Block diagram of an FM receiver, function of each block and waveforms at input and output of different blocks.		
4th	10th	AM/FM Radio Receivers -Principle and working with block diagram of super heterodyne AM receiver, Function of each block and typical waveform at input and output of each block -Performance characteristics of a radio receiver: sensitivity,	4th	To align the dish antenna

		selectivity, fidelity, S/N ratio, image rejection ratio and their measurement procedure. -Concepts of simple and delayed AGC -Block diagram of an FM receiver, function of each block and waveforms at input and output of different blocks.		
	11th	AM/FM Radio Receivers -Principle and working with block diagram of super heterodyne AM receiver, Function of each block and typical waveform at input and output of each block -Performance characteristics of a radio receiver: sensitivity, selectivity, fidelity, S/N ratio, image rejection ratio and their measurement procedure. -Concepts of simple and delayed AGC -Block diagram of an FM receiver, function of each block and waveforms at input and output of different blocks.		
	12th	AM/FM Radio Receivers -Principle and working with block diagram of super heterodyne AM receiver, Function of each block and typical waveform at input and output of each block -Performance characteristics of a radio receiver: sensitivity, selectivity, fidelity, S/N		

		ratio, image rejection ratio and their measurement procedure. - Concepts of simple and delayed AGC -Block diagram of an FM receiver, function of each block and waveforms at input and output of different blocks.		
5th	13th	AM/FM Radio Receivers -Principle and working with block diagram of super heterodyne AM receiver, Function of each block and typical waveform at input and output of each block -Performance characteristics of a radio receiver: sensitivity, selectivity, fidelity, S/N ratio, image rejection ratio and their measurement procedure. - Concepts of simple and delayed AGC -Block diagram of an FM receiver, function of each block and waveforms at input and output of different blocks.	5th	To identify and study the various types of antennas used in different frequency ranges.
	14th	AM/FM Radio Receivers -Principle and working with block diagram of super heterodyne AM receiver, Function of each block and typical waveform at input and output of each block -Performance characteristics of a radio receiver: sensitivity, selectivity, fidelity, S/N ratio, image rejection ratio		

		and their measurement procedure. - Concepts of simple and delayed AGC -Block diagram of an FM receiver, function of each block and waveforms at input and output of different blocks.		
	15th	AM/FM Radio Receivers -Principle and working with block diagram of super heterodyne AM receiver, Function of each block and typical waveform at input and output of each block -Performance characteristics of a radio receiver: sensitivity, selectivity, fidelity, S/N ratio, image rejection ratio and their measurement procedure. - Concepts of simple and delayed AGC -Block diagram of an FM receiver, function of each block and waveforms at input and output of different blocks.		
6th	16th	AM/FM Radio Receivers -Principle and working with block diagram of super heterodyne AM receiver, Function of each block and typical waveform at input and output of each block -Performance characteristics of a radio receiver: sensitivity, selectivity, fidelity, S/N ratio, image rejection ratio and their measurement	6th	To plot the radiation pattern of directional and omnidirectional antenna.

		procedure. - Concepts of simple and delayed AGC -Block diagram of an FM receiver, function of each block and waveforms at input and output of different blocks. -Assignment		
	17th	Test		
	18th	Antennas: -Electromagnetic spectrum and its various ranges: VLF, LF, MF,HF, VHF, UHF, Microwave -Physical concept of radiation of electromagnetic energy from a dipole. Concept of polarization of EM Waves. -Definition and physical concepts of the terms used with antenna like point source, gain directivity, aperture, effective area, radiation pattern, beam width and radiation resistance, loss resistance. -Types of antennas –brief description, characteristics and typical applications of half wave dipole, folded dipole, patch , loop, Ferrite rod, Yagi antenna, Dish antenna		
7th	19th	Antennas: -Electromagnetic spectrum and its various ranges: VLF, LF, MF,HF, VHF, UHF, Microwave -Physical concept of radiation of electromagnetic energy from a dipole.	7th	To plot the variation of field strength of a radiated wave, with distance from transmitting antenna

