1st SEMESTER LESSON PLAN OF SUBJECT FEE 2023

Lesson Plan Duration : SEP 2023 -DEC 2023 work Load (Lecture/ Practical) per week (in hours): 03 HOURS (Theory)

Name of the Faculty : Ms. Pooja Malik   Discipline : Electronics and Communication Engg. Subject : FEE   Semester : 1st

Week	Lecture day	Topic (including assignment/ test)	Week	Lecture day	Topic (including assignment/ test)
1st	1	Unit 1. Ohm's law and its verification	8th	22	Faraday's laws of electro-magnetic induction
	2	Kirchhoff's current law and Kirchhoff's voltage law.		23	Principles of self and mutual induction
	3	Star – Delta connections.		24	Self and mutually induced emf
2nd	4	Voltage and current source, symbol and graphical representation, characteristics of ideal and practical sources	9th	25	Energy stored in an inductor, series and parallel combination of inductors.
	5	Mesh and Loop analysis		26	Assignment 2
	6	Thevenin's theorem, Norton's theorem		27	**2nd Sessional Test**
3rd	7	Superposition Theorem, Maximum Power Transfer Theorem	10th	28	Unit 5. Basic idea of primary and secondary cells.
	8	Unit 2. AC Fundamentals: Cycle, frequency, time period, amplitude		29	Construction, working principle and applications of Lead-Acid
	9	Difference between AC and DC, instantaneous value, average value		30	Nickel-Cadmium battery
4th	10	R.m.s. value, maximum value, form factor and peak factor	11th	31	LI- Ion batteries.
	11	Concept of conductance, susceptance, admittance, impedance, concept of inductive and capacitive reactance		32	Series and parallel connections of batteries.
	12	Introduction to series and parallel resonance and its conditions		33	Introduction to maintenance of free batteries.
5th	13	Assignment 1	12th	34	Disposal of batteries
	14	**Revision of 1st Sessional test**		35	General idea of solar cells
	15	1st Sessional Test		36	solar panels and their applications.
6th	16	RL-RC Circuits , Introduction to series and parallel resonance and its conditions	13th	37	Assignment 3
	17	Power in pure resistance, inductance and capacitance, power in combined RLC circuits		38	Revision
	18	Power factor, active and reactive power: Definition and their significance		39	**3rd Sessional test**
7th	19	Unit 4. Concept of electro-magnetic field produced by flow of electric current	14th	40	Revision of chapter 1 and 2
	20	Magnetic circuit, concept of magneto-motive force (MMF), flux		41	Revision of chapter 3 and 4
	21	Reluctance, permeability, analogy between electric and magnetic circuit.		42	Revision of chapter 5

	Lesson Plan Duration : SEP 2023 -DEC 2023 work Load (Practical) per week (in hours): 08 HOURS (04 Hours*2 Groups) (PRACTICAL)				
	Name of the Faculty : Sh. Rakesh Manchanda Discipline : Electronics and Communication Engg. Subject : FEE				
	Semester : IST				
Week	**Theory**	**Practical**	**Week**	**Theory**	**Practical**
	Lecture day	**Topic**		**Lecture day**	**Topic**
1st	1	Familiarization of measuring instruments viz voltmeter, ammeter, CRO, Wattmeter and multi-meter and other accessories	**8th**	29	Verification of Superposition theorem and Maximum Power theorem
	2			30	
	3			31	
	4			32	
2nd	5	To measure (very low) resistance of an ammeter and (very high) resistance of a voltmeter	**9th**	33	Alternating voltage applied to resistance and inductance, resistance and capacitance in series
	6			34	
	7			35	
	8			36	
3rd	9	To verify Ohm's law by drawing a graph between voltage and current	**10th**	37	To find the voltage current relationship in a single phase R-L circuits and draw their impedance
	10			38	
	11			39	To find the voltage current relationship in a single R-C Series circuits, and draw their impedance
	12			40	
4th	13	To observe change in resistance of a bulb in hot and cold conditions, using voltmeter and ammeter.	**11th**	41	Measurement of power and power factor in a single phase R,L,C. circuit
	14			42	
	15			43	Calculation of active and reactive powers in the circuit.
	16			44	
5th	17	To determine the value of resistance using colour coding method	**12th**	45	To test a lead - acid storage battery and measure its specific gravity
	18			46	
	19			47	
	20			48	
6th	21	Verification of Kirchhoff's Current and Voltage Laws in a DC circuit on bread board	**13th**	49	Care and maintenance of lead-acid battery.
	22			50	
	23			51	
	24			52	
7th	25	Verification of Thevenin's theorem, Norton's Theorem	**14th**	53	Visit to a nearby Power Station
	26			54	
	27			55	
	28			56	

