DELHI COLLEGE OF TECHNOLOGY & MANAGEMENT(DCTM), PALWAL	INSTRUCTION *PLAN*	**RECORD NO.: QF/ACD/009** **Revision No.: 00**

Name of Faculty: BHARTI TUNDWAL Department: ECE
Course Title: ANALOG ELECTRONICS Course Number: EE-202-F
Class & Semester – ECE & 4TH Session: JAN-MAY 2018

Instruction Plan Details:

Lecture No.	Topics to be covered	References	Remarks
1.	Review of P-N junction and Characteristics	JB GUPTA, Millman & Halkias	**Section A**
2.	Switching characteristics of Diode		
3.	Diode as a circuit element, the load-line concept		
4.	half-wave rectifier and parameters		
5.	FWR and Parameters		
6.	Problems on Rectifiers		
7.	Clipper,Clamper working and types		
8.	Filter circuits		
9.	Peak to peak detector and voltage multiplier circuits		
10.	BJT operation and types	Millman & Halkias, JB GUPTA	**Section C**
11.	CB,CE and CC configurations and characteristics		
12.	BJT amplifier and switch		
13.	Concept of operating point and loadline concept		
14.	BJT biasing methods		
15.	Numericals on biasing		
16.	Small signal model of BJT		
17.	Cont…		
18.	BJT internal capacitance and high freq model		
19.	Frequency response of CE amplifier.		
20.	Introduction to FETS, Depletion Mos and characteristics		
21.	Enhancement Mos and characteristics	JB GUPTA, Millman & Halkias	**Section B**
22.	Mos amplifier and switch		
23.	Biasing in MOS		
24.	small-signal operation and models		
25.	Cont.. of models		
26.	MOSFET internal capacitances and high frequency model,		
27.	Frequency response of CS amplifier		
28.	Op-amp block diagram,Ideal characteristics		
29.	Concept of differential amplifier		
30.	Types of diff amplifier		

31	Inverting and Non-Inv op-amp		
32			
	Effect of finite open loop gain and bandwidth on circuit performance	JB GUPTA, Millman & Halkias	**Section D**
33.	Large signal operation of op-amp.		
34.	The general feed back structure,positive feedback concept, properties of negative feed back		
35.			
36.	the four basic feed back topologies, the series-shunt feedback amplifier, the series-series feedback amplifier		
37.	The shunt-shunt and shunt series feedback amplifier.		
38.	MOS differential pair, small signal operation of the MOS differential pair		
39.			
40.	BJT differential pair, other non-ideal characteristic of the Differential amplifier (DA)		
41	DA with active load		
42	**SAMPLE PAPERS**		
43.	**SAMPLE PAPERS**		
44.	**SAMPLE PAPERS**		
45.	PLL(VIDEO LECTURE)		

Text Books:
1. Foundations of Analog & Digital electronic Circuits, Agarwal, Elsevier
2. A. S. Sedra and K. C. Smith, "Microelectronic Circuits", Oxford University Press, 5th Ed.
3. Integrated Electronics: Millman & Halkias ; McGrawHill
4 Electronic circuit analysis and design (Second edition): D.A.Neamen; TMH

Reference Books:
1. Spencer and Ghausi, Introduction to Electronic Circuit Design, Pearson Education, 2003
2. A. Dutta, Semiconductor Devices and Circuits, Oxford University Press, ND 2008
3.Analog electronics, JB gupta

DELHI COLLEGE OF TECHNOLOGY& MANAGEMENT (DCTM),PALWAL	INSTRUCTION PLAN	RECORD NO.: QF/ACD/009 Revision No.: 00

Name of Faculty: BHARTI TUNDWAL Department: ECE
Course Title: **COMMUNICATION SYSTEMS** Course Number:EE-206-F
Semester / Section: 4th / ECE Session: JAN-MAY2017

Instruction Plan Details:

Lecture No.	Topics to be covered	Remarks	References
	Section - A		
1,2,3	The essentials of a Communication system, modes and media's of Communication		SANJAY SHARMA
4,5,6	Classification of signals and systems, Fourier Analysis of signal, Analog Communication & Digital Communication.		
7,8,9	Basic concepts of Modulation, Demodulators, Channels, Multiplexing & Demultiplexing		
	Section - B		
10,11,12	Single side band modulation, generation of SSB waves, demodulation of SSB waves		SANJAY SHARMA
13	Vestigial sideband modulation (VSB).		
14	Basic definitions: Phase modulation (PM)		
15,16	Frequency modulation(FM), narrow band frequency modulation,		
17,18	Wideband frequency modulation, generation of FM waves, Demodulation of FM waves.		
19,20	**PULSE ANALOG MODULATION**: Sampling theory, sampling and hold circuits.		
21	Time division (TDM) and frequency division (FDM) multiplexing		
22	Pulse amplitude modulation (PAM), pulse time modulation.		
	Section - C		
23,24	**PULSE DIGITAL MODULATION** : Coding & Decoding techniques, Elements of pulse code modulation,		SANJAY SHARMA, Kennedy; TMH.
25	Noise in PCM systems,		
26,27	Measure of information, channel capacity, channel capacity of a PCM system		
28,29	Differential pulse code modulation (DPCM). Delta modulation (DM)		
	Section - D		
30,31	**DIGITAL MODULATION TECHNIQUES**: ASK, FSK		SANJAY SHARMA.
32,33	BPSK, QPSK		
34	M-ary PSK.		
35	PC-PC data Communication		
36,37	**INTRODUCTION TO NOISE**: External noise,		

	Internal noise		
38	S/N ratio, noise figure		
39	**COURSE RELATED ACTIVITIES**	**MDU PAPERS**	
40	**COURSE RELATED ACTIVITIES**	**MDU PAPERS**	
41	**COURSE RELATED ACTIVITIES**	**MDU PAPERS**	
42	**COURSE RELATED ACTIVITIES**	**MDU PAPERS**	

Signature of Faculty Member Coordinator **HOD/Principal/Academic**

Date:

DELHI COLLEGE OF TECHNOLOGY & MANAGEMENT(DCTM), PALWAL	INSTRUCTION *PLAN*	**RECORD NO.: QF/ACD/009** **Revision No.: 00**

Name of Faculty: BHARTI TUNDWAL Department: ECE
Course Title: CONTROL SYSTEMS ENGG. Course Number: EE-304-F
Class & Semester – ECE & 6TH Session: JAN-MAY 2018

Instruction Plan Details:

Lecture No.	Topics to be covered	References	Remarks
1.	**INTRODUCTORY CONCEPTS** :System/Plant model, types of models, illustrative examples of plants and their inputs and outputs,		**Section A**
2.	Controller servomechanism, regulating system		
3.	Linear time-invariant (LTI)system, time-varying system,		
4.	Causal system, open loop control system		
5.	Closed loop control system, illustrative examples of open-loop and feedback control systems		
6.	Continuous time and sampled data control systems.		
7.	Effects of feedback on sensitivity (to parameter variations),stability, external disturbance (noise), overall gain etc.		
8.	Introductory remarks about non-linear control systems.		
9.	NUMERICALS		
10.	**MATHEMATICAL MODELLING :**Concept of transfer function, relationship between transfer function and impulse response,		**Section B**
11.	Order of a system, blockdiagram algebra,		
12.	signal flow graphs		
13.	Mason‟s gain formula & its application,		
14.	Characteristic equation		
15.	Numericals		
16.	Numericals		
17.	Derivation of transfer functions of electrical and electromechanical systems		
18.	Transfer functions of cascaded elements.		
19.	Transfer functions OF non-loading cascaded elements		
20.	Introduction to state variable analysis and design.		
21.	**TIME DOMAIN ANALYSIS :**Typical test signals, time response of first order systems to various standard inputs,		**Section C**
22.	Time response of 2nd order system to step input		
23.	Relationship between location of roots of characteristics equation,		
24.	w and wn, time domain specifications of a general and an under-damped 2nd order system,		

