

Lesson Plan

Name of the Faculty : Sh. Dinesh Kumar

Discipline : ECE

Semester : 6th

Subject : EDM

Lesson plan duration : 15 weeks

Work Load (Lecture /Practical) per week in hours : Lecture : 3 Practical : 0

Week	Theory	
	Lecture Day	Topic (including assignments /tests)
1 st Week	1 st	Concept /Meaning and its need of Entrepreneurship
	2 nd	Qualities and functions of entrepreneur
	3 rd	Barriers in entrepreneurship
Week 2	1 st	Sole proprietorship and partnership forms of business organisations
	2 nd	Schemes of assistance by entrepreneurial support agencies at National, State, KVIB,
	3 rd	District level: NSIC
Week 3	1 st	District level: NRDC & DC:MSME
	2 nd	District level: SIDBI & NABARD,
	3 rd	District level: Commercial Banks, SFC's TCO, KVIB, & DIC
Week 4	1 st	Technology Business Incubator (TBI) and Science and Technology Entrepreneur Parks (STEP).
	2 nd	Assignment on Entrepreneurship
	3 rd	Test
Week 5	1 st	Market Survey and Opportunity Identification
	2 nd	Scanning of business environment
	3 rd	Salient features of National and State industrial policies and resultant business opportunities
Week 6	1 st	Types and conduct of market survey
	2 nd	Assessment of demand and supply in potential areas of growth
	3 rd	Identifying business opportunity
Week 7	1 st	Considerations in product selection
	2 nd	Assignment on Market Survey
	3 rd	Test
Week 8	1 st	Project report Preparation
	2 nd	Preliminary project report

	3 rd	Detailed project report including technical & economic feasibility
Week 9	1 st	Detailed project report including market feasibility
	2 nd	Common errors in project report preparations
	3 rd	Exercises on preparation of project report
Week 10	1 st	Assignment on project report
	2 nd	Test
	3 rd	Introduction to Management: Definitions and importance of management
Week 11	1 st	Functions of management: Importance and Process of planning, organising, staffing, directing and controlling
	2 nd	Principles of management (Henri Fayol, F.W. Taylor) Concept and structure of an organisation Types of industrial organisations : a) Line organisation b) Line and staff organisation c) Functional Organisation
	3 rd	Test
Week 12	1 st	Leadership Definition and Need Qualities and functions of a leader Manager Vs leader Types of leadership
	2 nd	Motivation : Definitions and characteristics Factors affecting motivation Theories of motivation (Maslow, Herzberg, McGregor)
	3 rd	Assignment on Leadership & Motivation
Week 13	1 st	Test
	2 nd	Management Scope in Different Areas : Human Resource Management Introduction and objective Introduction to Man power planning, recruitment and selection Introduction to performance appraisal methods
	3 rd	Material and Store Management Introduction functions, and objectives ABC Analysis and EOQ
Week 14	1 st	Marketing and sales Introduction, importance, and its functions Physical distribution Introduction to promotion mix Sales promotion
	2 nd	Financial Management Introductions, importance and its functions Elementary knowledge of income tax, sales tax, excise duty, custom duty and VAT

	3 rd	Assignment on Management Scope in Different Areas
Week 15	1 st	Miscellaneous Topics : Customer Relation Management (CRM) & Definition and need ☐ Types of CRM
	2 nd	Total Quality Management (TQM) Statistical process control Total employees Involvement Just in time (JIT)
	3 rd	Intellectual Property Right (IPR): Introductions, definition and its importance Infringement related to patents, copy right, trade mark

Lesson Plan

Name of Faculty : Smt. Suresh Rani
 Discipline : Electronics & Communication Engg
 Semester : 6th
 Subject : Microwave and Radar Engineering

