

Name : RAMESH KUMARI
Discipline : Electronics & Comm. Engg.
Semester : 5th
Subject : CONSUMER ELECTRONICS
Lesson Plan Duration : 16 weeks

Work load (Lecture /Practical) per week (in hours): Lectures—03, Practical—03

Week	Theory		Practical	
	Lecture Day		Practical Day	Topic
1 st	1	Audio Systems:	1 st	To plot the frequency response of a Microphone
	2	Microphones and Loudspeakers		
	3	Carbon, moving coil, cordless microphone		
2 nd	4	Direct radiating and horn loudspeaker	2 nd	To plot the frequency response of a Microphone
	5	Multi-speaker system		
	6	Assignment		
3 rd	7	Problem Taking	3 rd	To plot the frequency response of a Loud Speaker
	8	Class Test		
	9	Sound Recording		
4 th	10	Magnetic Recording	4 th	To plot the frequency response of a Loud Speaker
	11	Digital Recording		
	12	Optical Recording (CD system and DVD)		
5 th	13	Television	5 th	Trouble shooting of CD/DVD Player
	14	Monochrome TV		
	15	Elements of TV communication system		
6 th	16	Scanning and its need	6 th	Trouble shooting of CD/DVD Player
	17	Need of synchronizing and blanking pulses, VSB		
	18	Composite Video Signal		
7 th	19	Picture Tube	7 th	Practical file Checking and vivavoice
	20	Camera Tube : Vidicon and Plumbicon		
	21	TV Receiver: Block diagram, function of each block,		
8 th	22	waveform at input and output of each block	8 th	To observe the wave forms and measure voltage of B/W TV Receiver at different points
	23	Assignment		
	24	Problem Taking		
9 th	25	Class Test	9 th	To observe the wave forms and measure voltage of B/W TV Receiver at different points
	26	Colour Television		
	27	Primary, secondary colours		

10 th	28	Concept of Mixing, Colour Triangle	10 th	To observe the waveforms and measure voltages of colour TV Receiver at different points
	29	Camera tube		
	30	PAL TV Receiver		
11 th	31	Concept of Compatibility with Monochrome Receiver	11 th	To observe the waveforms and measure voltages of colour TV Receiver at different points
	32	NTSC, PAL, SECAM system (brief comparison)		
	33	Assignment		
12 th	34	Problem Taking	12 th	Fault finding of colour T.V
	35	Class Test		
	36	LCD and LED Television: Basic principle and working of LCD and LED TV		
13 th	37	LCD and LED Television: Basic principle and working of LCD and LED TV	13 th	Fault finding of colour T.V
	38	Assignment		
	39	Problem Taking		
14 th	40	Class Test	14 th	DTH System
	41	Cable Television: Working of Cable TV, DTH, HDTV		
	42	Cable Television: Working of Cable TV, DTH, HDTV		
15 th	43	Assignment	15 th	Scanner
	44	Problem Taking		
	45	Class Test		
16 th	46	Scanner		Revision
	47	Digital Camera		
	48	VCD/DVD		

Lesson Plan

Name of the Faculty : Smt. Pooja Sindhu
 Discipline : ECE
 Semester : 5th
 Subject : Environmental Education (3T-0P)
 Lesson plan duration : 15 weeks (from July, 2018 to Nov, 2018)