25.	Steady state error and error constants		
26.	Dominant closed loop poles,		
27.	concept of stability, ,		
28.	pole zero configuration and stability		
29.	necessary and sufficient conditions for stability Hurwitz stability criterion		
30.	Routh stability criterion and relative stability.		
31	Root locus concept, development of root loci for various systems, stability considerations..		
32.	Root locus concept, development of root loci for various systems, stability considerations..		
33.	**FREQUENCY DOMAIN ANALYSIS , COMPENSATION & CONTROL COMPONENT** :Relationship between frequency response and time-response for 2nd order system, polar,		**Section D**
34.	Nyquist plots,		
35.	bode plot		
36.	Video lecture		
37.	stability, Gain-margin and Phase Margin		
38.	Relative stability, frequency response specifications		
39.	Necessity of compensation, compensation networks, application of lag and lead compensation,		
40.	basic modes of feedback control, proportional, integral and derivative controllers, illustrative examples.		
41	Synchros, AC and DC techo-generators, servomotors		
42	Stepper motors, & their applications, magnetic amplifier		
43.	**SAMPLE PAPERS**		
44.	**SAMPLE PAPERS**		
45.	**SAMPLE PAPERS**		

Signature of Faculty Member Coordinator **HOD/Principal/Academic**

DELHI COLLEGE OF TECHNOLOGY MANAGEMENT (DCTM),PALWAL	INSTRUCTIONAL PLAN	RECORD NO.: QF/ACD/01 Revision No.: 00

Name of Faculty: GIRDHAR GOPAL Department: ECE

Course Title: Signal and Systems Course Number: EE-228-F

Semester: 4th / ECE Session: JAN 2018- APRIL 2018

Instruction Plan Details:

Lecture No.	Topics to be covered	References	Remarks
1.	**Signals:** Definition, types of signals and their representations continuous-time/discrete-time signals.	Oppenheim & Willsky	
2.	periodic/non-periodic signals, deterministic/ random, one-dimensional/multi-dimensional.		
3.	even/odd signals energy/power signals		
4.	Numerical based on Signals		
5.	Commonly used signals (in continuous-time as well as in discrete-time)Unit impulse, unit step, unit ramp (and their inter-relationships)		
6.	Exponential, rectangular pulse, sinusoidal signals Operations on continuous-time and discrete-time signals	Oppenheim & Willsky	
7.	Operations discrete-time signals		
8.	Scaling, shifting and folding,numericals		
9.	Transformations of independent variables.		
10.	**Fourier Transforms (FT):** Definition, conditions of existence of FT		
11.	Properties of FT,numericals	Oppenheim & Willsky Oppenheim & Willsky	
12.	Numerical based on FT		
13.	magnitude and phase spectra		
14.	Some important FT theorems, Parseval's theorem		
15	Inverse FT relation between LT and FT.		
16.	Discrete time Fourier transform (DTFT), convergence		
17.	properties and theorems of DTFT		
18.	inverse DTFT, Comparison between continuous time FT and DTFT		
19.	Numerical based on DTFT		

20.	**System:** Definition of continuous time system/Discrete time system, Classicification of systems,	Oppenheim & Willsky	
21.	properties of systems		
22.	continuous-time (CT) system analysis using LT system functions of CT systems		
23.	system functions of CT systems		
24.	Numerical based on transfer function		
25.	Numerical based on systems		
26.	**Laplace-Transform (LT) and its type**		
27.	One-sided LT of some common signals,		
28.	properties of LT	Oppenheim & Willsky	
29.	important theorems of LT		
30.	inverse LT methods		
31.	Bilateral LT		
32.	Regions of convergence (ROC)	Oppenheim & Willsky	
33.	Properties of ROC, numerical		
34.	Z-transform (ZT),One sided and Bilateral Z-transforms	Oppenheim & Willsky	
35.	ZT of some common signals		
36.	ROC and its properties	Oppenheim & Willsky	
37.	Numerical based on ROC		
38.	Properties of ZT		
39.	Theorems of ZT		
40.	solution of difference equations using one-sided ZT		
41.	MDU PAPERS		