LESSON PLAN of 3ᴿᴰ SEMESTER 2023

Lesson Plan Duration : SEP 2023 -DEC 2023 work Load (Lecture/ Practical) per week (in hours): 03 HOURS (Theory) + 08 HOURS (04 Hours*2 Groups) (PRACTICAL)
Name of the Faculty : Sh. Ravinder Punia   Discipline : Electronics and Communication Engg. Subject : AN & DC   Semester : IIIrd

Week	Theory		Practical	Week	Theory		Practical
	Lecture day	Topic (including assignment/ test)	Topic		Lecture day	Topic (including assignment/ test)	Topic
1st	1	Unit 1. Need for modulation	Observe wave forms at input and output of pulse code modulator with CRO	8th	22	Sampling theorem and its basic concept (Assignment 2)	Viva -Voice
	2	frequency translation and demodulation in communication systems			23	Introduction to PAM, PPM, PWM	
	3	Basic scheme of a modern communication system			24	Quantization and error of Quantization	
2nd	4	Unit 2. Derivation of expression for an amplitude modulated wave	Viva -Voice	9th	25	DELTA and ADAPTIVE DELTA Modulation concept of COMPANDING	Observe wave forms at input and output of PSK modulators
	5	Carrier and side band components			26	Frequency hopping spread spectrum technique.	
	6	Modulation index			27	**2nd Sssional test**	
3rd	7	Spectrum and BW of AM Wave	To observe an AM wave on CRO produced by a standard signal generator using internal and external modulation	10th	28	Unit 5. Basic block diagram of Amplitude shift keying (ASK)	Viva -Voice
	8	Relative power distribution in carrier and side bands.			29	Interrupted continuous wave (ICW)	
	9	Elementary idea of DSB-SC Modulation			30	Two tone modulation	
4th	10	SSB-SC, ISB Modulation	Viva -Voice	11th	31	Frequency Shift keying (FSK)	Observe wave forms at input and output of ASK modulators
	11	VSB modulations			32	Phase shift keying (PSK),	
	12	DSB-SC, SSB-SC, ISB and VSB modulations Applications			33	Quadrature Phase Shift Keying (QPSK)	
5th	13	Assignment 1	To measure the modulation index of the wave obtained in above practical	12th	34	Assignment 3	Viva -Voice
	14	Revision of chapter1			35	Revision of chapter 4	
	15	**1st Sessional Exam**			36	Revision of chapter 5	
6th	16	Unit 3. Expression for frequency modulated wave and its frequency spectrum, Modulation index	To measure the modulation index of the wave	13th	37	Class test	Observe wave forms at input and output of FSK modulators

	17	maximum frequency deviation and deviation ratio, BW of FM signals	obtained in above practical		38	Revision of 3rd sessional exam	
	18	Carson's rule, .Effect of noise on FM carrier. Noise triangle			39	3rd Sessional test	
7th	19	Role of limiter, Need for pre-emphasis and de-emphasis	Observe wave forms at input and output of QPSK modulators	14th	40	Revision	Viva -Voice
	20	Capture effect, Comparison of FM and AM in communication systems			41	Revision	
	21	Unit 4. Basic block diagram of digital and data communication systems. Their comparison with analog communication systems			42	Revision	

Week	Lecture day	Topic (including assignment/ test)	Week	Lecture day	Topic (including assignment/ test)

Lesson Plan Duration : SEP 2023 -DEC 2023 work Load (Lecture) per week (in hours): 03 HOURS (Theory)

Name of the Faculty : Ms.Pooja Malik   Discipline : Electronics and Communication Engg. Subject : DE   Semester : IIIrd