Week	Theory	
	Day	Topic
1st Week	1 st	Overview of syllabus, Reference Books, Importance of Subject, Unit – 1 : Environmental Education – Definition, Objectives
	2 nd	Scope and Importance of Environmental Education
	3 rd	Discussion of Important , expected questions in exams, homework questions
Week 2	1 st	Unit-2 : Basics of ecology- Contents of Unit, Introduction, Ecology, Ecosystem- Types, Structure/Components, Functional attributes, Characteristics
	2 nd	Food Chain- Significance, Characteristics; Food Web: Significance, Characteristics, Biological magnification, Ecological succession- Types
	3 rd	Biodiversity-Levels, Value/ Benefits/ Uses; Sustainable Development- Aspects, Measure or Strategies
Week 3	1 st	Discussion of Important , expected questions in exams, homework questions
	2 nd	Unit 3: Sources of Pollution- Introduction, Environmental Pollution, Sources/ Causes, Pollutants- Classification; Types of Pollution, Air Pollution – Causes, Pollutants
	3 rd	Air Pollution- Effects, Control
Week 4	1 st	Water Pollution- Pollutants, Sources, Effects
	2 nd	Water Pollution- Control, Soil Pollution- Sources
	3 rd	Soil Pollution - Effects, Control; Noise Pollution: Sources
Week 5	1 st	Noise Pollution: Effects, Control; Radioactivity
	2 nd	Radioactive Pollution- Sources,, Effects, Control
	3 rd	Revision of Unit-3
Week 6	1 st	Discussion of Important , expected questions in exams, homework questions
	2 nd	Unit-4 : Solid waste management- Introduction, Solid waste- Classification, Causes of increase
	3 rd	Effects of Solid waste accumulation, Solid Waste Management, Methods of Solid waste disposal- Introduction

Week 7	1 st	Methods of Solid waste disposal- Explanation, Integrated Solid waste Management 3R's concept
	2 nd	Revision of Unit-4, Discussion of Important , expected questions in exams
	3 rd	Unit-5 : Mining and Deforestation- Introduction, Mining- Methods, Effects/Impact of Mining activity
Week 8	1 st	Remedial Measures, Conservation of Minerals, Deforestation- Causes
	2 nd	Deforestation- Effects, Forest Conservation and Management, Afforestation programmes
	3 rd	Revision of Unit-4, Discussion of Important , expected questions in exams
Week 9	1 st	Unit:6- Environmental Legislation – Introduction, Water (prevention and control of pollution) Act 1974
	2 nd	Air (Prevention and Control of Pollution) Act 1981
	3 rd	Environmental Protection Act 1986, Purpose
Week 10	1 st	Environmental Impact Assessment (EIA)- Purpose, Functions
	2 nd	Stages of EIA Role and Function of State Pollution Control Board,
	3 rd	Discussion of Important , expected questions in exams and Homework Questions
Week 11	1 st	Unit:7- Role of Non-conventional Energy Resources- Introduction, Classification, Importance, Need
	2 nd	Solar Energy, Wind Energy
	3 rd	Ocean thermal and Tidal Energy, Geothermal Energy
Week 12	1 st	Biomass, Bio-energy, Biogas
	2 nd	Revision of Unit-7, Discussion of Important , expected questions in exams
	3 rd	Unit:8- Current Issues in Environmental Pollution : Introduction, Green House Effect- Mechanism, Gases
Week 13	1 st	Depletion of Ozone Layer – Mechanism, Thinning, Ozone Hole, Harmful effects
	2 nd	Acid Rain- Types, ill-effects, control
	3 rd	Global Warming- ill effects, measure to check
Week 14	1 st	Carbon credit- History, Revision of Covered contents
	2 nd	Environmental Ethics- Views , Guidelines for environmental ethics
	3 rd	Rain water harvesting- Objectives, methods
Week 15	1 st	Discussion of Important , expected questions in exams, assignment

	2 nd	Discussion of Important , expected questions in exams
	3 rd	Revision of topics that students want to discuss

Lesson Plan

Name of the Faculty : Sh. T.P.Rawat
 Discipline : ECE
 Semester : 5th
 Subject : ES-1
 Lesson plan duration : 15 weeks (from July, 2018 to Nov, 2018)

