Lesson Plan								
Name of F	aculty :							
Discipline :		Electronics & Communication Engg.						
Semester	:	5th						
Subject :		Microcontrollers						
Lesson Pla	n Durati	on : 15 weeks						
Work Load	d ( Lectu	re /Practical ) per week in hours	:	Lecture -4 Practical-3				
Week	Theory		Practical					
	Lectur	Topic (Including	Practical	Tonic				
	e DAY	assignment/test )	DAY					
1st	1st	Introduction	1st	Familiarization with Micro- controller Kit and its different				
	Jad	Architecture of						
	2110	8051Microcontroller						
		Architecture of						
	3ra	8051Microcontroller						
	4th	Pin details of 8051						
<b>a</b> 1				Familiarization with Assembly				
2nd	5th	Pin details of 8051	2nd	Language Programming (PC Based)				
	6th	I/O Port structure						
	7th	Memory Organization						
	8th	Special Function Registers (SFRs)						
3rd	9th	External Memory, revision	3rd	Programming to interface switches and LEDs				
	10th	Instruction Set of 8051						
	11th	Instruction Set of 8051						
	12th	Instruction Set of 8051						
4th	13th	Instruction Set of 8051, assignment	4th	Programming and interface of Seven Segment and LCD.				
	14th	Addressing Modes,						
	15th	Addressing Modes,						
	16th	Types of Instructions						
5th	17th	Timer operation	5th	Revision, viva				

	18th	Serial Port operation		
	19th	Serial Port operation		
	20th	Interrupts		
6th	21st	Interrupts	6th	Programming and interfacing of Graphical LCD .
	22nd	Interrupts		
	23rd	revision		
	24th	Assembler directives		
7th	25th	Assembler directives	7th	Programming to interface Hex 4x4 matrix Keypad
	26th	Assembler directives		
	27th	Assembler operation		
	28th	Assembler operation		
8th	29th	Compiler operations	8th	Programming for A/D converter, result on LCD.
	30th	Compiler operations		
	31st	Compiler operations		
	32nd	Compiler operations		
9th	33rd	De bugger	9th	Revision, viva
	34th	De bugger		
	35th	De bugger		
	36th	De bugger		
10th	37th	Revision, doubt discussion, assignment	10 th	Programming for D/A converter, result on LCD.
	38th	Design and Interface introduction		
	39th	Keypad interface		

	40th	Keypad interface		
11th	41st	7 segment interface	11 th	Programming for serial data transmission from PC to Kit or Vice
	42nd	7 segment interface		
	43rd	7 segment interface		
	44th	LCD interface		
12th	45th	A/D interface, D/A interface	12 th	Revision
	46th	RTC interface		
	47th	revision and doubt discussion		
	48th	revision		
13th	49th	introduction to PIC microcontroller	13th	Revision
	50th	PIC microcontroller		
	51st	PIC microcontroller		
	52nd	PIC microcontroller		
14th	53rd	revision, assignment	14th	Revision, viva
	54th	Revision		
	55th	Revision		
	56th	Revision		
15th	57th	Revision	15th	Revision
	58th	Revision		
	59th	Revision		
	60th	Revision		

Lesson Plan		
Name of Faculty	:	Suresh Rani
Discipline	:	Electronics & Communication Engg
Semester	:	5th
Subject	:	Optical Fiber Communication
Lesson Plan Duration	: 1	5weeks

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

Practical: 3

Week	Theory		Practical		
	Lecture Day	Topic (Including assignment/test)	Practic al Day	Торіс	
1st	1st	Historical perspective, Basic communication systems	1 <sup>st</sup> (G1)	Introduction	
	2nd	Optical frequency range, advantages of optical fiber communication	2 <sup>nd</sup> (G2)	Introduction	
	3rd	Application of fiber optic communication Electromagnetic spectrum used			
2nd	4th	Advantages and disadvantages of optical communication principle of light penetration	3 <sup>rd</sup> (G1)	Setting up of fiber analog link	
	5th	Reflection, critical angle.	4 <sup>th</sup> (G2)	Setting up of fiber analog link	
	6th	Revision			
3rd	7th	Constructional details of various optical fibers, multimode and mono-mode fibers, step	5 <sup>th</sup> (G1)	Setting up to optic digital link	
	8th	Index and graded index fibers	6 <sup>th</sup> (G2)	Setting up to optic digital link	
	9th	Acceptance angle and types of optical fiber cables.			
4th	10th	Optical Fibers cable connectors	7 <sup>th</sup> (G1)	Revision & Viva, Related Small Projects	