		Concept of polarization of EM Waves. -Definition and physical concepts of the terms used with antenna like point source, gain directivity, aperture, effective area, radiation pattern, beam width and radiation resistance, loss resistance. -Types of antennas –brief description, characteristics and typical applications of half wave dipole, folded dipole, patch , loop, Ferrite rod, Yagi antenna, Dish antenna		
	20th	Antennas: -Electromagnetic spectrum and its various ranges: VLF, LF, MF,HF, VHF, UHF, Microwave -Physical concept of radiation of electromagnetic energy from a dipole. Concept of polarization of EM Waves. -Definition and physical concepts of the terms used with antenna like point source, gain directivity, aperture, effective area, radiation pattern, beam width and radiation resistance, loss resistance. -Types of antennas –brief description, characteristics and typical applications of half wave dipole, folded dipole, patch , loop, Ferrite rod, Yagi antenna, Dish antenna		
	21st	Antennas:		

		-Electromagnetic spectrum and its various ranges: VLF, LF, MF,HF, VHF, UHF, Microwave -Physical concept of radiation of electromagnetic energy from a dipole. Concept of polarization of EM Waves. -Definition and physical concepts of the terms used with antenna like point source, gain directivity, aperture, effective area, radiation pattern, beam width and radiation resistance, loss resistance. -Types of antennas –brief description, characteristics and typical applications of half wave dipole, folded dipole, patch , loop, Ferrite rod, Yagi antenna, Dish antenna		
8th	22nd	Antennas: -Electromagnetic spectrum and its various ranges: VLF, LF, MF,HF, VHF, UHF, Microwave -Physical concept of radiation of electromagnetic energy from a dipole. Concept of polarization of EM Waves. -Definition and physical concepts of the terms used with antenna like point source, gain directivity, aperture, effective area, radiation pattern, beam width and radiation resistance, loss resistance. -Types of antennas –brief	8th	To study and rectify different faults in broadcast radio receiver

		description, characteristics and typical applications of half wave dipole, folded dipole, patch , loop, Ferrite rod, Yagi antenna, Dish antenna		
	23rd	Antennas: -Electromagnetic spectrum and its various ranges: VLF, LF, MF,HF, VHF, UHF, Microwave -Physical concept of radiation of electromagnetic energy from a dipole. Concept of polarization of EM Waves. -Definition and physical concepts of the terms used with antenna like point source, gain directivity, aperture, effective area, radiation pattern, beam width and radiation resistance, loss resistance. -Types of antennas –brief description, characteristics and typical applications of half wave dipole, folded dipole, patch , loop, Ferrite rod, Yagi antenna, Dish antenna		
	24th	Antennas: -Electromagnetic spectrum and its various ranges: VLF, LF, MF,HF, VHF, UHF, Microwave -Physical concept of radiation of electromagnetic energy from a dipole. Concept of polarization of EM Waves. -Definition and physical concepts of the terms used		

		with antenna like point source, gain directivity, aperture, effective area, radiation pattern, beam width and radiation resistance, loss resistance. -Types of antennas –brief description, characteristics and typical applications of half wave dipole, folded dipole, patch , loop, Ferrite rod, Yagi antenna, Dish antenna		
9th	25th	Propagation -Basic idea about different modes of wave propagation and typical areas of application. Ground wave propagation and its characteristics. -Space wave communication-line of sight propagation, standard atmosphere, structure of standard atmosphere	9th	Revision
	26th	Propagation -Basic idea about different modes of wave propagation and typical areas of application. Ground wave propagation and its characteristics. -Space wave communication-line of sight propagation, standard atmosphere, structure of standard atmosphere		
	27th	Propagation -Basic idea about different modes of wave propagation and typical areas of application. Ground wave propagation and its		

		characteristics. -Space wave communication-line of sight propagation, standard atmosphere, structure of standard atmosphere		
10th	28th	Propagation -Basic idea about different modes of wave propagation and typical areas of application. Ground wave propagation and its characteristics. -Space wave communication-line of sight propagation, standard atmosphere, structure of standard atmosphere	10th	Revision
	29th	Propagation -Basic idea about different modes of wave propagation and typical areas of application. Ground wave propagation and its characteristics. -Space wave communication-line of sight propagation, standard atmosphere, structure of standard atmosphere		
	30th	Propagation -Basic idea about different modes of wave propagation and typical areas of application. Ground wave propagation and its characteristics. -Space wave communication-line of sight propagation, standard atmosphere, structure of standard atmosphere		
11th	31st	Propagation	11th	Revision