Week	Practical	
	Practical Lect.	Topic (including assignments /tests)
Week 1	1 st	Writing skills-Introduction
	2 nd	
Week 2	1 st	i) Official and business correspondence
	2 nd	
Week 3	1 st	ii) Job application - covering letter and resume
	2 nd	
Week 4	1 st	Practice
	2 nd	
Week 5	1 st	iii) Report writing - key features and kinds
	2 nd	
Week 6	1 st	Test on above Written skills
	2 nd	
Week 7	1 st	Oral Communication Skills- Introduction
	2 nd	
Week 8	1 st	i) Giving advice
	2 nd	
Week 9	1 st	, ii) Making comparisons
	2 nd	
Week 10	1 st	iii) Agreeing and disagreeing
	2 nd	
Week 11	1 st	iv) Taking turns in conversation
	2 nd	
Week 12	1 st	v) Fixing and cancelling appointments
	2 nd	
Week 13	1 st	Generic Skills- Stress management
	2 nd	
Week 14	1 st	Time management, Negotiations and conflict resolution
	2 nd	
Week 15	1 st	Team work and leadership qualities
	2 nd	

LESSON PLAN

Name of Faculty : LINCOLN HADDA

Discipline : ELECTRONICS & COMMUNICATION ENGG

Semester : 5th

Subject : MICROWAVE AND RADAR ENGINEERING

Work Load : LECTURES-03, PRACTICAL-06

Lesson Plan Duration :15 weeks

Week	Lecture Day	THEORY	Week	Practicals day	PRACTICALS
		Topic			Topic
1	1	INTRODUCTION TO MICROWAVES AND ITS APPLICATIONS	1	G-1	TESTING OF ELECTRONIC COMPONENTS USING MULTIMETER AND CRO
	2	CLASSIFICATION ON THE BASIS OF ITS FREQUENCY BANDS (HF, VHF, UHF, L, S, C, X, KU, KA, MM, SUB, MM)		G-2	TESTING OF ELECTRONIC COMPONENTS USING MULTIMETER AND CRO
	3	RECTANGULAR AND CIRCULAR WAVE GUIDES AND THEIR APPLICATIONS.			
2	4	MODE OF WAVE GUIDE; PROPAGATION CONSTANT OF A RECTANGULAR WAVE GUIDE	2	G-1	FAMILIARIZATION OF FRONT PANEL WORKING OF CRO AND DSO
	5	CUT OFF WAVELENGTH, GUIDE WAVELENGTH		G-2	FAMILIARIZATION OF FRONT PANEL WORKING OF CRO AND DSO
	6	RELATIONSHIP OF CUTOFF WAVELENGTH AND GUIDE WAVELENGTH WITH FREE SPACE WAVELENGTH			
3	7	IMPOSSIBILITY OF TEM MODE IN A WAVE GUIDE.	3	G-1	FAMILIARIZATION AND SETTINGUP OF REFLEX KLYSTRON BENCH
	8	CONSTRUCTIONAL FEATURES		G-2	FAMILIARIZATION AND SETTINGUP OF REFLEX KLYSTRON BENCH
	9	CHARACTERISTICS AND APPLICATION OF TEES, BENDS			
4	10	MATCHED TERMINATION	4	G-1	TO MEASURE ELECTRONICS AND MECHANICAL TUNING RANGE OF A REFLEX KLYSTRON
	11	TWISTS, DETECTOR, MOUNT		G-2	TO MEASURE ELECTRONICS AND MECHANICAL TUNING RANGE OF A REFLEX KLYSTRON
	12	SLOTTED SECTION, DIRECTIONAL COUPLER			
5	13	FIXED AND VARIABLE ATTENUATOR	5	G-1	TO MEASURE VSWR OF A GIVEN LOAD.
	14	ISOLATOR, CIRCULATOR AND DUPLEX		G-2	TO MEASURE VSWR OF A GIVEN LOAD.
	15	COAXIAL TO WAVE GUIDE ADAPTER			