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	11th	Optical Fibers cable connectors	8 <sup>th</sup> (G2)	Revision & Viva, Related Small Projects
	12th	Splicing techniques		
5th	13th	Splicing techniques	9 <sup>th</sup> (G1)	Introduction to various components and tools used in optical fiber communication
	14th	Splicing techniques	10 <sup>th</sup> (G2)	Introduction to various components and tools used in optical fiber communication
	15th	Revision		
6th	16th	Revision	11 <sup>th</sup> (G1)	Measurement of various losses in optical fibers
	17th	Revision	12 <sup>th</sup> (G2)	Measurement of various losses in optical fibers
	18th	Absorption Losses: Scattering Losses		
7th	19th	Radiation losses	13 <sup>th</sup> (G1)	To observe the splice or connector loss
	20th	Connector losses	14 <sup>th</sup> (G2)	To observe the splice or connector loss
	21st	Bending loses		
8th	22nd	Dispersion: Types and its effect on data rate	15 <sup>th</sup> (G1)	Revision, Viva
	23rd	Dispersion: Types and its effect on data rate	16 <sup>th</sup> (G2)	Revision, Viva
	24th	Testing of losses using OTDR (Optical Time Domain Reflecto meter).		
9th	25th	Revision	17 <sup>th</sup> (G1)	To observe characteristics of optical source
	26th	Characteristics of light sources (LED and LASER) used in optical communication	18 <sup>th</sup> (G2)	To observe characteristics of optical source
	27th	Principle of operation of LED		
10th	28th	Different types of LED structures used and their brief description,	19 <sup>th</sup> (G1)	To observe characteristics of optical detector

	29th	Injection laser diode, principle of operation, different injection laser diodes	20 <sup>th</sup> (G2)	To observe characteristics of optical detector
	30th	Comparison of LED and ILD		
11th	31th	Revision	21 <sup>st</sup> (G1)	A visit to nearby Telephone Exchange
	32th	Characteristics of photo detectors used in optical communication; PIN diode	22 <sup>nd</sup> (G2)	A visit to nearby Telephone Exchange
	33th	Avalanche photo diode (APD)		
12th	34th	Noise in detectors	23 <sup>rd</sup> (G1)	To Connectorise a fiber with connector at both ends
	35th	Types of optical amplifiers, semiconductor & fiber optical amplifiers	24 <sup>th</sup> (G2)	To Connectorise a fiber with connector at both ends
	36th	Principle of operation of SOA, types of SOA.		
13th	37th	EDFA	25 <sup>th</sup> (G1)	Revision, Viva
	38th	Raman amplifiers.	26 <sup>th</sup> (G2)	Revision, Viva
	39th	Comparison of SOA, EDFA and Raman Amplifiers.		
14 <sup>th</sup>	40th	Revision	27 <sup>th</sup> (G1)	Revision, Viva
	41th	Test	28 <sup>th</sup> (G2)	Revision, Viva
	42th	Revision		
15 <sup>th</sup>	43th	Test	29 <sup>th</sup> (G1)	Revision, Viva
	44th	Revision	30 <sup>th</sup> (G2)	Revision, Viva
	45th	Revision		

## Lesson Plan

Name of the Faculty: Suresh RaniDiscipline: Electronics and Communication Engg.Semester: VthSubject: COMPUTER NETWORKLesson Plan Duration: 15 weeks