Lesson Plan Duration : 15weeks

Work Load (Lecture /Practical) per week in hours: Lecture : 4 Practical: 3

Week	Theory		Practical	
	Lecture Day	Topic (Including assignment/test)	Practical Day	Topic
1st	1st	Introduction to Microwaves	1st (G-1)	Introduction
	2nd	Introduction to microwaves and its applications	1 st (G-2)	Introduction
	3rd	Classification on the basis of its frequency bands (HF, VHF, UHF, L, S, C, X, KU, KA, mm, SUB, mm)		
	4th	Revision		
2nd	5th	Construction, characteristics, of Two cavity klystron	2	Familiarization of Microwave Components
	6th	Operating principles and typical applications of Two cavity klystron	2	Familiarization of Microwave Components
	7th	Construction, characteristics, operating principles and typical applications of Multi cavity Klystron		
	8th	Construction, operating principles of Reflex Klystron		
3rd	9th	Construction, characteristics, operating principles and typical applications of Reflex Klystron	3	Familiarization of Microwave Components
	10th	Construction, characteristics, operating principles and typical applications of Multi – cavity magnetron	3	Familiarization of Microwave Components
	11th	Construction, characteristics, operating principles and typical applications of Multi-cavity magnetron		
	12th	Construction, characteristics, operating principles and typical applications of Multi-cavity magnetron		
4th	13th	Construction, characteristics, operating principles and typical applications of Traveling wave tube	4	To electrically tune the klystron
	14th	Construction, characteristics, operating principles and typical applications of Gunn diode	4	To electrically tune the klystron
	15th	Construction, characteristics, operating principles and typical applications of Impatt diode		
	16th	Revision, assignment 1		

5th	17th	Rectangular wave guide their application.	5	Revision
	18th	Rectangular and circular wave guide and their application.	5	Revision
	19th	Mode of wave guide.		
	20th	Propagation constant of a rectangular wave guide.		
6th	21st	Cut off wavelength.	6	To Measure the directivity of a directional Coupler
	22nd	Guide Wavelength and their relationship with free space wavelength (no mathematical derivation)	6	To Measure the directivity of a directional Coupler
	23rd	Impossibility of TEM mode in a wave guide, revision		
	24th	Revision		
7th	25th	Constructional features, characteristics and application of E plane tee.	7	To measure the coupling factor of a directional coupler
	26th	Constructional features, characteristics and application of H plane tee.	7	To measure the coupling factor of a directional coupler
	27th	Constructional features, characteristics and application of magic tee.		
	28th	Bends,		
8th	29th	Matched termination	8	Revision
	30th	Twists, detector mount	8	Revision
	31th	, Slotted Section		
	32nd	Directional coupler.		
9th	33rd	Fixed and variable attenuator.	9	To verify the properties of E Plane tee
	34th	Isolator. Circulator	9	To verify the properties of E Plane tee
	35th	Duplex		
	36th	Coaxial to wave guide adapter,		
10th	37th	Horn antenna.	10	To verify the properties of Magic tee
	38th	Revision, assignment 2	10	To verify the properties of Magic tee
	39th	Block diagram and working principles of microwave communication link.		
	40th	Working principles of microwave communication link.		
11th	41th	Troposcatter communication basic idea	11	To Measure Klystron frequency by slotted section method

	42nd	Revision	11	To Measure Klystron frequency by slotted section method
	43rd	Introduction to radar, its various applications.		
	44th	Radar range equation (no derivation) and its applications.		
12th	45th	Block diagram and operating principles of basic pulse radar.	12	To study the radiation pattern of Horn antenna
	46th	Concepts of ambiguous range.	12	To study the radiation pattern of Horn antenna
	47 th	Radar area of cross-section and its dependence on frequency.		
	48 th	Block diagram and operating principles of CW (Doppler)		
13th	49 th	FMCW radars and their applications	13	To measure VSWR of a given load
	50 th	Block diagram and operating principle of MTI radar.	13	To measure VSWR of a given load
	51 th	Block diagram and operating principle of MTI radar.		
	52nd	Radar display PPI		
14th	53rd	Revision/Problem discussion	14	Revision
	54 th	Revision, assignment 3	14	Revision
	55 th	Class test		
	56 th	Revision		
15th	57th	Revision/Problem discussion	15	Revision & Viva
	58 th	Test, revision	15	Revision & Viva
	59 th	Test		
	60th	Revision		