6	16	BASIC CONCEPTS OF THERMIONIC EMISSION	6	G-1	TO MEASURE THE KLYSTRON FREQUENCY BY SLOTTEDSECTIONMETHOD
	17	BASIC CONCEPTS OF VACUUM TUBES		G-2	TO MEASURE THE KLYSTRON FREQUENCY BY SLOTTEDSECTIONMETHOD
	18	EFFECTS OF INTER- ELECTRODE CAPACTANCE			
7	19	EFFECTS OF LEAD INDUCTANCE	7	G-1	TO MEASURETHE DIRECTIVITYANDCOUPLING OF A DIRECTIONAL COUPLER.
	20	EFFECTS OF TRANSIT TIME ON THE HIGH FREQUENCY PERFORMANCE OF CONVENTIONAL VACUUM TUBES		G-2	TO MEASURETHE DIRECTIVITY AND COUPLING OF A DIRECTIONAL COUPLER.
	21	steps to extend their high frequency operations			
8	22	Construction, characteristics, operating principles and typical applications of <ul style="list-style-type: none"> - Multi cavity klystron - Reflexklystron 	8	G-1	TOPLOT RADIATION PATTERN OF A HORN ANTENNA IN HORIZONTAL AND VERTICAL PLANES
	23	Construction, characteristics, operating principles and typical applications of <ul style="list-style-type: none"> - Multi-cavity magnetron - Traveling wavetube 		G-2	TOPLOT RADIATION PATTERN OF A HORN ANTENNA IN HORIZONTAL AND VERTICAL PLANES
	24	Construction, characteristics, operating principles and typical applications of <ul style="list-style-type: none"> - Gunn diode and - Impatt diode 			
9	25	STRUCTURE CHARACTERISTICS AND TYPICAL APPLICATIONS OF HORN ANTENNAS	9	G-1	TO VERIFY THE PROPERTIES OF MAGIC TEE.
	26	STRUCTURE CHARACTERISTICS AND TYPICAL APPLICATIONS OF DISH ANTENNAS		G-2	TO VERIFY THE PROPERTIES OF MAGIC TEE.
	27	BLOCK DIAGRAM OF MICROWAVE COMMUNICATION LINK			

10	28	WORKING PRINCIPLES OF MICROWAVE COMMUNICATION LINK	10	G-1	REPEATION OF SELECTED PRACTICLES
	29	TROPOSCATTER COMMUNICATION:		G-2	REPEATION OF SELECTED PRACTICLES
	30	TROPOSPHERE AND ITS PROPERTIES			
11	31	TROPOSPHERIC DUCT PROPAGATION	11	G-1	REPEATION OF SELECTED PRACTICLES
	32	TROPOSCATTER PROPAGATION		G-2	REPEATION OF SELECTED PRACTICLES
	33	INTRODUCTION TO RADAR, ITS VARIOUS APPLICATIONS			
12	34	RADAR RANGE EQUATION	12	G-1	REPEATION OF SELECTED PRACTICLES
	35	APPLICATION OF RADAR RANGE EQUATION		G-2	REPEATION OF SELECTED PRACTICLES
	36	Block diagram and operating principles of basic pulse radar			
13	37	CONCEPTS OF AMBIGUOUS RANGE, RADAR AREA OF CROSS-SECTION AND ITS DEPENDENCE ON FREQUENCY	13	G-1	PREPARATION OF VIVA VOCE FOR PRACTICLE EXAMS
	38	DEPENDENCE OF AMBIGUOUS RANGE, RADAR AREA OF CROSS-SECTION		G-2	PREPARATION OF VIVA VOCE FOR PRACTICLE EXAMS
	39	Block diagram and operating principles of CW (Doppler)			
14	40	Block diagram and operating principles of FMCW radars	14	G-1	PREPARATION OF VIVA VOCE FOR PRACTICLE EXAMS
	41	APPLICATIONS OF CW (DOPPLER) AND FMCW RADARS		G-2	PREPARATION OF VIVA VOCE FOR PRACTICLE EXAMS
	42	BLOCK DIAGRAM			
15	43	Radar display-PPI	15	G-1	PREPARATION OF VIVA VOCE FOR PRACTICLE EXAMS
	44	Introduction to VSAT transponders multiple access techniques		G-2	PREPARATION OF VIVA VOCE FOR PRACTICLE EXAMS
	45	VSAT and its features			