		-Basic idea about different modes of wave propagation and typical areas of application. Ground wave propagation and its characteristics. -Assignment		
	32nd	Test		
	33rd	Propagation -Space wave communication-line of sight propagation, standard atmosphere, structure of standard atmosphere - Sky wave propagation-ionosphere and its layers. Explanation of terms-virtual height, critical frequency, maximum usable frequency, multiple hop propagation		
12th	34th	Propagation - Sky wave propagation-ionosphere and its layers. Explanation of terms-virtual height, critical frequency, maximum usable frequency, multiple hop propagation	12th	Revision
	35th	Propagation - Sky wave propagation-ionosphere and its layers. Explanation of terms-virtual height, critical frequency, maximum usable frequency, multiple hop propagation		
	36th	Propagation - Sky wave propagation-ionosphere and its layers. Explanation of terms-virtual height, critical frequency, maximum usable frequency, multiple hop propagation		
13th	37th	Propagation - Sky wave propagation-	13th	Revision

		ionosphere and its layers. Explanation of terms-virtual height, critical frequency, maximum usable frequency, multiple hop propagation		
	38th	Satellite Communication: -Basic idea, passive and active satellites, Meaning of terms : orbit, apogee, perigee -Geostationary satellite and its need. Block diagram and explanation of satellite communication link -Introduction to VSAT and its features		
	39th	Satellite Communication: -Basic idea, passive and active satellites, Meaning of terms : orbit, apogee, perigee -Geostationary satellite and its need. Block diagram and explanation of satellite communication link -Introduction to VSAT and its features		
14th	40th	Satellite Communication: -Basic idea, passive and active satellites, Meaning of terms : orbit, apogee, perigee -Geostationary satellite and its need. Block diagram and explanation of satellite communication link -Introduction to VSAT and its features	14th	Revision
	41st	Satellite Communication: -Basic idea, passive and active satellites, Meaning of terms : orbit, apogee, perigee		

		-Geostationary satellite and its need. Block diagram and explanation of satellite communication link -Introduction to VSAT and its features		
	42nd	Satellite Communication: -Basic idea, passive and active satellites, Meaning of terms : orbit, apogee, perigee -Geostationary satellite and its need. Block diagram and explanation of satellite communication link -Introduction to VSAT and its features		
15th	43rd	Satellite Communication: -Basic idea, passive and active satellites, Meaning of terms : orbit, apogee, perigee -Geostationary satellite and its need. Block diagram and explanation of satellite communication link -Introduction to VSAT and its features	15th	Revision
	44th	Satellite Communication: -Basic idea, passive and active satellites, Meaning of terms : orbit, apogee, perigee -Geostationary satellite and its need. Block diagram and explanation of satellite communication link -Introduction to VSAT and its features -Assignment		
	45th	Test		

Lesson Plan (Project)

Name of the Faculty: Satpal Singh/Sh. Yeshpal
Discipline: Electronics and Communication Engg.
Semester: 4th
Subject: Project
Lesson Plan Duration: (From Feb, 2024 to June, 2024)

Week	Theory		Practical	
	Lecture Day	Topic(including assignment/Test)	Practical Day	Topic
1st	NA	NA	1	Discussion & Concept of Major Project Work
	NA	NA	2	Making the group of students.
	NA	NA	3	Analyzing the importance of testing & basic engineering principles.
2nd	NA	NA	4	Analyzing the aptitudes and Interest of students and submission of synopsis of project.
	NA	NA	5	Analyzing the usefulness and scope of the project
	NA	NA	6	Discussion on Possibilities, Pros and Cons of the different projects
3rd	NA	NA	7	Discussions on nature and scope of the selected project assignment
	NA	NA	8	Assessing the boundaries of the project assignment
			9	**Planning of the Project-** selecting the tools and software and hardware to be used; and Finalizing of Projects.
4th	NA	NA	10	Working on projects/Designing and making of PCBs; layout etc
	NA	NA	11	Working on projects/Designing

				and making of PCBs; layout etc
	NA	NA	12	Working on projects/Designing and making of PCBs; layout etc

