Lesson Plan

Name of the Faculty: Er. Gagandeep Singh (Theory)

Discipline: Electronics and Communication Engineering

Semester: 6th

Subject: Digital Signal Processing(ECE- 302N)

Lesson plan: 15 Weeks (From January, 2018 to April, 2018)

Lecture per Week (in Hours): Lectures-03

Week	Theory	
	Lecture Day	Topic
1st	1.	**UNIT-1** Discrete Transforms: Z- transform and its properties,
	2.	Inversion of Z-transform
	3.	One sided Z-transform and solution of differential equations
2nd	4.	Analysis of LTI systems in Z-domain, causality, stability, schur-cohn stability test
	5.	**ASSIGNMENT NO 1 "Relationship between Z-transform and Fourier transform"**
	6.	Frequency Selective Filters: All pass filters, minimum-phase, maximum-phase and mixed-phase systems
3rd	7.	Goertzel algorithm
	8.	Chirp Z-transform
	9.	applications of Z-Transform
4th	10.	**TEST OF UNIT-1**
	11.	**UNIT-2** Frequency Domain Sampling and DFT
	12.	Linear filtering using DFT
5th	13.	Frequency analysis of signals using DFT, radix 2, radix-4,
	14.	computation of DFT of real sequences
	15.	**ASSIGNMENT NO-2 "Properties of DFT"**
6th	16.	Implementation of Discrete Time Systems
	17.	Direct form, cascade form
	18.	Frequency sampling and lattice structures for FIR systems.
7th	19.	Direct forms, transposed form, cascade form parallel form
	20.	Lattice and lattice
	21.	ladder structures for IIR systems.
8th	22.	**TEST OF UNIT-2**
	23.	**UNIT-3** Design of FIR Filters : Characteristics of practical frequency selective filters.
	24.	Filters design specifications

9th	25.	peak pass band ripple, minimum stop band attenuation,
	26.	Four types of FIR filters,
	27.	**ASSIGNMENT NO-3 "alternation theorem"**
10th	28.	Design of FIR filters using windows
	29.	Kaiser window
	30.	**ASSIGNMENT NO-4 "Gibbs phenomenon"**
11th	31.	design methods for FIR filters
	32.	design of FIR filters by frequency sampling method,
	33.	design of optimum equiripple FIR filters.
12th	34.	**TEST OF UNIT-3**
	35.	**UNIT-4** Design of IIR Filters: Design of IIR filters from analog filters,
	36.	Design by approximation of derivatives,
13th	37.	Impulse Invariance Method
	38.	Bilinear Transformation Method
	39.	Characteristics of Butterworth filter
14th	40.	**ASSIGNMENT NO-5 "Least Square Methods"**
	41.	Characteristics of Chebyshev filter
	42.	Characteristics of Elliptical analog filters
15th	43.	Design of IIR filters,Frequency transformation
	44.	design of IIR filters in frequency domain
	45.	**TEST OF UNIT-4**

Text Books:

1.John G. Proakis, Digital Signal Processing, PHI

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Reference Books:

1. S. K. Mitra, Digital Signal Processing , TMH
2. Rabiner and Gold, Digital Signal Processing, PHI
3. Salivahan, Digital Signal Processing , TMH
4. Digital Signal Processing: Alon V. Oppenhelm;PHI

Lesson Plan

Name of the faculty: Er. Amit Saini (Theory)

Discipline: Electronics & Communication Engineering

Semester: 6th

Subject: Digital Design using Verilog (ECE-304N)

Lesson Plan Duration: 15 Weeks (from January, 2018 to April, 2018)

Week	Theory	
	Lecture Day	Topic Covered
1st	1	Introduction , Conventional Approach to Digital Design
	2	VLSI design, ASIC design flow
	3	Role of HDL. Conventional Data flow, ASIC data flow
2nd	4	Verilog as HDL Levels of Design Description, Concurrency
	5	Synthesis and Simulation
	6	Functional Verification, System Tasks
3rd	7	Programming Language Interface (PLI)
	8	Module, Simulation and Synthesis Tools
	9	Test Benches
4th	10	Language Constructs and conventions, Keywords,
	11	Identifiers, White Space characters, Comments, Numbers
	12	Strings, Logic Values, Strengths, Data Types, Scalars and Vectors
5th	13	Parameters, Memory, Operators, System Tasks
	14	Gate level modeling: Introduction, AND Gate Primitive
	15	Module Structure, Other Gate Primitives, Illustrative Examples,
6th	16	-Continued to next Lecture-
	17	Tri-State Gates
	18	Array of Instances of Primitives, Additional Examples