## Work Load (Lecture/ Practical) per week (in hours): 04 HOURS (Lecture)

	Theory					
Week	Lecture day	Topic (including assignment/ test)				
	1.	Networks Basics : what is Network, Network Types				
$1^{st}$	2.	Peer to Peer Network, Server Client Network				
	3.	LAN, MAN and WAN				
	4.	Network Services				
	5.	Network Topologies				
$2^{nd}$	6.	Network Topologies, Switching Techniques				
	7.	Switching Techniques				
	8.	Revision				
	9.	Class test				
3 <sup>rd</sup>	10.	OSI model: OSI reference model				
	11.	Physical layer concepts				
	12.	Data link Layer Concepts,				
	13.	Network Layer Concepts , Transport Layer concepts,				
<b>4</b> <sup>th</sup>	14.	Session Layer Concepts,				
	15.	Presentation Layer Concepts, Application Layer Concepts				
	16.	Revision				
	17.	Class test				
5 <sup>th</sup>	18.	Introduction to TCP/IP : Concept of physical and logical addressing				
	19.	Different classes of IP addressing,				
	20.	Special IP address, Sub netting				
	21.	Sub netting and super netting Loop back concepts,				
6 <sup>th</sup>	22.	IPV4 & IPV6 packet format				
	23.	Configuring IPV4 and IPV6				
	24.	Revision, Assignment				
	25.	Revision, doubt discussion				
$7^{th}$	26.	Revision				
	27.	Cables and Connectors -Types of Cables				
	28.	Shielded and unshielded pair of cables				

	29.	straight wire and cross over cables with cplour coding			
8 <sup>th</sup>	30.	Ethernet specification & standardization :10 Mbps (Traditional Ethernet), 100 Mbps (Fast Ethernet)			
	31.	1000 Mbps (Gigabit Ethernet), Leased lines, RJ45			
	32.	RJ11, BNC and SCST connectors			
	33.	Revision			
9 <sup>th</sup>	34.	Network Connectivity : - Network connectivity devices, NICs			
	35.	Hubs, Repeaters, Switches			
	36.	Router and Routing protocols			
	37.	Configuring of Router			
10 <sup>th</sup>	38.	Configuring of Router			
	39.	VOIP and Net -to- Phone telephony			
	40.	Revision, Assignment			
	41.	Doubt discussion			
11 <sup>th</sup>	42.	Revision			
	43.	Network Administration / Security: Client Server technology			
	44.	Server Management			
	45.	RAID management and mirroring			
12 <sup>th</sup>	46.	Cryptography			
	47.	Ethical hacking			
	48.	Ethical hacking			
	49.	Wireless Networking : Basics of Wireless			
13 <sup>th</sup>	50.	Wireless MAN			
	51.	Wireless LAN			
	52.	Wi-Fi			
	53.	WiMax(Broad-band Wireless)			
14 <sup>th</sup>	54.	WiMax(Broad-band Wireless)			
	55.	Li-Fi			
	56.	Revision			
	57.	Revision			
15 <sup>th</sup>	58.	Revision, Assignment			
	59.	Revision			
	60.	Class test			
	61.	Revision			
16th	62.	Revision			
	63.	Revision, test			
	64.	Resivion			

## Lesson Plan

Name of the Faculty	: BUNTY
Discipline	: Electronics and Communication Engg.
Semester	: Vth
Subject	: Digital Communication
Lesson Plan Duration	: 15 Weeks

## Work Load (Lecture/ Practical) per week (in hours): Lecture: 03 Practical: 03

Week	Theory		Practical		
	Lecture	Topic ( Including	Practical	Торіс	
	Day	assignment/test )	Day	_	
1st	1st	Introduction	1 <sup>st</sup>	Introduction	
			(G1)		
	2nd	Basic block diagram of digital	$2^{nd}$	Introduction	
		and data communication	(G2)		
		systems			
	3rd	Comparison of Digital and			
		analog communication system			
2nd	4th	Sampling theorem and its basic	3 <sup>rd</sup>	Observe wave forms at	
		concept. Use of Sampling	(G1)	input and output of pulse	
		Theorem.		code modulator with	
				CRO.	
	5th	Introduction to PAM, PPM,	$4^{\text{tn}}$	Observe wave forms at	
		PWM	(G2)	input and output of pulse	
				code modulator with	
	<u></u>			CRO.	
	6th	Pulse Code Modulation	th		
3rd	7th	Quantization and error of	5 <sup>m</sup>	Revision	
	0.1	Quantization in PCM	(GI)	<b>D</b> · · ·	
	8th	Differential Pulse Code	6 <sup>th</sup>	Revision	
		Modulation, Advantage and	(G2)		
	0.1	disadvantage			
	9th	Delta Modulation	<b>_</b> th		
4th	10th	Adaptive Delta Modulation	/ <sup>m</sup>	Transmission of data	
	11.1		(GI)		
	llth	Concept of COMPANDING	8	I ransmission of data	
	1.2th	Energy on ay honning annoad	(G2)		
	1201	spectrum technique			
5th	12th	Bayision Assignment	Oth	Pavision	
501	1501	Kevision, Assignment	9 (G1)	Revision	
	1/th	Basic block diagram and	10 <sup>th</sup>	Revision	
	1401	principle of working of	$(G^2)$	Ke vision	
		Amplitude shift keying (ASK)	(02)		
	15th	Basic block diagram and			
	1501	principle of working of			
		Interrupted continuous wave			
		(ICW)			
6th	16th	Basic block diagram and	11 <sup>th</sup>	Observe wave forms at	
		principle of working of Two	(G1)	input and output of QPSK	