LESSON PLAN

Name of Faculty : Sh. Tej Pal Rawat, HOD ECE

Discipline : ELECTRONICS & COMMUNICATION ENGG

Semester : 5th

Subject : OFC

WORKLOAD: LECTURE-03, PRACTICAL-06

Lesson Plan Dura :15 weeks(from July,2018 to November,2018)

Week	lecture Day	Theory	Week	Practical Day	Practicals
		Topic			Topic
1	1	Historical perspective, basic communication systems	1	G-1	Setting up of fiber analog link
	2	Optical frequency range, advantages of optical fiber communication		G-2	Setting up of fiber analog link
	3	Application of fiber optic communication			
2	4	Electromagnetic spectrum used	2	G-1	Setting up to optic digital link
	5	Advantages of optical communication		G-2	Setting up to optic digital link
	6	Disadvantages of optical communication			
3	7	Principle of light penetration	3	G-1	Measurement of various losses in optical fibers
	8	Reflection, critical angle		G-2	Measurement of various losses in optical fibers
	9	Revision			
4	10	Constructional details of various optical fibers	4	G-1	To observe and measure the splice or connector loss
	11	Multimode and mono-mode fibers		G-2	To observe and measure the splice or connector loss
	12	Step index and graded index fibers			
5	13	Acceptance angle	5	G-1	To measure and calculate numerical aperture of optical fiber
	14	Types of optical fiber cables		G-2	To measure and calculate numerical aperture of optical fiber
	15	Absorption Losses: Scattering Losses			
6	16	Radiation losses, Connector losses, Bending losses	6	G-1	To observe characteristics of optical source
	17	Dispersion: Types- Material dispersion, wave guide dispersion		G-2	To observe characteristics of optical source
	18	Modal dispersion total dispersion and bit rate			
7	19	Revision	7	G-1	To observe characteristics of optical defector
	20	Class Test		G-2	To observe characteristics of optical defector
	21	Characteristics of light sources (LED and LASER) used in optical communication			
8	22	Principle of operation of LED	8	G-1	To Connectorise a fiber with connector at both ends
	23	Different types of LED structures used and their brief description		G-2	To Connectorise a fiber with connector at both ends
	24	LED driving circuitry, Injection laser diode, principle of operation			
9	25	Different injection laser diodes	9	G-1	Introduction to various components and tools used in optical fiber communication
	26	Comparison of LED and ILD. Non semiconductor laser.		G-2	Introduction to various components and tools used in optical fiber communication
	27	Characteristics of photo detectors used in optical communication			
10	28	PIN diode	10	G-1	A visit to nearby Telephone Exchange
	29	Avalanche photo diode (APD), their brief description		G-2	A visit to nearby Telephone Exchange
	30	Revision			
11	31	Class Test	11	G-1	Practice
	32	Connectors, Spicing and coupling- Introduction		G-2	Practice
	33	Fiber alignment and joint losses			
12	34	Splicing, types of splices	12	G-1	Practice
	35	Types of connectors used		G-2	Practice
	36	Couplers, Three and four couplers			
13	37	Star coupler, Fiber optic switch	13	G-1	Practice
	38	Optical Fiber System- Introduction		G-2	Practice
	39	Optical transmitter circuit			

14	40	Optical receiver circuit	14	G-1	Practice
	41	Optical Power budgeting, Multiplexing methods used		G-2	Practice
	42	Modulation methods used			Practice
15	43	Introduction to SDH, SONET	15	G-1	Viva- voice
	44	Class Test		G-2	Viva- voice
	45	Doubt clearing session			

LESSON PLAN

NAME OF FACULTY : Sh. Patanjali Kaushik

DISCIPLINE : Electronics and communication Engg.