7th	19	Design of Flip-flops with Gate Primitives
	20	Delays, Strengths and Contention Resolution
	21	Net Types, Design of Basic Circuits
8th	22	Behavioral modeling: Operations and Assignments
	23	Functional Bifurcation
	24	Initial Construct, Always Construct, Examples
9th	25	-Continued to next Lecture-
	26	Wait construct, Multiple Always Blocks, Designs at Behavioral Level
	27	Blocking and Non-blocking Assignments
10th	28	The case statement, Simulation Flow
	29	IF and IF ELSE constructs, assign-deassign construct, repeat construct
	30	FOR loop, the disable construct, While loop
11th	31	Forever loop, parallel blocks, force-release construct, Event
	32	Modeling at data flow level: Introduction, Continuous Assignment Structures
	33	Delays and Continuous Assignments
12th	34	Assignment to Vectors, Operators
	35	Additional Examples
	36	Switch level modeling: Introduction, Basic Transistor Switches
13th	37	CMOS Switch, Bi-directional Gates, Time Delays with Switch Primitives
	38	Instantiations with Strengths and Delays, Strength Contention with Trireg Nets
	39	Functions, tasks, and user defined primitives: Introduction, Function Tasks
14th	40	User- Defined Primitives (UDP)
	41	FSM Design (Moore and Mealy Machines)
	42	System tasks, functions, and compiler directives: Introduction, Parameters, Path Delays.
15th	43	Module Parameters, System Tasks and Functions
	44	File-Based Tasks and Functions, Compiler Directives
	45	Hierarchical Access, General Observations

LESSON PLAN

Name: Er. Amit Saini (Theory)

Discipline: Electronics and Communication Department

Semester: 6th

Subject: DIGITAL COMMUNICATION (ECE-306N)

Lesson Plan Duration: 15 weeks (from January, 2018 to April, 2018)

Work Load: Lectures-03

Week	Theory	
	Lecture Day	Topic
1st	1st	UNIT 1: InformationTheory: Introduction, Entropy
	2nd	• Huffman Coding • Channel Capacity • Capacity,Channel Coding,
	3rd	Linear Block Codes, Matrix Description
2nd	4th	• Syndrome Decoding • Hamming Code
	5th	Cyclic Code
	6th	• Convolution Code • Viterbi decoding
3rd	7th	Revision Test
	8th	**Unit 2:Pulse Modulation System:** Introduction to Digital communication, Basic block diagram, Advantages of digital systems over analog systems
	9th	Sampling Process
4th	10th	Aperture effect
	11th	PAM TDM system
	12th	Quantization Process
5th	13th	Quantization Noise
	14th	• PCM • DPCM
	15th	Companding, A law and μ law compressors
6th	16th	Noise in PCM : Assignment Topic
	17th	Delta modulation/ demodulation
	18th	• ADM • Delta sigma modulator
7th	19th	Time division multiplexed systems (T & E type systems), Calculation of O/P signal power
	20th	O/P signal to noise ratio in delta modulation
	21st	**Unit 3:Base Band Pulse Transmission:** Matched filter and its properties average probability of symbol error in binary enclosed PCM receiver,
8th	22nd	Intersymbol interference
	23rd	Nyquist criterion for distortionless base band binary transmission

	24th	Ideal Nyquist channel raised cosine spectrum,
9th	25th	Correlative level coding Duo binary signalling
	26th	Tapped delay line equalization
	27th	Adaptive Equalization
10th	28th	LMS algorithm, Eye pattern
	29th	LMS algorithm, Eye pattern
	30th	Revision Test
11th	31st	**Unit 4: Digital Pass Band Transmission:** Pass band transmission model
	32nd	Gram Schmidt orthogonalization procedure
	33rd	Gram Schmidt orthogonalization procedure,
12th	34th	Geometric Interpretation of signals
	35th	Response of bank of correlaters to noise input
	36th	Detection of known signal in Noise
13th	37th	Hierarchy of digital modulation techniques
	38th	• BPSK • DPSK • DEPSK
	39th	QPSK systems; ASK, FSK,
14th	40th	QASK, Many FSK
	41st	MSK, Many QAM,
	42nd	Signal space diagram and spectra of the above systems
15th	43rd	Effect of intersymbol interference
	44th	Bit symbol error probabilities
	45th	Synchronization.