5th	NA	NA	13	Working on projects/Designing and making of PCBs; layout etc
	NA	NA	14	Working on projects/Designing and making of PCBs; layout etc
	NA	NA	15	Working on projects/Designing and making of PCBs; layout etc
6th	NA	NA	16	Component Mounting/ assembling and testing.
	NA	NA	17	Component Mounting/ assembling and testing.
	NA	NA	18	Component Mounting/ assembling and testing.
7th	NA	NA	19	Component Mounting/ assembling and testing.
	NA	NA	20	Component Mounting/ assembling and testing.
	NA	NA	21	Component Mounting/ assembling and testing.
8th	NA	NA	22	Component Mounting/ assembling and testing.
	NA	NA	23	Component Mounting/ assembling and testing.
	NA	NA	24	Component Mounting/ assembling and testing.
9th	NA	NA	25	Checking the chances for improvements.
	NA	NA	26	Checking the chances for improvements.
	NA	NA	27	Checking the chances for improvements.
10th	NA	NA	28	Checking the chances for improvements.
	NA	NA	29	Complete execution & presentation by the students
	NA	NA	30	Complete execution & presentation by the students
11th	NA	NA	31	Complete execution & presentation by the students

	NA	NA	32	Complete execution & presentation by the students

	NA	NA	33	Complete execution & presentation by the students
12th	NA	NA	34	Complete execution/ application of projects.
	NA	NA	35	Complete execution/ application of projects
	NA	NA	36	Complete execution/ application of projects
13th	NA	NA	37	**Project Report Writing:** Deciding the format and Report layout designing.
	NA	NA	38	Writing the report as per the decided scheme
	NA	NA	39	Writing the report as per the decided scheme
14th	NA	NA	40	Submission & Evaluation of the final project work including its report and viva
	NA	NA	41	Submission & Evaluation of the final project work including its report and viva
	NA	NA	42	Submission & Evaluation of the final project work including its report and viva
15th	NA	NA	43	Final evaluation after rework, if needed
	NA	NA	44	Final evaluation after rework, if needed
	NA	NA	45	Final evaluation after rework, if needed

BPS Mahila Polytchnic, Khanpur Kalan

Lesson Plan

Name of the Faculty : **Ms. Shefali**
Discipline : **ELECTRONICS AND COMMUNICATION**
Semester : 4th
Subject : MICROPROCESSOR & MICRO-CONTROLLERS
Lesson Plan Duration : 15 Weeks (From Feb to June 2024)
Work Load per week : THEORY - 3 , PRACTICAL - 4

Week	Theory		Practical	
	Lecture Day	Topic	Practical Day	Topic
1st	1st	Introduction to Microprocessors and Microcontrollers	1st	Understand 8051 development board
	2nd	Basic Introduction	2nd	
	3rd	comparison of Microcomputer, Microprocessor,Microcontroller	3rd	
			4th	
2nd	4th	Selection of Microcontroller	5th	Generating Hex File using Keil Compiler
	5th	introduction to 8051- History, Architecture,	6th	
	6th	Pin Diagram,	7th	
			8th	
3rd	7th	Crystal Circuit, Reseat Circuit.	9th	Programming and interfacing of RELAY and Buzzer
	8th	Programming Languages and Instructi	10th	
	9th	Different Types of Programming langu	11th	
			12th	
4th	10th	Advantages of Programming in C	13th	Programming to interface switches and LEDs
	11th	Addressing Modes	14th	
	12th	Instruction Set of 8051	15th	
			16th	
5th	13th	SESSIONAL	17th	
	14th	SESSIONAL	18th	
	15th	SESSIONAL	19th	
			20th	
6th	16th	Types of Instructions	21st	Programming and interfacing of LCD