SEMESTER : 5th

SUBJECT : Power Electronics

LESSON PLAN DURATION: 15 weeks

WORK LOAD (LECTURE/ PRACTICAL): LECTURES - 03, PRACTICALS - 03

WEEK	THEORY		PRACTICAL	
	LECTURE DAY	TOPIC	PRACTICAL DAY	TOPIC
1 st	1	Construction, working principles of SCR, two transistor analogy of SCR, VI characteristics of SCR.	1	To plot V-I characteristic of an SCR.
	2		2	
	3		3	
2 nd	1	Different methods of SCR triggering	1	To plot V-I characteristics of TRIAC.
	2	Different commutation circuit for SCR	2	
	3	Series and parallel operation of SCR.	3	
3 rd	1	Construction & working principle of DIAC, TRIAC & their V-I characteristics.	1	To plot V-I characteristics of DIAC.
	2		2	
	3		3	
4 th	1	Construction, working principle of UJT, VI characteristics of UJT. UJT as relaxation oscillator. Brief introduction to Gate Turn Off thyristor (GTO), Programmable uni-junction transistor (PUT), MOSFET, IGBT.	1	To plot V-I characteristics of UJT.
	2		2	
	3		3	
5 th	1	Application such as light intensity control, speed control of universal motors, fan regulator, battery charger.	1	Study of UJT relaxation oscillator. And observe I/P and O/P wave forms.
	2		Revision/Test.	
	3		Single phase half wave controlled rectifier with load (R, R-L).	
6 th	1	Single phase half controlled full wave rectifier (R, R-L).	1	Observation of wave shape of voltage at relevant point of single-phase half wave controlled rectifier
	2		2	
	3		3	
7 th	1	Fully controlled full wave bridge rectifier.	1	Effect of change of firing angle in single phase half wave controlled rectifier.

	2	Single phase full wave centre tap rectifier.	2	
	3	Principle of operation of basic inverter circuits.	3	
8 th	1	Concepts of duty cycle, series and parallel.	1	Observation of wave shapes of voltage at relevant point of single phase full wave controlled rectifier
	2	Inverters and their application.	2	
	3	Choppers : introduction	3	

9 th	1	Types of choppers (Class A, B, C, D). Step up and step down choppers.	1	Effect of change of firing angle in single phase full wave controlled rectifier.
	2		2	
	3		3	
10 th	1	Cyclo converters: Introduction, types, basic working principle and application.	1	Observation of wave shapes in TRIAC based AC phase control circuit for Varying lamp intensity and AC fan speed control.
	2		2	
	3		3	
11 th	1	Dual converters: Introduction, types, basic working principle and application.	1	Measurement of voltage at relevant points in TRIAC based AC phase control circuit for Varying lamp intensity and AC fan speed control.
	2	Revision/Test.	2	
	3	DC drive control: half wave drives.	3	
12 th	1	Full wave drives.	1	Installation of UPS system.
	2	Chopper drives.	2	
	3	AC drive control: Phase control.	3	
13 th	1	Constant V/F operation.	1	Routine maintenance of batteries.
	2	Cycloconverter/inverter drives	2	
	3	Slip power control of AC drives.	3	
14 th	1	UPS, on-line, off line and its specifications.	1	
	2		2	
	3		3	
15 th	1	Concept of high voltage DC transmission.	1	
	2	Revision/test	2	
	3	Revision/test.	3	

LESSON PLAN

Name of Faculty : TP Rawat

Discipline : Electronics and communication Engg

Semester : 5th

Subject : Soft Skill

Work Load : L-3

Lesson Plan Duration- 15 weeks (July 2018 to Nov. 2018)