Lesson Plan

Name of faculty **:** Ms. Anu

Discipline **:** MBA

Semester **:** 6th

Subject **:** Fundamentals of Management

Lesson Plan during**:** 15 Weeks (From January 2018 to April, 2018)

Lectures per week (In hours): lectures-03

WEEK	THEORY	
	LECTURE DAY	TOPIC (INCLUDING ASSIGNMENT/ TEST)
1.	1.	Meaning, Definition, Nature Of FOM
	2.	Importance & Functions Of FOM
	3.	Management As Art, Science & Profession
2.	4.	Management As Social System
	5.	Concepts Of Management-Administration
	6.	Evolution Of Management Thought
3.	7.	Development Of Management Thought
	8.	Scientific Management
	9.	Administrative Theory Of Management
4.	10.	Bureaucratic Organization, Behavioral Approach
	11.	Human Relations Movement
	12.	Behavioral Science Approach
5.	13.	Modern Approach To Management
	14.	Systems Approach And Contingency Approach
	15.	Nature, Purpose And Functions, Types Of Plans
6.	16.	Planning Process
	17.	Strategies And Policies
	18.	Concept Of Corporate Strategy, Formulation Of Strategy
7.	19.	Types Of Strategies
	20.	Management By Objectives (MBO)

	21.	SWOT Analysis, Types Of Policies
8.	22.	Principles Of Formulation Of Policies
	23.	Nature, Importance, Process, Organization Structure
	24.	Line And Staff Organization
9.	25.	Delegation Of Authority And Responsibility
	26.	Centralization And Decentralization
	27.	Decision Making Process & Models
10.	28.	Departmentalization: Concept And Types
	29.	Formal & Informal Organizations
	30.	Concept, Process, Features; Manpower Planning; Job Analysis: Concept And Process
11.	31.	Recruitment And Selection: Concept, Process, Sources Of Recruitment
	32.	Performance Appraisal, Training And Development
	33.	Communication- Nature, Process, Formal And Informal, Barriers To Effective Communication
12.	34.	Theories Of Motivation-Maslow, Herzberg, McGregor
	35.	Concept And Theories, Managerial Grid, Situational Leadership
	36.	Transactional And Transformational Leadership
13.	37.	Concept, Process, Types, Barriers To Controlling, Controlling Techniques:
	38.	Budgetary Control, Return On Investment
	39.	Management Information System-MIS , TQM-Total Quality Management, Network Analysis- PERT And CPM
14.	40.	Social Responsibility Of Management–Management Of Crisis, Total Quality Management, Stress Management
	41.	Concept Of Corporate Social Responsibility (CSR) And Business Ethics. Functional Aspects Of Business
	42.	Conceptual Framework Of Functional Areas Of Management
15.	43.	Finance
	44.	Marketing
	45.	Human Resources

Lesson Plan

Name of the Faculty: Er. Lovdeep Grover

Discipline: Electronics &Communication Engineering

Semester: 6th

Subject: COMPUTER COMMUNICATION NETWORKS (ECE-308-N)

Lesson plan: 15 Weeks(January, 2018 to April, 2018)

Lecture per Week (in Hours): Lectures-03

Week	Theory	
	Lecture Day	Topic (including Assignment/test)
1st	46.	**Unit 1:** Introduction to Computer Networks
	47.	Protocols and standards
	48.	Network Models: The OSI Model (contd. To Next Lecture)
2nd	49.	Network Models: The OSI Model
	50.	Layers in the OSI Model
	51.	TCP/IP protocol suite
3rd	52.	Introduction to addressing
	53.	**Test 1: The OSI Model**
	54.	**Assignment 1:** The TelephoneSystem, Narrowband ISDN, Broadband ISDN and ATM
4th	55.	Analog and Digital signals Transmission media : Guided &Unguided
	56.	Guided & Unguided Media
	57.	**Unit 2:** The Data Link Layer:Data Link Layer Design issues
5th	58.	Error Detection & correction
	59.	Data link control: Framing, Flow & Error control (contd. To Next Lecture)
	60.	Data link control: Framing, Flow & Error control
6th	61.	**Test 2: Error Detection & Correction in Data Link Layer**
	62.	Noiseless channels, Noisy channels,
	63.	HDLC
7th	64.	Point to Point Protocols
	65.	The Medium Access Sublayer:Aloha Protocols
	66.	LAN Protocols: wired LAN,s, Wireless LANS
8th	67.	Satellite Protocols
	68.	**Unit 3:** Network Layer : Design Issues
	69.	IPv4 addresses
9th	70.	IPv6 addresses

	71.	internetworking,IPv4, IPv6
	72.	**Test 3:** IPv4, IPv6
10th	73.	congestion control algorithms
	74.	Transport & Session Layer:Protocol design issues
	75.	Process to process delivery
11th	76.	UDP, remote procedurecalls
	77.	TCP connection Management
	78.	**Unit 4:** Presentation Layer:Design issues
12th	79.	abstract Syntax notation (contd. To Next Lecture)
	80.	abstract Syntax notation
	81.	data compression technique, cryptography
13th	82.	**Test 4:** Cryptography
	83.	Application Layer:Design issues, (contd. To Next Lecture)
	84.	Design Issues, file transfer
14th	85.	access and management
	86.	electronic mail (contd. To Next Lecture)
	87.	electronic mail, Virtual Terminals
15th	88.	WWW & HTTP
	89.	**Test 5:** Electronic Mail
	90.	Revision