Week	Lecture day	Theory — Topic (including assignment/ test)	Week	Lecture day	Theory — Topic (including assignment/ test)
1st	1	Unit 1. Introduction to analog and digital signal	8th	22	Operation using waveforms and truth tables of RS, T, D, Master/Slave JK flip flops
	2	Binary, octal and hexadecimal number system		23	Difference between a latch and a flip flop
	3	Conversions of number systems		24	Introduction and basic concepts including shift left and shift right
2nd	4	Binary addition and subtraction including binary points	9th	25	Serial in parallel out, serial in serial out, parallel in serial out, parallel in parallel out, Universal shift register
	5	1's and 2's complement method of addition/subtraction.		26	Assignment 2
	6	Concept of code, weighted and non-weighted codes		27	2nd Sessional test
3rd	7	8421, BCD, excess-3 and Gray code	10th	28	Unit 5. Working principle of A/D and D/A converters, Stair step Ramp A/D converter
	8	Concept of parity, single and double parity and error detection		29	Dual Slope A/D converter
	9	Unit 2. Concept of negative and positive logic		30	Successive Approximation A/D Converter
4th	10	Definition, symbols and truth tables of NOT, AND, OR, NAND, NOR, EXOR Gates, NAND and NOR as universal gates	11th	31	Binary Weighted D/A converter
	11	Introduction to TTL and CMOS logic families		32	R/2R ladder D/A converter
	12	Postulates of Boolean algebra, De Morgan's Theorems		33	Applications of A/D and D/A converter
5th	13	Karnaugh map (upto 4 variables), simple application in developing combinational logic circuits	12th	34	Memory organization, classification of semiconductor memories
	14	Assignment 1		35	Static and dynamic RAM
	15	1st sessional exam		36	Introduction to 74181 ALU IC
6th	16	Unit 3. Half adder, full adder design and implementation	13th	37	Assignment 3
	17	4 bit adder circuit		38	Revision of chapter 5
	18	Four bit decoder circuits for 7 segment display and decoder/driver Ics		39	3rd sessional test
7th	19	Basic functions and block diagram of MUX. DMUX	14th	40	Revision of chapter 1 and chapter 2
	20	Basic functions and block diagram of Encoder		41	Revision of chapter 3 and chapter 4
	21	Unit 4. Concept and types of latch with their working and applications		42	Revision of chapter 5

Week	Lecture day	Topic (including assignment/ test)	Topic (Practical)	Week	Lecture day	Topic (including assignment/ test)	Topic (Practical)
1st	1	Unit 1. Need for multistage amplifier, Gain of multistage amplifier	Plot the frequency response of two stage RC coupled amplifier and calculate the bandwidth.	8th	22	Barkhausen criterion for oscillations	To observe the output wave form of RC phase shift oscillator
	2	RC coupled, transformer coupled, direct coupled, and their frequency response and bandwidth			23	Different oscillator circuits-tuned collector	
	3	Revision of chapter 1			24	Hartley and Colpitts oscillator	
2nd	4	Unit 2. Difference between voltage and power amplifiers	To measure the gain of push-pull amplifier	9th	25	phase shift, Wien's bridge Oscillator, crystal oscillator	To observe the output wave form of Wein bridge Oscillator
	5	Importance of impedance matching in amplifiers			26	Assignment 2	
	6	Class A, Class B, Class AB, and Class C amplifiers			27	**2nd sessional test**	
3rd	7	collector efficiency and Distortion in class A,B,C.	VIVA-VOICE	10th	28	Unit 5. Working principle of transistor as switch	Use of IC 555 as mono astable multivibrator and observe the output for different values of RC
	8	Single ended power amplifiers			29	Astable multivibrator	
	9	Heat dissipation curve and importance of heat sinks			30	Monostable and bistable multivibrator	
4th	10	Push-pull amplifier, and complementary symmetry push-pull amplifier	To measure the voltage gain of emitter follower circuit and plot its frequency response	11th	31	Block diagram of IC555 and its working and applications	VIVA-VOICE
	11	Single and double tuned voltage amplifiers and their frequency response characteristics			32	IC555 as monostable and astable multi-vibrator, bistable multivibrator	
	12	Assignment 1			33	Characteristics of an ideal operational amplifier and its block diagram	
5th	13	Revision of chapter 1	To observe the output wave form of Hartley Oscillator	12th	34	IC-741 and its pin configuration	Use of IC 555 as astable multivibrator and observe the output at different duty cycles
	14	Revision of chapter 2			35	Definition of differential voltage gain, CMRR, PSRR, slew rate and input offset current	
	15	**1st sessional test**			36	Operational amplifier as an inverter, scale changer, adder	
6th	16	Unit 3 Basic principles and types of feedback	VIVA-VOICE	13th	37	Subtractor, differentiator, and integrator	To use IC 741 (op-amplifier) as i) Inverter, ii) Adder, iii) Subtractor iv) Integrator
	17	Derivation of expression for gain of an amplifier employing feedback			38	Assignment 3	
	18	Effect of feedback (negative) on gain, stability, distortion and bandwidth of an amplifier			39	**3rd sessional test**	
7th	19	RC coupled amplifier with emitter bypass capacitor	To observe the output wave form of Colpitt's Oscillator	14th	40	Revision of chapter 1 and 2	VIVA-VOICE
	20	Emitter follower amplifier and its application			41	Revision of chapter 3 and 4	
	21	Unit 4. Use of positive feedback			42	Revision of chapter 5	