	17th	Data types and time delay in 8051	22nd	
	18th	I/O programming in 8051 C,	23rd	
			24th	
7th	19th	Hex file generation using Keil Compile	25th	Programming for A/D converter, result on LCD
	20th	Timers and Registers of 8051	26th	
	21st	Timer / Counter logic and modes	27th	
			28th	
8th	22nd	Programming of 8051 timers	29th	Programming for D/A converter, result on LCD
	23rd	Programming Timer 1 using C	30th	
	24th	Serial Port of 8051	31st	
			32nd	
9th	25th	Basics of serial communication,	33rd	Programming for D/A converter, result on LCD
	26th	Serial Communication-SCON,SBUF	34th	
	27th	Modes of serial communication	35th	
			36th	
10th	28th	SESSIONAL	37th	
	29th	SESSIONAL	38th	
	30th	SESSIONAL	39th	
			40th	
11th	31st	8051 connection to RS232	41st	Interfacing Stepper Motor with 8051.
	32nd	Interrupts	42nd	
	33rd	Real World Interfacing with 8051	43rd	
			44th	
12th	34th	I/O Interfacing –	45th	Interfacing Stepper Motor with 8051.
	35th	LCD	46th	
	36th	LED	47th	
			48th	
13th	37th		49th	Interfacing different sensors with
	38th	Keyboard interfacing ADC and DAC	50th	

13th	39th	Sensor Interfacing and Signal Conditio	51st	8051.
			52nd	
14th	40th	SESSIONAL	53rd	
	41st	SESSIONAL	54th	
	42nd	SESSIONAL	55th	
			56th	
15th	43rd	REVISION	57th	
	44th	REVISION	58th	
	45th	REVISION	59th	
			60th	

Lesson Plan

Name of the Faculty : - Ms. Vineet

Discipline : - ECE

Semester : - Fourth

Subject : - Power Electronics

Lesson Plan Duration: - 15 Weeks (From February 2024 to June 2024)

Workload (Lecture / Practical) per week (in hours):- Lectures-03, Practicals-04

Week	Theory		Practical	
	Lecture day	Topic(topic including assignment/test)	Practical day	Topic
1st	1st	Power Electronics Devices -Role of Power Electronics -Construction ,working principles of SCR, two transistor analogy of SCR, V-I characteristics of SCR -SCR specifications and ratings di/dt and dv/dt protection of SCR -Different methods of SCR triggering -Different commutation circuits for SCR -Construction and working principle of DIAC,TRIAC and their V-I characteristics -Construction, working principle of UJT, V-I characteristics of UJT, UJT	1st	To plot VI characteristics of an SCR

		as relaxation oscillator -Basic idea about the selection of Heat sink for thyristors -Application such as light intensity control, speed control of universal motors, fan regulator, battery charger		
	2nd	Power Electronics Devices -Role of Power Electronics -Construction ,working principles of SCR, two transistor analogy of SCR, V-I characteristics of SCR -SCR specifications and ratings di/dt and dv/dt protection of SCR -Different methods of SCR triggering -Different commutation circuits for SCR -Construction and working principle of DIAC,TRIAC and their V-I characteristics -Construction, working principle of UJT, V-I characteristics of UJT, UJT as relaxation oscillator -Basic idea about the selection of Heat sink for thyristors -Application such as light intensity control, speed control of universal motors, fan regulator, battery charger		
	3rd	Power Electronics Devices -Role of Power Electronics -Construction ,working principles of SCR, two transistor analogy of SCR,		

		V-I characteristics of SCR -SCR specifications and ratings di/dt and dv/dt protection of SCR -Different methods of SCR triggering -Different commutation circuits for SCR -Construction and working principle of DIAC,TRIAC and their V-I characteristics -Construction, working principle of UJT, V-I characteristics of UJT, UJT as relaxation oscillator -Basic idea about the selection of Heat sink for thyristors -Application such as light intensity control, speed control of universal motors, fan regulator, battery charger		
2nd	4th	Power Electronics Devices -Role of Power Electronics -Construction ,working principles of SCR, two transistor analogy of SCR, V-I characteristics of SCR -SCR specifications and ratings di/dt and dv/dt protection of SCR -Different methods of SCR triggering -Different commutation circuits for SCR -Construction and working principle of DIAC,TRIAC and their V-I characteristics -Construction, working principle of UJT, V-I	2nd	To plot VI characteristics 0f TRIAC