Lesson Plan

Name of Faculty : Ms. Bunty

Discipline : Electronics & Communication Engg

Semester : 6th

Subject : **WIRELESS AND MOBILE COMMUNICATION**

Lesson Plan Duration : 15weeks

Work Load (Lecture /Practical) per week in hours: Lecture : 4 Practical: 6

Week	Theory		Practical	
	Lecture Day	Topic (Including assignment/test)	Practical Day	Topic
1st	1st	Introduction	1 st (G-1)	Introduction
	2nd	Wireless Communication:- Basics, related terms	2 nd (G-2)	Introduction
	3rd	Advantages & Disadvantages of wireless communication and scope for it		
	4th	Electromagnetic waves, Frequency Spectrum		
2nd	5th	Different frequency bands and their use, type of wireless communication system	3th (G-1)	Study the features of cellular mobile
	6th	Cellular Network Systems	4 th (G-2)	Study the features, of cellular mobile
	7th	Propagation considerations: a) Range b) Atmospheric Effect c) Geographic Effect		
	8th	Propagation considerations: d) Fading e) Doppler Effect f) Multipath Effect		
3rd	9th	Revision	5 th (G-1)	To study the cell processing using CDMA trainer kit.
	10th	Introduction to 1G and 2G	6 th (G-2)	To study the cell processing using CDMA trainer kit.
	11th	Cellular Concept, Definition of Cell, Cell area and shapes , Concept of Cell area, Cell Site Structure		
	12th	Capacity of cell, Frequency Reuse (Concept),		
4th	13th	Interference (Co-channel, Adjacent channel)	7 th (G-1)	Observing call processing of GSM trainer kit.
	14th	Power Control for reducing Interference,	8 th (G-2)	Observing call processing of

				GSM trainer kit.
	15th	Fundamentals of cellular network planning : a) Coverage planning		
	16 th	Fundamentals of cellular network planning : b) Capacity planning c) Cell splitting and sectoring		
5th	17th	Assignment , revision	9 th (G-1)	To set up a Wi-fi network.
	18th	First Sessional	10 th (G-2)	To set up a Wi-fi network.
	19th	First Sessional		
	20th	First Sessional		
6th	21st	Multiple Access Techniques, Introduction & need ,	11 th (G-1)	Revision
	22nd	Types of multiple access techniques,	12 th (G-2)	Revision
	23rd	FDMA, its Advantage & Disadvantages,		
	24th	TDMA ,its advantages & disadvantages.		
7th	25th	Distinction between TDMA FDD and TDMA TDD	13 th (G-1)	Demonstration of data transfer using Bluetooth.
	26th	Code Division Multiple Access (CDMA)	14 th (G-2)	Demonstration of data transfer using Bluetooth.
	27th	WCDMA, Comparison of FDMA/TDMA/CDMA		
	28th	Revision		
8th	29th	Assignment –II, Class Test	15 th (G-1)	Measurement of signal strength of an antenna
	30th	Introduction of Global Systems for Mobile Communication (GSM)	16 th (G-2)	Measurement of signal strength of an antenna
	31st	GSM architecture,		
	32nd	GSM architecture,		
9 th	33rd	Introduction of CDMA System,	17 th (G-1)	Revision
	34th	comparison of CDMA and GSM Systems	18 th (G-2)	Revision
	35th	GPRS System. GPS System		
	36th	EDGE, Bluetooth and Wi-fi.		
10th	37th	Revision	19 th (G-1)	Revision

	38th	Second Sessional	20 th (G-2)	Revision
	39th	Second Sessional		
	40th	Second Sessional		
11th	41st	Introduction to 3G & 4G	21 st (G-1)	To study faults on a GSM mobile trainer.
	42nd	Introduction to Architecture and Features of UMTS	22 nd (G-2)	To study faults on a GSM mobile trainer.
	43rd	Introduction to Architecture and Features of UMTS		
	44th	HSPA (High Speed Packet Access).		
12th	45th	Features and Architecture of LTE (Long Term Evolution).	23 rd (G-1)	Visit
	46th	Features and Architecture of LTE (Long Term Evolution).	24 th (G-2)	Visit
	47th	Blue tooth system, Wi-Fi		
	48th	Revision, Assignment-III		
13th	49th	Assembling and disassembling of GSM phone	25 th (G-1)	Demonstration of Base Trans Receiver(BTS) with nearby cellular tower
	50th	Assembling and disassembling of GSM phone	26 th (G-2)	Demonstration of Base Trans Receiver(BTS) with nearby cellular tower
	51st	Study parts of Mobile Phone		
	52nd	Study parts of Mobile Phone		
14th	53rd	Testing of various parts	27 th (G-1)	Revision
	54th	Third Sessional	28 th (G-2)	Revision
	55th	Third Sessional		
	56th	Third Sessional		
15th	57th	Revision	29 th (G-1)	Viva
	58th	Class Test	30 th (G-2)	Viva
	59th	Revision & Seminar		
	60th	Revision & Seminar		