Lesson Plan Duration : SEP 2023 -DEC 2023 work Load (Lecture/ Practical) per week (in hours): 04 HOURS (Theory) + 06 HOURS (03 Hours*2 Groups) (PRACTICAL)						
Name of the Faculty : Sh. Sandeep Goel Discipline : Electronics and Communication Engg. Subject : PIC Semester : IIIrd						

Week	Theory		Practical	Week	Theory		Practical
	Lecture day	Topic (including assignment/ test)	Topic		Lecture day	Topic (including assignment/ test)	Topic
1st	1	Steps in development of a program	Programming exercises on executing and editing a C program	8th	29	Multidimensional Array	Programming exercises on switch statement
	2	Flow charts			30	Arrays of characters	
	3	Algorithm development			31	Introduction of Strings	
	4	Programme Debugging			32	String declaration and definition	
2nd	5	I/O statements	Programming exercises on defining variables and assigning values to variables.	9th	33	String related function i.e. strlen, strcpy, strcmp	Programming exercises on do – while, statement.
	6	Constants, variables			34	Passing an array to function	
	7	Data types			35	Pointers to an array	
	8	Operators and Expressions			36	Pointers to string	
3rd	9	Standards and Formatted IOS	Programming exercises on arithmetic and relational operators.	10th	37	2nd Sessional Test	Programming exercises on for – statement.
	10	Data Type Casting			38	Declaration of structures	
	11	Decision making with IF – statement			39	Accessing structure members	
	12	IF – Else a Nested IF			40	Structure Initialization	
4th	13	While, do-while	Programming exercises on arithmetic expressions and their evaluation.	11th	41	Problem Taking	Programs on one- dimensional array.
	14	for loop, Break. Continue Statement			42	Problem Taking	
	15	Goto and switch statements			43	Pointer to a structures	
	16	Introduction to Pointers, Address operator and pointers			44	Unions	
5th	17	Declaring Pointers, Initializing pointers, Single pointer	Programming exercises on formatting input/output using printf and scanf and their return type values.	12th	45	Opening and Closing of File	Programs on two-dimensional array.
	18	REVISION			46	Problem Taking	
	19	REVISION			47	Problem Taking	
	20	REVISION			48	Modes of Accessing Files	
6th	21	1st Sessional Test	Programming exercises using if statement	13th	49	Reading and Writing in the File	i) Programs for putting two strings together. (ii) Programs for comparing two strings.
	22	Introduction to functions, Function Declaration, Calling, definition			50	Problem Taking	
	23	Parameter Passing, Call - by value			51	REVISION	
	24	Call - by Reference, Global and Local Variables			52	REVISION	
7th	25	Introduction to Arrays	Programming exercises using if - Else	14th	53	REVISION	Simple programs using functions, structures, Unions Program on Reading and Writing data to a file.
	26	Array Declaration			54	REVISION	
	27	Length of array			55	REVISION	
	28	Single Array			56	3rd Sessional Test	

LESSON PLAN of 5th SEMESTER 2023

Lesson Plan Duration : SEP 2023 -DEC 2023 work Load (Lecture) per week (in hours): 03 HOURS (Theory)						
Name of the Faculty Dr Adish Bindal Discipline: Electronics and Communication Engg. Subject : AVS Semester :5th						
Week	Theory		Practical	Week	Theory		Practical