Text Books:

1.Signal and Systems' I J NAGRATH, R. RANJAN & Sharan, 2009 Edn., TMH, New Delhi

Reference Books:

1.V. Oppenheim, A.S. Willsky and S. Hamid Nawab, 'Signals & System', PEARSON Education,
Second Edition, 2003

NO. OF BOOKS AVAILABLE IN THE LIBRARY:

Oppenheim & Willsky-32

Signature of Faculty Member **HOD/Principal/Academic Coordinator**

DELHI COLLEGE OF TECHNOLOGY & MANAGEMENT(DCTM), PALWAL	**INSTRUCTIONAL PLAN**	**RECORD NO.: QF/ACD/01** **Revision No.: 00**

Name of Faculty: GIRDHAR GOPAL Department: ECE

Course Title: EMT Course Number: EE-228-F

Semester: 4th / ECE Session: JAN'18- APRIL.'18

Instruction Plan Details:

Lecture No.	Topics to be covered	References	Remarks
1	**Cartesian coordinates**	M. N. O. Sadiku	
2	**Circular cylindrical coordinates**		
3	**Spherical coordinates**		
4	**Differential length, area and volume**		
5	**Line surface and volume integrals**		
6	**Del operator**	M. N. O. Sadiku	
7	**Gradient of a scalar**		
8	**Divergence of a vector and divergence theorem**		
9	**Curl of a vector and Stoke's theorem**		
10	**Laplacian of a scalar**		
11	**Electrostatic fields**		
12	**Coulombs law and field intensity**	M. N. O. Sadiku . M. N. O. Sadiku	
13	**Electric field due to charge distribution**		
14	**Electric flux density**		
15	**Gausses' Law – Maxwell's equation**		
16	**Electric dipole and flux lines, energy density in electrostatic fields**		
17	**Poission's and Laplace's equations**		
18	**General procedures for soling Poission's or Laplace's equations**		
19	**Resistance and capacitance, method of images**		
20	**Magneto-static fields**	M. N. O. Sadiku .	
21	**Biot-Savart's Law, Ampere's circuit law**		

22	**Maxwell's equation, Application of ampere's law**		
23	**Magnetic flux density- Maxwell's equation**		
24	**Maxwell's equation for static fields**		
25	**Magnetic scalar and vector potential.**		
26	**Forces due to magnetic field**	M. N. O. Sadiku	
27	**Magnetic torque and moment**		
28	**Magnetic dipole, magnetization in materials**		
29,30	**Magnetic boundary conditions**		
31	**Inductors and inductances**		
32	**Magnetic energy**		
33	**Maxwell's equation, Faraday's Law**		
34	**Transformer and motional electromotive forces**	M. N. O. Sadiku	
35	**Displacement current, Maxwell's equation in final form.**		
36	**Wave propagation in lossy dielectrics**	M. N. O. Sadiku	
37	**Plane waves in lossless dielectrics**		
38	**Plane wave in free space, plane wave in free space**		
39	**Power and the pointing vector**		
40	**Reflection of a plain wave in a normal incidence**		
41	**Transmission line parameters**	M. N. O. Sadiku	

Text Book:

1.M. N. O. Sadiku, "Elements of Electromagnetic", 4th Ed, Oxford University Press.

Reference Books:

1.W. H. Hayt and J. A. Buck, "Electromagnetic field theory",7th edition TMH
2.Electromagnetic Field theory by Balmein and Jordan

NO. OF BOOKS AVAILABLE IN THE LIBRARY:

1. M. N. O. Sadiku **- 22**

Signature of Faculty Member **HOD/Principal/Academic Coordinator**

Date

DELHI COLLEGE OF TECHNOLOGY & MANAGEMENT(DCTM), PALWAL	**INSTRUCTIONAL PLAN**	**RECORD NO.: QF/ACD/009** **Revision No.: 00**

Name of Faculty: GIRDHAR GOPAL Department: ECE

Course Title: Microcontroller and Embedded Systems Course Number: EE-312-F

Semester: 6th / ECE Session: JAN'18- APRIL.'18

Instruction Plan Details:

Lecture No.	Topics to be covered	References	Remarks
Plan for course, to be covered before 1st sessional Exam			
1.	**SECTION-A** Introduction to Microcontroller and Embedded Systems	1. Mazidi and Mazidi 2.A.V. Deshmukh	
2.	Different types of microcontrollers: External memory microcontrollers, Embedded microcontrollers		
3.	External memory microcontrollers, Processor Architectures: Harvard V/S Princeton,		
4.	CISC V/S RISC		
5.	memory types, microcontrollers features : clocking, i/o pins,		
6.	Interrupts, timers, peripherals		
7.	Microcontrollers -		
8.	Microcontroller 8051- Architecture		
9.	Pin Diagram	1. Mazidi and Mazidi 2.A.V. Deshmukh	
10.	I/O Ports		
11.	Internal RAM and Registers		
12.	Interrupts		
13.	Memory Organization		
14.	Addressing Modes,		
15.	External Addressing, Instruction Set,		
16.	Instruction Set contd…		
17.	Assembly Language Programming		
18	Assembly Language Programming contd..		
Plan for course, to be covered before 2nd sessional Exam			
19,20	Timers and counters programming		
21.	serial communication programming	1. Mazidi and Mazidi 2.A.V. Deshmukh	
22.	Interfacing of 8051 with LCD		
23.	**SECTION – C** Interfacing of 8051 with ADC, Introduction to PIC microcontrollers, Architecture, Pipelining		

24.	Interfacing of 8051 with DAC, program memory considerations, Addressing modes, CPU registers		
25.	Interfacing of 8051 with Stepper Motor , Instruction set, simple operations		
26.	Interfacing of 8051 with Key Board ,		
27.	Interfacing of 8051 with Sensors		
28.	Interfacing of 8051 with Key Board		
29	MDU question discussion & DOUBTS SESSION		
30.	**SECTION – D** Introduction, Classification	1. Mazidi and Mazidi 2.A.V. Deshmukh	
31.	Processors, Hardware Units, Software Embedded into System		
32.	**CLASS TEST**		
33.	Applications and Products of Embedded Systems		
34.	Structural Units in Processor		
35.	Memory Devices		
36.	I /O Devices, Buses		
37.	Case Study of an Embedded System for a Smart Card.		
38.	Programming practice		
39.	DOUBT SESSION		
40.	Previous year paper		

NO. OF BOOKS AVAILABLE IN THE LIBRARY:

1. Mazidi and Mazidi **– 22**
2. A.V. Deshmukh **-14**

Signature of Faculty Member **HOD/Principal/Academic Coordinator**

Date:

DELHI COLLEGE OF TECHNOLOGY & MANAGEMENT(DCTM), PALWAL	**INSTRUCTIONAL PLAN**	**RECORD NO.: QF/ACD/009** **Revision No.: 00**

Name of Faculty: GIRDHAR GOPAL Department: ECE

Course Title: VLSI Course Number: **EE-306-F**

Semester: ECE 6TH SEM Session: JAN- MAY 2018

Instruction Plan Details:

Lecture No.	Topics to be covered	References	Remarks
1.	Introduction to IC technology, Review of MOSFETs	1. Pucknell 2. Pandey 3. Strader 4. Weste	**SECTION-A**
2.	MOSFET-enhancement & depletion mode operation		
3.	Fabrication of NMOS		
4.	Fabrication of CMOS		
5.	Fabrication of BiCMOS & comparison of BICMOS & CMOS technology		
6.	Doubts + MOS transistor model & design equations		
7.	Evaluation aspects of MOS transistor threshold voltage, second order effect		
8.	MOS transistor transconductance, output conductance & figure of merit		
9.	N-MOS inverter, BiCMOS-inverter, CMOS inverter	1. Pucknell 2. Pandey 3. Strader 4. Weste	**SECTION-B**
10.	Design of simple logic gates using N-MOS & P-MOS		
11.	Design of simple logic gates using CMOS		
12.	Designing expressions using N-MOS & CMOS		
13.	**CLASS TEST**		
14.	Determination of pull-up to pull-down ratio for an n-MOS inverter driven by another n-MOS inverter		
15.	Pass transistor, determination of pull-up to pull-down ratio for an n-MOS inverter driven by one or more pass transistor		
16.	Alternative forms of pull-up		
17.	Latch up in CMOS circuitry, BiCMOS Latch up susceptibility		
18	Superbuffers , BICMOS & steering logic		
19,20	Stick Diagram		
21.	Realization practice using stick diagram		
22.	Lambda based design rules		