		characteristics of UJT, UJT as relaxation oscillator -Basic idea about the selection of Heat sink for thyristors -Application such as light intensity control, speed control of universal motors, fan regulator, battery charger		
	5th	Power Electronics Devices -Role of Power Electronics -Construction ,working principles of SCR, two transistor analogy of SCR, V-I characteristics of SCR -SCR specifications and ratings di/dt and dv/dt protection of SCR -Different methods of SCR triggering -Different commutation circuits for SCR -Construction and working principle of DIAC,TRIAC and their V-I characteristics -Construction, working principle of UJT, V-I characteristics of UJT, UJT as relaxation oscillator -Basic idea about the selection of Heat sink for thyristors -Application such as light intensity control, speed control of universal motors, fan regulator, battery charger		
	6th	Power Electronics Devices -Role of Power Electronics -Construction ,working principles of SCR, two		

		transistor analogy of SCR, V-I characteristics of SCR -SCR specifications and ratings di/dt and dv/dt protection of SCR -Different methods of SCR triggering -Different commutation circuits for SCR -Construction and working principle of DIAC,TRIAC and their V-I characteristics -Construction, working principle of UJT, V-I characteristics of UJT, UJT as relaxation oscillator -Basic idea about the selection of Heat sink for thyristors -Application such as light intensity control, speed control of universal motors, fan regulator, battery charger		
3rd	7th	Power Electronics Devices -Role of Power Electronics -Construction ,working principles of SCR, two transistor analogy of SCR, V-I characteristics of SCR -SCR specifications and ratings di/dt and dv/dt protection of SCR -Different methods of SCR triggering -Different commutation circuits for SCR -Construction and working principle of DIAC,TRIAC and their V-I characteristics -Construction, working	3rd	To plot VI characteristics of UJT.

		principle of UJT, V-I characteristics of UJT, UJT as relaxation oscillator -Basic idea about the selection of Heat sink for thyristors -Application such as light intensity control, speed control of universal motors, fan regulator, battery charger		
	8th	Power Electronics Devices -Role of Power Electronics -Construction ,working principles of SCR, two transistor analogy of SCR, V-I characteristics of SCR -SCR specifications and ratings di/dt and dv/dt protection of SCR -Different methods of SCR triggering -Different commutation circuits for SCR -Construction and working principle of DIAC,TRIAC and their V-I characteristics -Construction, working principle of UJT, V-I characteristics of UJT, UJT as relaxation oscillator -Basic idea about the selection of Heat sink for thyristors -Application such as light intensity control, speed control of universal motors, fan regulator, battery charger		
	9th	Power Electronics Devices -Role of Power Electronics -Construction ,working		

		principles of SCR, two transistor analogy of SCR, V-I characteristics of SCR -SCR specifications and ratings di/dt and dv/dt protection of SCR -Different methods of SCR triggering -Different commutation circuits for SCR -Construction and working principle of DIAC,TRIAC and their V-I characteristics -Construction, working principle of UJT, V-I characteristics of UJT, UJT as relaxation oscillator -Basic idea about the selection of Heat sink for thyristors -Application such as light intensity control, speed control of universal motors, fan regulator, battery charger		
4th	10th	Controlled Rectifiers -Single phase half wave controlled rectifier with load(R,R-L) -Single phase half controlled full wave bridge rectifier with load(R,R-L) -Single phase fully controlled full wave bridge rectifier. -Singe phase full wave centre tap controlled rectifier.	4th	To plot VI characteristics of DIAC
	11th	Controlled Rectifiers -Single phase half wave controlled rectifier with load(R,R-L)		

		-Single phase half controlled full wave bridge rectifier with load(R,R-L) -Single phase fully controlled full wave bridge rectifier. -Singe phase full wave centre tap controlled rectifier.		
	12th	Controlled Rectifiers -Single phase half wave controlled rectifier with load(R,R-L) -Single phase half controlled full wave bridge rectifier with load(R,R-L) -Single phase fully controlled full wave bridge rectifier. -Singe phase full wave centre tap controlled rectifier.		
5th	13th	Controlled Rectifiers -Single phase half wave controlled rectifier with load(R,R-L) -Single phase half controlled full wave bridge rectifier with load(R,R-L) -Single phase fully controlled full wave bridge rectifier. -Singe phase full wave centre tap controlled rectifier.	5th	To study UJT relaxation oscillator and observe different wave forms.
	14th	Controlled Rectifiers -Single phase half wave controlled rectifier with load(R,R-L) -Single phase half controlled full wave bridge rectifier with load(R,R-L) -Single phase fully		