Week	Lecture day	Topic (including assignment/ test)	Topic	Week	Lecture day	Topic (including assignment/ test)	Topic
1st	1	Unit 1. Microphones and Loudspeakers	To plot the directional response of a Microphone	8th	22	How compression works	Viva-voice
	2	Carbon, moving coil, cordless microphone			23	Compression formats for video - MPEG-x format	
	3	Direct radiating and horn loudspeaker			24	H.26x format	
2nd	4	Multi-speaker system	Viva-voice	9th	25	Assignment 2	To perform fault identification in Colour TV
	5	Optical Sound recording			26	Revision of 2nd Sessional test	
	6	Unit 2. Audio as Data and Signal			27	2nd Sessional test	
3rd	7	Digital Audio Processes Outlined	To plot the directional response of a Loud Speaker	10th	28	Unit 5. Digital Television-Transmission and Reception,	Viva-voice
	8	Time Compression and Expansion.			29	Digital satellite television	
	9	Unit 3. Basics of Television			30	Direct-To-Home(DTH) satellite television	
4th	10	Elements of TV communication system	Viva-voice	11th	31	Digital Terrestrial Television(DTT),	Installation of Dish Antenna for best reception.
	11	Scanning and its need			32	Introduction to :Video on demand	
	12	Need of synchronizing and blanking pulses,			33	CCTV, CATV with optical fibre	
5th	13	Assignment 1	To study public address system and its components.	12th	34	Basic block diagram of LCD	Viva-voice
	14	Revision of 1st Sessional test			35	LED Television	
	15	1st Sessional test			36	Comparison between LCD and LED	
6th	16	Composite Video Signal	Viva-voice	13th	37	Assignment 3	Installation of CCTV system
	17	Primary, secondary colours - Concept of Mixing, Colour Triangle			38	Revision of 3rd Sessional test	
	18	Camera tube, PAL TV Receiver			39	3rd Sessional test	
7th	19	NTSC, PAL, SECAM	To test color TV using pattern generator	14th	40	Revision	Viva-voice
	20	Digital Video, The RGB and YUV Representation of Video Signals			41	Revision	
	21	The Need for Compression			42	Revision	

		Theory	**Practical**			**Theory**	**Practical**
Week	Lecture day	Topic (including assignment/ test)	Topic	Week	Lecture day	Topic (including assignment/ test)	Topic
1st	1	Basic block diagram of digital communication systems	Observe wave forms at input and output of pulse code modulator with CRO.	8th	22	Characteristics/working of data transmission circuits	Observe wave forms at input and output of PSK modulators
	2	Basic block diagram of data communication systems			23	bandwidth requirements, data transmission speeds	
	3	Their comparison with analog communication systems.			24	noise, cross talk	
2nd	4	Sampling theorem and its basic concept	Observe wave forms at input and output of pulse code modulator with CRO.	9th	25	echo suppressors	Observe wave forms at input and output of PSK modulators
	5	Introduction to PAM			26	distortion, equalizers	
	6	Introduction to PPM			27	REVISION	
3rd	7	Introduction to PWM	Transmission of data using MODEM.	10th	28	**2nd Sessional Test**	Viva-Voice
	8	Quantization and error of Quantization			29	Need and function of modems	
	9	PCM, advantage and disadvantage			30	Mode of modems operation	
4th	10	DPCM, advantage and disadvantage	Transmission of data using MODEM.	11th	31	low speed, medium speed and high speed modems	Observe the working of space and time switching circuit.
	11	DELTA Modulation			32	Modem interconnection	
	12	ADAPTIVE DELTA Modulation			33	Modem data transmission speed	
5th	13	concept of COMPANDING	Viva-Voice	12th	34	Space and time switching	Observe the working of space and time switching circuit.
	14	Frequency hopping spread spectrum technique			35	Working principle of STS switches	
	15	REVISION			36	Working principle of STS switches	
6th	16	**1st Sessional Test**	Observe wave forms at input and output of QPSK modulators	13th	37	Working principle of TST switches	REVISION
	17	Basic block diagram and principle of working of Amplitude shift keying (ASK)			38	Working principle of TST switches	
	18	Interrupted continuous wave (ICW), two tone modulation			39	REVISION	
7th	19	Frequency Shift keying (FSK)	Observe wave forms at input and output of QPSK modulators	14th	40	REVISION	Viva-Voice
	20	Phase shift keying (PSK)			41	REVISION	
	21	Quadrature Phase Shift Keying(QPSK)			42	**3rd Sessional Test**	

Lesson Plan Duration : SEP 2023 -DEC 2023 work Load (Lecture/ Practical) per week (in hours): 03 HOURS (Theory) + 06 HOURS (03 Hours*2 Groups) (PRACTICAL)

Name of the Faculty : Sh. Sandeep Goel   Discipline : Electronics and Communication Engg. Subject : DC   Semester :Vth