Lesson Plan

Name of Faculty : Umesh Saroj

Program : Electronics and Communication Engg.

Subject: Industrial Automation

Semester - 6th

Work Load(Lecture/Practical)per week : 04hrs (lecture)

Week	Lecture	THEORY
1 week	1st lecture	UNIT1: Introduction to PLC .
	2nd lecture	Concept of PLC
	3rd lecture	Functions of various blocks, limitations of relays
	4th lecture	Advantages of Building blocks of PLC
2 week	1st lecture	Different programming languages,
	2nd lecture	PLC manufacturer and Revision
	3rd lecture	UNIT2: Working of PLC
	4th lecture	Basic operation and principles of PLC
3 week	1st lecture	Basic operation and principles of PLC
	2nd lecture	Scan Cycle
	3rd lecture	Memory structures, I/O structure
	4th lecture	Programming terminal, power supply
4 week	1st lecture	Programming terminal, power supply
	2nd lecture	Memory structures, I/O structure
	3rd lecture	Revision/ Assignment
	4th lecture	Quiz Revision
5 week	1st lecture	1st SESSIONAL
	2nd lecture	UNIT3:Instruction Set
	3rd lecture	Basic instructions like latch, master control self holding relays.
	4th lecture	Timer instruction like retentive timers, resetting of timers.
6 week	1st lecture	Counter instructions like up counter,
	2nd lecture	down counter, resetting of counters.
	3rd lecture	Arithmetic Instructions (ADD,SUB,DIV,MUL etc.)
	4th lecture	Arithmetic Instructions (ADD,SUB,DIV,MUL etc.)
7 week	1st lecture	Arithmetic Instructions (ADD,SUB,DIV,MUL etc.)
	2nd lecture	Revision/Assignment and MOV instruction
	3rd lecture	RTC(Real Time Clock Function)

	4th lecture	Watch Dog Timer
8 week	1st lecture	Comparison instructions like equal, not equal, greater, greater than equal, less than, less than equal /Quiz
	2nd lecture	Ladder Programming
	3rd lecture	Ladder Programming
	4th lecture	Programming based on basic instructions, timer, comparison
9 week	1st lecture	counter, and instructions using ladder program.
	2nd lecture	Revision Quiz Assignment
	3rd lecture	Revision
	4th lecture	2nd SESSIONAL
10 week	1st lecture	Introduction Of IA Applications and DCS
	2nd lecture	Concept of DCS
	3rd lecture	DCS I/O hardware
	4th lecture	DCS I/O hardware
11 week	1st lecture	Remote Terminal Unit
	2nd lecture	Remote Terminal Unit
	3rd lecture	Revision Quiz Assignment Introduction SCADA
	4th lecture	Block Diagram of SCADA
12 week	1st lecture	Block Diagram of SCADA
	2nd lecture	Difference between Open Architecture and Dedicated System.
	3rd lecture	Difference
	4th lecture	Between DCS and SCADA
13 week	1st lecture	UNIT 6 Electrical Drives
	2nd lecture	AC Drives
	3rd lecture	DC Drives
	4th lecture	Speed and Direction control
14 week	1st lecture	Speed and Direction control Using AC and DC drives
	2nd lecture	3rd SESSIONAL
	3rd lecture	REVISION
	4th lecture	REVISION
15 week	1st lecture	REVISION
	2nd lecture	REVISION
	3rd lecture	REVISION
	4th lecture	Industrial Visit

16 week	1st lecture	REVISION
	2nd lecture	REVISION
	3rd lecture	REVISION
	4th lecture	REVISION