Week		Theory
1	1	Career Planning-Introduction
	2	Benefits of carrer planning
	3	Guideline for choosing career
2	4	Myths about choosing a career
	5	Tips for successful career planning
	6	Developing career goals
3	7	Final thought on carrer planning
	8	Things one should know while starting career and during his career
	9	Body Language-Introduction Body Talk- voluntary and involuntary body language
4	10	Forms of body language Parts of body language
	11	Origin of body language
	12	Uses of language
5	13	Body language in buildding interpersonal relations body
	14	Language in building industrial realtions
	15	Reason to study body language
6	16	Empoving your body body language
	17	Types of body language
	18	Gender difference Female interest and body language Shaking hands with woman
7	19	Interpreting body language-Developing confidence with correct body language
	20	Time Management- Introudction -The 80-20rule Take a goold look at the peope around you
	21	Examine your work, sense of time management. Timeis money feature of time
8	22	Three secreto of time management. Time management matrix
	23	Analysis of time matrix-effective scheduling Grouping of activities
	24	Five steps to succesful time management. Difficulties in time managment
9	25	Evils of not planning. Time management is a myth-
	26	overcoming procastination ways to find free time
	27	Time management tips for students interesting facts about time-ideal way of spending a day time wasters-Time savers -
10	28	reaslizing the value of time Time circle planner
	29	Stress management-Introduction, Meaning
	30	At one level stress may a positive and to performance
11	31	At one level stress may be negative and to perofrmance
	32	Effects of stress-kinds of stress
	33	Source of sttress
12	34	Few other common sources of stress
	35	Case study, Behaviour identified with stress
	36	Assessing the existance of stress
13	37	What are the signs of stress
	38	Spotting stress in you
	39	Stress management tips
14	40	Teenage stress
	41	Make the mornings memorable
	42	Topics related to gender sensilization and provision of punishment in case of violation of laws
15	43	Harasement of women at workplace
	44	Indecent portrayal of women
	45	Harassment of males by misuse of acts

Lesson Plan

Name of the Faculty : Smt. Pooja Sindhu
 Discipline : ECE
 Semester : 5th
 Subject : Troubleshooting of Electronic Equipment (OT-6P)
 Lesson plan duration : 15 weeks (from July, 2018 to Nov, 2018)

Week	Practical		
	Topic to be discussed	Practical Day	Experiment
1 st Week	Repair, Servicing and Maintenance Concepts Introduction, Modern electronic equipment, Mean time between failures (MTBF), Mean time to repair (MTR), Maintenance policy, potential problems, preventive maintenance, corrective maintenance. a) Study of basic procedure of service and maintenance b) Circuit tracing techniques c) Concepts of shielding, grounding and power supply considerations in instruments.	1 st	Briefing and showing of equipments used in laboratory
		2 nd	Briefing and showing of equipments used in laboratory
Week 2	Fundamental Trouble Shooting Procedures I) Fault location ii) Fault finding aids - Service manuals - Test and measuring instruments - Special tools	1 st	Demonstration and practice of fault finding and repair of: (a) C.R.O (b) Function Generator
		2 nd	-do-
Week 3	Fundamental Trouble Shooting Procedures I) Fault location ii) Fault finding aids - Service manuals - Test and measuring instruments - Special tools	1 st	Demonstration and practice of fault finding and repair of: (a) Power supplies (b) Digital multimeter
		2 nd	-do-
Week 4	Repair, Servicing and Maintenance Concepts Introduction, Modern electronic equipment, Mean time between	1 st	Demonstration, practice of fault finding and repair of any one equipment from group-I i.e. Communication

	failures (MTBF), Mean time to repair (MTR), Maintenance policy, potential problems, preventive maintenance, corrective maintenance. a) Study of basic procedure of service and maintenance b) Circuit tracing techniques c) Concepts of shielding, grounding and power supply considerations in instruments.	2 nd	-do-
Week 5	Fundamental Trouble Shooting Procedures I) Fault location ii) Fault finding aids - Service manuals - Test and measuring instruments - Special tools	1 st	Demonstration, practice of fault finding and repair of any one equipment from group-II i.e. Consumer
		2 nd	-do-
Week 6	Mobile Phones - Identification of various parts of mobile phones - Repair and maintenance of mobile phones - Software installation in mobile phones - Common faults	1 st	Demonstration, practice of fault finding and repair of any one equipment from group-I i.e. Communication
		2 nd	-do-
Week 7	Mobile Phones - Identification of various parts of mobile phones - Repair and maintenance of mobile phones - Software installation in mobile phones - Common faults	1 st	Demonstration, practice of fault finding and repair of any one equipment from group-II i.e. Consumer
		2 nd	-do-
Week 8	Mobile Phones - Identification of various parts of mobile phones - Repair and maintenance of mobile phones - Software installation in mobile phones - Common faults	1 st	Demonstration, practice of fault finding and repair of any one equipment from group-III i.e. Audio/Video systems
		2 nd	-do-
Week 9	Trouble shooting and maintenance of testing equipment like C.R.O , function generator, power supplies and other measuring devices, detailed discussion about trouble	1 st	Demonstration, practice of fault finding and repair of any one equipment from group-III i.e. Audio/Video systems
		2 nd	