Lesson Plan Duration : SEP 2023 -DEC 2023 work Load (Lecture/ Practical) per week (in hours): 03 HOURS (Theory) + 06 HOURS (03 Hours*2 Groups) (PRACTICAL)							
Name of the Faculty : Sh. Ravinder Punia Discipline : Electronics and Communication Engg. Subject : OFC							**Semester : Vth**

Week	Lecture day	Topic (including assignment/ test)	Topic (Practical)	Week	Lecture day	Topic (including assignment/ test)	Topic (Practical)
		Theory	**Practical**			**Theory**	**Practical**
1st	1	Unit 1. Historical perspective, basic communication systems	To set up fiber analog link	8th	22	different types of LED structures used and their brief description	To observe characteristics of optical source
	2	Optical frequency range, advantages of optical fiber communication			23	Injection laser diode, principle of operation, different injection laser diodes	
	3	Application of fiber optic communication			24	Injection laser diode, principle of operation, different injection laser diodes, principle of operation	
2nd	4	Electromagnetic spectrum used	To set up optic digital link	9th	25	Different injection laser diodes, comparison of LED and ILD.	To observe characteristics of optical detector
	5	Advantages and disadvantages of optical communication			26	Assignment 2	
	6	Principle of light penetration, reflection, critical angle			27	**2nd Sessional test**	
3rd	7	Unit 2. Constructional details of various optical fibers	To measure bending losses in optical fibers	10th	28	Unit 5. Characteristics of photo detectors used in optical communication	VIVA-VOICE
	8	Multimode and mono-mode fibers			29	PIN diode and avalanche photo diode (APD)	
	9	Step index and graded index fibers			30	Noise in detectors	
4th	10	Acceptance angle and types of optical fiber cables.	VIVA-VOICE	11th	31	Unit 6. Types of optical amplifiers	To splice the available optical fiber
	11	Optical Fibers cable connectors			32	Semiconductor & fiber optical amplifiers	
	12	Splicing techniques (Mechanical, fusion)			33	Principle of operation of SOA,	
5th	13	Assignment 1	To observe and measure the splice or connector loss	12th	34	Types of SOA	To connect a fiber with connector at both ends
	14	Revision of 1st sessional test			35	EDFA, Raman amplifiers.	
	15	**1st Sessional test**			36	Comparison of SOA, EDFA and Raman Amplifiers.	
6th	16	Unit 3. Absorption Losses: Scattering Losses	To measure and calculate numerical aperture of optical fiber	13th	37	Assignment 3	To identify and use various components and tools used in optical fiber communication
	17	Radiation losses, Connector losses			38	Revision of 3rd Sessional test	
	18	Bending loses.			39	**3rd Sessional Exam**	
7th	19	Dispersion: Types and its effect on data rate	VIVA-VOICE	14th	40	Revision of chapter 1 and 2	VIVA-VOICE
	20	Testing of losses using OTDR			41	Revision of chapter 3 and 4	
	21	Unit 4. Characteristics of light sources (LED and LASER) used in optical communication			42	Revision of chapter 5 and 6	

Lesson Plan Duration : SEP 2023 -DEC 2023 work Load (Lecture) per week (in hours): 04 HOURS (Theory)
Name of the Faculty : Ms. Pooja Malik   Discipline : Electronics and Communication Engg. Subject : CN   Semester : 5th