		controlled full wave bridge rectifier. -Singe phase full wave centre tap controlled rectifier.		
	15th	Controlled Rectifiers -Single phase half wave controlled rectifier with load(R,R-L) -Single phase half controlled full wave bridge rectifier with load(R,R-L) -Single phase fully controlled full wave bridge rectifier. -Singe phase full wave centre tap controlled rectifier.		
6th	16th	Controlled Rectifiers -Single phase half wave controlled rectifier with load(R,R-L) -Single phase half controlled full wave bridge rectifier with load(R,R-L) -Single phase fully controlled full wave bridge rectifier. -Singe phase full wave centre tap controlled rectifier. -Assignment	6th	To observe wave shapes at relevant points in a circuit of single–phase half wave controlled rectifier and effect of change of firing angle.
	17th	Test		
	18th	Inverters, Choppers, Dual Converters and Cyclo converters -Principle of operation of basic inverter circuits, series and parallel inverters and their applications. -Choppers: Introduction, concepts of duty cycle, types of choppers (Class A,		

		Class B, Class C and Class D). Step up and step down choppers. -Dual Converters and cyclo converters: Introduction, types and basic working principle of dual converters, cyclo converters and their applications.		
7th	19th	Inverters, Choppers, Dual Converters and Cyclo converters -Principle of operation of basic inverter circuits, series and parallel inverters and their applications. -Choppers: Introduction, concepts of duty cycle, types of choppers (Class A, Class B, Class C and Class D). Step up and step down choppers. -Dual Converters and cyclo converters: Introduction, types and basic working principle of dual converters, cyclo converters and their applications.	7th	To observe wave shapes and measurement of voltage at relevant points in TRIAC based AC control circuit.
	20th	Inverters, Choppers, Dual Converters and Cyclo converters -Principle of operation of basic inverter circuits, series and parallel inverters and their applications. -Choppers: Introduction, concepts of duty cycle, types of choppers (Class A, Class B, Class C and Class D). Step up and step down choppers. -Dual Converters and cyclo converters: Introduction,		

		types and basic working principle of dual converters, cyclo converters and their applications.		
	21st	Inverters, Choppers, Dual Converters and Cyclo converters -Principle of operation of basic inverter circuits, series and parallel inverters and their applications. -Choppers: Introduction, concepts of duty cycle, types of choppers (Class A, Class B, Class C and Class D). Step up and step down choppers. -Dual Converters and cyclo converters: Introduction, types and basic working principle of dual converters, cyclo converters and their applications.		
8th	22nd	Inverters, Choppers, Dual Converters and Cyclo converters -Principle of operation of basic inverter circuits, series and parallel inverters and their applications. -Choppers: Introduction, concepts of duty cycle, types of choppers (Class A, Class B, Class C and Class D). Step up and step down choppers. -Dual Converters and cyclo converters: Introduction, types and basic working principle of dual converters, cyclo converters and their applications.	8th	To observe output wave shape in a circuit for single phase full wave controlled rectifier.
	23rd	Inverters, Choppers, Dual		

		Converters and Cyclo converters -Principle of operation of basic inverter circuits, series and parallel inverters and their applications. -Choppers: Introduction, concepts of duty cycle, types of choppers (Class A, Class B, Class C and Class D). Step up and step down choppers. -Dual Converters and cyclo converters: Introduction, types and basic working principle of dual converters, cyclo converters and their applications.		
	24th	Inverters, Choppers, Dual Converters and Cyclo converters -Principle of operation of basic inverter circuits, series and parallel inverters and their applications. -Choppers: Introduction, concepts of duty cycle, types of choppers (Class A, Class B, Class C and Class D). Step up and step down choppers. -Dual Converters and cyclo converters: Introduction, types and basic working principle of dual converters, cyclo converters and their applications.		
9th	25th	Inverters, Choppers, Dual Converters and Cyclo converters -Principle of operation of basic inverter circuits, series and parallel inverters	9^{th}	To study installation of UPS system and routine maintenance of batteries.