23.	CMOS logic structures		
24.	Clocking strategies CMOS logic gate design considerations		**SECTION-B**
25.	Tally circuits- NAND- NAND & NOR-NOR		
26.	AOI & EX-OR structures	1. Pucknell 2. Pandey 3. Strader 4. Weste	
27.	Design MUX structures		
28.	Design Barrel Shifter		
29	MDU question discussion & DOUBTS SESSION		
30.	N-MOS- PLA Programmable logic device	1. Pucknel 2. Strader 3. Pandey 4. Weste 5. Bhaskar	**SECTION – D**
31.	Finite machine PLA, PAL		
32.	**CLASS TEST**		
33.	FPGA design		
34.	VLSI design flow, different modeling analysis		
35.	RTL design , operators , types & packages		
36.	Combinational circuit programming		
37.	Sequential circuit programming		
38.	Test benches & examples		
39.	Programming practice		

Text Books:

1. **Basic VLSI Design** **By: Pucknell & Eshraghian**
2. **CMOS VLSI Design** **By: Weste**

Reference Books:

1. **VLSI** **By: Strader**
2. **VLSI Design** **By: Pandey**

Signature of Faculty Member **HOD/Principal/Academic Coordinator**

Date:

DELHI COLLEGE OF TECHNOLOGY& MANAGEMENT (DCTM),PALWAL	**INSTRUCTION PLAN**	**RECORD NO.: QF/ACD/01** **Revision No.: 00**

Name of Faculty: **SWATI** Department: **ECE/CSE**
Course Title: **DIGITAL SYSTEM DESIGN** Course Number: **EE-330-F**
Semester/Section: **6th SEM ECE** Session: **JAN – MAY 2018**

Instruction Plan Details:

Lecture No.	Topics to be covered	References
1	**SECTION-A:** Introduction to Combinational & Sequential circuits, Computer-aided design tools for digital systems. Hardware description languages;	BHASKER, Shipra Gupta, Yogesh Mishra
2	introduction to VHDL	-do-
3	Explanation of Identifiers, Data objects, classes	-do-
4	data types	-do-
5	Overloading, logical operators	-do-
6	**Problems on above**	
7	Types of delays	-do-
8	Entity declaration, Introduction to Package, Library, Generics	-do-
9	Introduction to behavioural ,dataflow and Structural models.	-do-
10	Examples of above models	
11	**SECTION-B** Behavioural Model: Assignment statements, sequential statements and process	-do-
12	**Problems on statements**	
13	Conditional statements, case statement with MUX.	-do-
14	Dataflow Model and related statements with MUX.	-do-
15	Cont –Dataflow Model with MUX.	
16	Modelling, component declaration, structural layout	-do-
17	Cont- Structural Model with MUX.	
18	Array and loops, resolution functions	-do-
	SECTION-C	
19	Packages and Libraries, Subprograms: Application of Functions and Procedures.	-do-