Week	Lecture day	Theory — Topic (including assignment/ test)	Week	Lecture day	Theory — Topic (including assignment/ test)
1st	1	Unit 1. What is network, Peer-to –peer Network	8th	29	Uses of RJ11, BNC,SCST.
	2	Server Client Network,		30	Unit 5. Network connectivity Devices, NICs and Hubs
	3	LAN, MAN and WAN		31	Repeaters,switches, Routers and Routing Protocols
	4	Network Services, Topologies		32	Configuring of Routers,
2nd	5	Switching Techniques	9th	33	VOIP
	6	Unit 2. Standards, OSI Reference Model		34	Net-to-Phone Telephony
	7	OSI Physical layer, data links layer		35	Assignment 2
	8	Network and transport layer concept		36	**2nd sessional test**
3rd	9	Session and presentation layer	10th	37	Unit 6. Client/Server Technology
	10	Application layer		38	Server Management
	11	Unit 3. Concept of physical and logical addressing		39	RAID management and mirroring
	12	Different classes of IP addressing, special IP address		40	Cryptography
4th	13	Sub netting and super netting	11th	41	Ethical Hacking
	14	Loop back concept		42	Unit 7. Basics of Wireless: Wireless MAN
	15	IPV4 and IPV6 packet Format		43	Networking
	16	Configuring IPV4 and IPV6		44	Wireless LAN
5th	17	Assignment 1	12th	45	Wi-Fi
	18	Revision of chapter 1 and chapter 2		46	WiMax (Broad band Wireless)
	19	Revision of chapter 3		47	Li-Fi
	20	**1st sessional test**		48	Assignment 3
6th	21	Unit 4. Types of Cables(Coaxial, Twisted Pair)	13th	49	Revision of chapter 6
	22	Shielded and Unshielded Pair of Cables		50	Revision of chapter 7
	23	(Straight wire Cable, CrossOver Cables) with colour coding.		51	Revision of 3rd sessional test
	24	Ethernet Specification and Standardization		52	**3rd sessional test**
7th	25	10 Mbps (Traditional Ethernet)	14th	53	Revision of chapter 1 and 2
	26	100 Mbps (Fast Ethernet)		54	Revision of chapter 3 and 4
	27	1000 Mbps (Gigabit Ethernet),Leased lines.		55	Revision of chapter 5 and 6
	28	Use of RJ45		56	Revision of chapter 7

Lesson Plan Duration : SEP 2023 -DEC 2023 work Load (Lecture/ Practical) per week (in hours): 04 HOURS (Theory) + 06 HOURS (03 Hours*2 Groups) (PRACTICAL)							
Name of the Faculty : Dr. I. S. Dhindsa Discipline : Electronics and Communication Engg. Subject : MICROCONTROLLERS Semester : Vth							
Week	**Theory**		**Practical**	**Week**	**Theory**		**Practical**
	Lecture day	Topic (including assignment/ test)	Topic		Lecture day	Topic (including assignment/ test)	Topic
1st	1	Architecture of 8051Microcontroller	Familiarization with Micro-controller Kit and its different sections	8th	29	Compiler operations	Programming for D/A converter, result on LCD.
	2	Architecture of 8051Microcontroller			30	Compiler operations	
	3	Architecture of 8051Microcontroller			31	Compiler operations	
	4	Pin details			32	Keypad interface	
2nd	5	I/O Port structure	Familiarization with Assembly Language Programming (PC Based)	9th	33	Keypad interface	Programming for serial data transmission from PC to Kit or Vice versa.
	6	I/O Port structure			34	Keypad interface	
	7	I/O Port structure			35	Revision	
	8	Memory Organization			36	Revision	
3rd	9	Special Function Registers (SFRs)	Programming to interface switches and LEDs	10th	37	2nd Sessional Test	Programming and interfacing of RELAY and Buzzer
	10	External Memory			38	7- segment interface	
	11	Instruction Set of 8051			39	7- segment interface	
	12	Instruction Set of 8051			40	7- segment interface	
4th	13	Instruction Set of 8051	Programming and interface of Seven Segment and LCD.	11th	41	LCD, A/D, D/A and RTC interface with programming.	Revision
	14	Instruction Set of 8051			42	LCD, A/D, D/A and RTC interface with programming.	
	15	Instruction Set of 8051			43	LCD, A/D, D/A and RTC interface with programming.	
	16	Instruction Set of 8051			44	LCD, A/D, D/A and RTC interface with programming.	
5th	17	Addressing Modes,	Programming and interfacing of Graphical LCD	12th	45	LCD, A/D, D/A and RTC interface with programming.	Revision
	18	Timer operation			46	LCD, A/D, D/A and RTC interface with programming.	
	19	Timer operation			47	LCD, A/D, D/A and RTC interface with programming.	
	20	Timer operation			48	LCD, A/D, D/A and RTC interface with programming.	
6th	21	1st Sessional Test	Programming to interface Hex 4x4 matrix Keypad	13th	49	Introduction of PIC Micro controllers	Revision
	22	Interrupts			50	Introduction of PIC Micro controllers	
	23	Interrupts			51	Introduction of PIC Micro controllers	
	24	Serial Port operation			52	Introduction of PIC Micro controllers	
7th	25	Serial Port operation	Programming for A/D converter, result on LCD.	14th	53	3rd Sessional Test	VIVA-VOICE
	26	Serial Port operation			54	Revision	
	27	Assembler operation			55	Revision	
	28	Assembler operation			56	Revision	