	shooting of medical, electronic equipment like, ECG, EEG, Ultra sound. Repair and maintenance and exposure of medical electronics equipment through industrial visits.		-do-
Week 10	Trouble shooting and maintenance of testing equipment like C.R.O , function generator, power supplies and other measuring devices, detailed discussion about trouble shooting of medical, electronic equipment like, ECG, EEG, Ultra sound. Repair and maintenance and exposure of medical electronics equipment through industrial visits.	1 st	Demonstration, practice of fault finding and repair of any one equipment from group IV i.e. Computer
		2 nd	-do-
Week 11	Trouble shooting and maintenance of testing equipment like C.R.O , function generator, power supplies and other measuring devices, detailed discussion about trouble shooting of medical, electronic equipment like, ECG, EEG, Ultra sound. Repair and maintenance and exposure of medical electronics equipment through industrial visits.	1 st	Demonstration, practice of fault finding and repair of any one equipment from group IV i.e. Computer
		2 nd	-do-
Week 12	Troubleshooting Digital Systems Typical faults in digital circuits. Use of logic clip, logic pulsar, IC tester	1 st	Testing of Integrated Circuits (ICs)
		2 nd	-do-
Week 13	Troubleshooting Digital Systems Typical faults in digital circuits. Use of logic clip, logic pulsar, IC tester	1 st	Testing of Integrated Circuits (ICs)
		2 nd	-do-
Week 14	Demonstration and practicals to be performed on following groups of Electronic equipment, with compulsory visit to low service centre.	1 st	Use of digital tools for troubleshooting digital equipments
		2 nd	-do-
Week 15	Demonstration and practicals to be performed on following groups of Electronic equipment, with compulsory visit to low service centre	1 st	Practice of experiments that student want to perform
		2 nd	-do-

Lesson plan

Name of Faculty:	Smt. Ramesh Kumari & Sh. Manoj Kumar	
Discipline:	ELECTRONICS Engg.	
Semester:	5th	
Subject:	Troubleshooting of electronics equipment	
Lesson plan duration :	From July 2018 to November 2018	
Week (One times a week of 3 hours class)		Practical
	Practical Day	Topic
1st	1st G-1	Demonstration and practice of fault finding and repair of: C.R.O
2nd	1st G-1	Function Generator
3rd	1st G-1	Power supplies
4th	1st G-1	Digital multimeter
5th	1st G-1	File Checking/Review/Revision of jobs
6th	1st G-1	Internal Practical & Viva Vice
7th	1st G-1	Demonstration, practice of fault finding and repair of any one equipment from group-I i.e. Communication
8th	1st G-1	File Checking/Review/Revision of jobs
9th	1st G-1	Internal Practical & Viva Vice
10th	1st G-1	Demonstration, practice of fault finding and repair of any one equipment from group- II i.e.Consumer
11th	1st G-1	Demonstration, practice of fault finding and repair of any one equipment from group- III i.e. Audio/Video systems
12th	1st G-1	File Checking/Review/Revision of jobs
13th	1st G-1	Demonstration, practice of fault finding and repair of any one equipment from group IV i.e. Computer
14th	1st G-1	File Checking/Review/Revision of jobs
15th	1st G-1	Internal Practical & Viva Vice