20	Designing of Encoders with all Models	-do-
21	Decoders	-do-
22	Code converters(BCD-7 segment)	
23	comparators, implementation of Boolean functions	-do-
24	VHDL Models of Sequential Circuits like Shift Registers (SISO)	-do-
25	Cont- SIPO, PIPO	-do-
26	VHDL Models of Counters	-do-
27.	VHDL models of Boolean equation	-do-
28	**SECTION-D** Basic components of a computer, specifications, architecture of a simple microcomputer system	-do-
29	implementation of a simple microcomputer system using VHDL Programmable logic devices : ROM	Gaganpreet Kaur
30	VHDL program for Memory subsystem,I/O Subsystem	Gaganpreet Kaur
31	VHDL for ALU.	Gaganpreet Kaur
32	Introduction to PLD and Types	Yogesh Mishra
33	PLD types cont(GAL,PEEL)	Yogesh Mishra
34	Design implementation using CPLDs and FPGAs	Yogesh Mishra
35	**Question Paper Discussion**	

NO. OF BOOKS AVAILABLE IN THE LIBRARY:

1. **J. Bhasker- 32**
2. **Shipra Gupta- 24**
3. **Yogesh Mishra- 28**

Signature of Faculty Member **HOD/Principal/Academic Coordinator**

Date

DELHI COLLEGE OF TECHNOLOGY& MANAGEMENT (DCTM),PALWAL	INSTRUCTION PLAN	RECORD NO.: QF/ACD/01 Revision No.: 00

Name of Faculty: **SWATI** Department: **ECE**
Course Title: **DIGITAL ELECTRONICS** Course Number: **ECE-204-F**
Semester/Section: **4TH SEM ECE** Session: **JAN – MAY 2018**

Instruction Plan Details:

Lecture No.	Topics to be covered	References	Remarks
SECTION A			
1.	Introduction and difference b/w analog and digital systems, conversion of binary numbers and Gates.	R.P. Jain &Singhal Kharate	
2.	BCD code, Excess-3 code, Gray code, ASCII code and EBCDIC codes.		
3.	Error detecting and correcting codes, hamming codes.	Gaur &Singhal	
4.	Boolean algebra, De-morgan's theorem,	R.P. Jain, Kharate	
5.	K-map method up to five variable		
6.	Don't care conditions with examples.		
7.	POS& SOP simplification		
8	NAND& NOR implementation of final O/P of K-map.	R.P. Jain Kharate	
9.	Implementation of Quine Mc-Clusky method (Tabular method).	R.P. Jain, Kharate	
SECTION B			
11.	Difference b/w Combinational and Sequential	R.P. Jain, Singhal Kharate	
12.	circuits, Binary adder with look ahead carry and binary subtractor.		
13.			
14.	Designing of Decimal adder and Binary multiplier.	R.P. Jain J.S. katre Kharate	
15.	Designing of Magnitude comparator		
16. 17.	Designing of Multiplexers, De-multiplexers(mux tree/reduction tree).		
18. 19.	Designing of Decoders(BCD to 7-segment) & Encoders(octal to binary, decimal to BCD).	R.P. Jain	
SECTION C			
20. 21.	Introduction to Sequential circuits and implementation of latches, SR flip-flop	Kharate& R.P. Jain	
22.	JK, D & T flip-flops.		

23.	Master slave flip-flops and Race-around condition	G.K.Kharate B.R. Gupta	
24.	Truth table, excitation table and conversion of flip-flops.		
25.	State reduction and assignments		
26.	Explanation of Shift registers-SISO, SIPO, PISO, PIPO,		
27.			
28.	Designing of Asynchronous and Synchronous counters.		
29.			
30.	Bi-directional and universal shift register.		
31.	Designing of Johnson counter & Ring counter.		
SECTION D			
32.	Introduction to ASM(Algorithmic state machine) and design with multiplexers.	G.K. Kharatte Morris mano	
33.			
34.	Asynchronous sequential logic, analysis procedure and circuit with latches.		
35.			
36, 37	Design procedure, Reduction of state, flow table		
38, 39.	Race Free State assignment of Asynchronous sequential circuits.		
40.	Explain structures of RAM, ROM PLA, PAL.		