		Tone Modulation		modulators
	17th	Basic block diagram and	12 <sup>th</sup>	Observe wave forms at
		principle of working of	(G2)	input and output of QPSK
		Frequency Shift Keying (FSK)		modulators
	18th	Comparison of ASK and FSK		
7th	19th	Basic block diagram and	13 <sup>th</sup>	Revision
		principle of working of Phase	(G1)	
		Shift Keying (PSK)		
	20th	Basic block diagram and	14 <sup>m</sup>	Revision
		principle of working of	(G2)	
		Quadrature Phase Shift Keying		
	21st	Basic block diagram and		
		principle of working of		
		Quadrature Phase Shift Keying		
		(OPSK)		
8th	22nd	Revision, Doubt discussion	15 <sup>th</sup>	Observe wave forms at
			(G1)	input and output of PSK
				modulators
	23rd	Introduction data transmission	16 <sup>th</sup>	Observe wave forms at
		circuits	(G2)	input and output of PSK
	0.4.1			modulators
	24th	Characteristics of data		
0.1	05.1	transmission circuits	1 <b>7</b> th	
9th	25th	working of data transmission	$(\mathbf{C}^{1})$	Revision
	26th	Bandwidth requirements and	(01) 18 <sup>th</sup>	Pavision
	2011	Data transmission speeds of	(G2)	Revision
		data transmission circuits	(02)	
	27th	Transmission speed. Noise and		
	_ /	Cross talk in data transmission		
		circuits		
10th	28th	Cross talk and Echo suppressor	19 <sup>th</sup>	Observe the working of
		in data transmission circuits	(G1)	space and time switching
				circuit.
	29th	Distortion and Equalizer	$20^{\text{th}}$	Observe the working of
			(G2)	space and time switching
	201			circuit.
11.1	30th	Revision	01st	D
llth	31th	Problem and doubt discussion,	$21^{\text{st}}$	Revision
		assignment	(GI)	
	32th	Basics of Modems	22 <sup>nd</sup>	Revision
			(G2)	
	33th	Modems		
12th	34th	Need and function of modems	23 <sup>rd</sup>	Revision
			(G1)	
	35th	Mode of modems operation	24 <sup>th</sup>	Revision
		(low speed, medium speed and	(G2)	
		high speed modems).		
	36th	Modem interconnection		
13th	37th	Modem data transmission	25 <sup>th</sup>	Revision

		speed	(G1)	
	38th	Modem modulation method	26 <sup>th</sup>	Revision
			(G2)	
	39th	Space switching, Time		
		Switching		
14 <sup>th</sup>	40th	Working Principle of STS	27 <sup>th</sup>	Revision
		Switches	(G1)	
	41th	Working Principle of TST	28 <sup>th</sup>	Revision
		Switches	(G2)	
	42th	Revision		
15 <sup>th</sup>	43th	Revision	29 <sup>th</sup>	Viva
			(G1)	
	44th	Revision, Assignment	30 <sup>th</sup>	Viva
			(G2)	
	45th	Revision, oral test		
16 <sup>th</sup>	$46^{\text{th}}$	Revision, class test	31 <sup>th</sup>	Revision
	_		(G1)	
	47 <sup>th</sup>	Revision, oral test	32 <sup>th</sup>	Revision
	41-		(G2)	
	48 <sup>th</sup>	Revision		