Text Books:

1. Forouzan B.A, Data Communications and Networking, Tata-Mc-Graw Hill .
2. Tanenbaum A.S, Computer Networks, PHI.

Reference Books:

1 Stallings W, Data and Computer Communications, PHI.
2 Leon –Garcia, Computer Networks, Mc Graw Hill

Lesson Plan

Name of the Faculty: Er. Gagandeep Singh (Practical)

Discipline: Electronics and Communication Engineering

Semester: 6th

Subject: Digital Signal Processing Lab(ECE- 310N)

Lesson plan:15 Weeks (From January, 2018 to April, 2018)

Lecture per Week (Hours): Practical-03

Week	Practical	
	Practical Day	Topic
1st	1.	Introduction to MATLAB
	2.	
	3.	
2nd	4.	Write a program to plot the following functions: a)impulse function b)unit step c)unit ramp d)exponential e) sinusoidal
	5.	
	6.	
3rd	7.	Write a program to plot the Sine wave, cosine wave and Tangent wave.
	8.	
	9.	
4th	10.	Write a program to plot the convolution and multiplication of two signals
	11.	
	12.	
5th	13.	VIVA NO 1
	14.	
	15.	
6th	16.	Write a program to verify the Symmetry, time shifting and modulating properties of DTFT with a rectangular pulse.
	17.	
	18.	
7th	19.	Write a program to study the aliasing effect by using a Sinusoidal Signal. Show the plots of' continuous time Signal. Sampled Signal and reconstructed signals by using subplot
	20.	
	21.	
8th	22.	Write a program to find the convolution of two sequences using in built convolution function
	23.	
	24.	
9th	25.	To study the frequency shift property of DTFT
	26.	
	27.	
10th	28.	VIVA NO 2
	29.	
	30.	

11th	31.	Write a program to plot real, imaginary phase and magnitude of exponential function
	32.	
	33.	
12th	34.	Write a program to verify the properties of Discrete Fourier Transform (DFT).
	35.	
	36.	
13th	37.	To study different window functions available in signal processing
	38.	
	39.	
14th	40.	Write a program to study the sampling theorem of a continuous time signal.
	41.	
	42.	
15th	43.	VIVA NO-3
	44.	
	45.	

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Lesson Plan

Name of the faculty: Er. Yashika Kapoor (Practical)

Discipline: Electronics & Communication Engineering

Semester: 6th

Subject: Digital Design using Verilog Lab (ECE-312N)

Lesson Plan Duration: 15 Weeks (from January, 2018 to April, 2018)

Week No.	Practical
1st	Write a Program to implement logic gates.
2nd	Write a Program to implement half-adder.
3rd	Write a Program to implement full-adder.
4th	1st Viva-Voce.
5th	Write a Program to implement 4 bit addition/subtraction.
6th	Write a Program to implement a 3:8 decoder.
7th	Write a Program to implement an 8:1 multiplexer.
8th	2nd Viva-Voce.
9th	Write a Program to implement a 1:8 demultiplexer.
10th	Write a Program to implement 4 bit comparator.
11th	Write a Program to implement Mod-10 up counter.
12th	Write a program to perform serial to parallel transfer of 4 bit binary number.
13th	3rd Viva-Voce

LESSON PLAN

Name : Er. Amit Saini (Practical)

Discipline: Electronics and Communication Department

Semester: 6th

Subject: DIGITAL COMMUNICATION LAB (ECE-314N)

Lesson Plan Duration: 15 weeks (from January, 2018 to April, 2018)

Work Load: Practical:03

Week	Practical	
	Practical Day	Topic
1st	1st	Introduction to lab
2nd	2nd	To Study ASK
3rd	3rd	To Study PSK
4th	4th	Viva Voice
5th	5th	To Study FSK
6th	6th	To Study Balanced Modulator & Demodulator
7th	7th	Viva Voice
8th	8th	To Study PCM
9th	9th	Setting up a Fiber Optical Analog Link
10th	10th	Viva Voice
11th	11th	Setting up a Fiber Optic Digital Link
12th	12th	Losses in Optical Fiber
13th	13th	Measurement of Numerical Aperture
14th	14th	Time Division multiplexing of signals
15th	15th	Viva Voice