		and their applications. -Choppers: Introduction, concepts of duty cycle, types of choppers (Class A, Class B, Class C and Class D). Step up and step down choppers. -Dual Converters and cyclo converters: Introduction, types and basic working principle of dual converters, cyclo converters and their applications.		
	26th	Inverters, Choppers, Dual Converters and Cyclo converters -Principle of operation of basic inverter circuits, series and parallel inverters and their applications. -Choppers: Introduction, concepts of duty cycle, types of choppers (Class A, Class B, Class C and Class D). Step up and step down choppers. -Dual Converters and cyclo converters: Introduction, types and basic working principle of dual converters, cyclo converters and their applications.		
	27th	Thyristorised Control of Electric drives a) DC drive control -Half wave drives -Full wave drives -Chopper drives(Speed control of DC motor using choppers) b) AC drive control -Phase control -Constant V/F operation		

		- Cyclo converters/Inverter drive		
10th	28th	Thyristorised Control of Electric drives b) DC drive control -Half wave drives -Full wave drives -Chopper drives(Speed control of DC motor using choppers) b) AC drive control -Phase control -Constant V/F operation - Cyclo converters/Inverter drive	10th	Visit to any Solar Power Plant.
	29th	Thyristorised Control of Electric drives c) DC drive control -Half wave drives -Full wave drives -Chopper drives(Speed control of DC motor using choppers) b) AC drive control -Phase control -Constant V/F operation - Cyclo converters/Inverter drive		
	30th	Thyristorised Control of Electric drives d) DC drive control -Half wave drives -Full wave drives -Chopper drives(Speed control of DC motor using choppers) b) AC drive control -Phase control -Constant V/F operation - Cyclo		

		converters/Inverter drive		
11th	31st	Thyristorised Control of Electric drives e) DC drive control -Half wave drives -Full wave drives -Chopper drives(Speed control of DC motor using choppers) b) AC drive control -Phase control -Constant V/F operation - Cyclo converters/Inverter drive	11th	Revision
	32nd	Thyristorised Control of Electric drives f) DC drive control -Half wave drives -Full wave drives -Chopper drives(Speed control of DC motor using choppers) b) AC drive control -Phase control -Constant V/F operation - Cyclo converters/Inverter drive -Assignment		
	33rd	Thyristorised Control of Electric drives g) DC drive control -Half wave drives -Full wave drives -Chopper drives(Speed control of DC motor using choppers) b) AC drive control -Phase control -Constant V/F operation - Cyclo		

		converters/Inverter drive		
12th	34th	Thyristorised Control of Electric drives h) DC drive control -Half wave drives -Full wave drives -Chopper drives(Speed control of DC motor using choppers) b) AC drive control -Phase control -Constant V/F operation - Cyclo converters/Inverter drive -Assignment	12th	Revision
	35th	Test		
	36th	Uninterruptible Power Supplies - UPS, on-line, off line and its specifications - Concept of high voltage DC transmission - Classification of batteries - Introduction to solar power plants and their components		
13th	37th	Uninterruptible Power Supplies - UPS, on-line, off line and its specifications - Concept of high voltage DC transmission - Classification of batteries - Introduction to solar power plants and their components	13th	Revision

	38th	Uninterruptible Power Supplies - UPS, on-line, off line and its specifications - Concept of high voltage DC transmission - Classification of batteries - Introduction to solar power plants and their components		
	39th	Uninterruptible Power Supplies - UPS, on-line, off line and its specifications - Concept of high voltage DC transmission - Classification of batteries - Introduction to solar power plants and their components		
14th	40th	Uninterruptible Power Supplies - UPS, on-line, off line and its specifications - Concept of high voltage DC transmission - Classification of batteries - Introduction to solar power plants and their components	14th	Revision
	41st	Uninterruptible Power Supplies - UPS, on-line, off line and its specifications - Concept of high voltage DC transmission		

		- Classification of batteries - Introduction to solar power plants and their components		
	42nd	Uninterruptible Power Supplies - UPS, on-line, off line and its specifications - Concept of high voltage DC transmission - Classification of batteries - Introduction to solar power plants and their components		
15th	43rd	Uninterruptible Power Supplies - UPS, on-line, off line and its specifications - Concept of high voltage DC transmission - Classification of batteries - Introduction to solar power plants and their components	15th	Revision
	44th	Uninterruptible Power Supplies - UPS, on-line, off line and its specifications - Concept of high voltage DC transmission - Classification of batteries - Introduction to solar power plants and their components - Assignment		
	45th	Test		