NO. OF BOOKS AVAILABLE IN THE LIBRARY:

1. **R.P. Jain - 28**
2. **Kharate – 30**

Signature of Faculty Member **HOD/Principal/Academic Coordinator**

DELHI COLLEG TECHNOLOGY & MANAGEMENT(PALWAL	**INSTRUCTIONAL PLAN**	**RECORD NO.: QF/ACD/009 Revision No.: 00**

Name of Faculty: **SWATI** Department: **ECE**
Course Title: **MICROWAVE AND RADAR ENGG.** Course Number: **ECE-302F**
Semester/Section: **6th SEM ECE** Session: **JAN- APR 2018**

Instruction Plan Details:

Lecture No.	Topics to be covered	References	Remarks
	SECTION-D		
1	Block Diagram and operation, Radar Frequencies,	M .Kulkarni Samuel Liao;PHI	
2	Simple form of Radar Equation		
3	Pulse Repetition frequency and Range Ambiguities		
4	Applications of Radar		
5	Prediction of Range Performance		
	SECTION-A		
6	Introduction, comparison with transmission lines	M .Kulkarni Samuel Liao;PHI	
7	propagation in TE mode		
8	propagation in TM mode		
9	**PRESENTATION GROUP B**		Operation of Radar
10	rectangular wave guide,		
11	TEM mode in rectangular wave guide		
12	Characteristic impedance	M .Kulkarni Samuel Liao;PHI	
13	Introduction to circular waveguides		
14	**PRESENTATION GROUP C**	**Rectangular wave guide**	
15	Planar transmission lines		
	SECTION – B		
16	Directional couplers, tees	M .Kulkarni;	
17	**CLASS TEST**	**SECTION A & D**	
18	Tees ,S-parameters,		
19	Hybrid ring,		

20	Attenuators, Cavity Resonators	M.Kulkarni	
21	Mixers & detectors		
22	**Course Related Activities (**TUTORIAL)	**MDU question discussion & DOUBTS**	
23	Matched Load, phase shifter		
24	Wave meter, Ferrite devices		
25	Isolators' circulators.	M .Kulkarni	
26	**Course Related Activities (**TUTORIAL)	**MDU question discussion & DOUBTS**	
27	Construction, operation and properties of Klystron amplifier	Samuel Liao;PHI	
28	Reflex Klystron	M .Kulkarni;Umesh	
29,	Magnetron		
30	**PRESENTATION GROUP A**	**Directional couplers, Tees**	
31	BWO.		
32	Crossed field amplifiers	M .Kulkarni	
	Section C		
33	Varactor diode	Samuel Liao;PHI	
34	**VIDEO LECTURE**	**Microwave Propagation**	
35,	**Reflex Klystron**		
36	Tunnel diode, Schottky diode	Samuel Liao;PHI	
37,	GUNN diode, IMPATT		
38	TRAPATT and PIN diodes		
39	**CLASS TEST**	**SECTION B&C**	
40	MASER		
41	Parametric amplifiers		
42	Power measurement using calorimeter & bolometer		
43	**PRESENTATION GROUP D**	**Tunnel diode, Schottky diode**	
44	Measurement of SWR, frequency , wavelength		
45	Impedance. Measurement		
46	Microwave bridges.		
47	**Course Related Activities (**TUTORIAL)	**MDU question discussion & DOUBTS**	

Signature of Faculty Member Coordinator **HOD/Principal/Academic**

Date

DELHI COLLEGE OF TECHN MANAGEMENT(DCTM), PALWAL	**INSTRUCTIONAL PLAN**	**RECORD NO.: QF/ACD/009** **Revision No.: 00**

Name of Faculty: Dr. Pawan Kumar Pachaury Department: B.TECH

Course Title: MATHEMATICS Course Number: **BTCH (CS/ECE)**

Semester/Section: Fourth Semester Session: Jan 2018 to Aug 2018

Instruction Plan Details :

Lecture No.	Topics to be covered	References	Remarks
Plan for course, to be covered before 1st sessional Exam			
	UNIT I		
1, 2	Fourier Series and Fourier Transforms : Euler's formulae, conditions for a Fourier expansion,	Mathematics IIIrd, N. P. Bali	
3, 4, 5	change of interval, Fourier expansion of odd and even functions, Fourier expansion of square wave		
6, 7.	rectangular wave, saw-toothed wave, half and full rectified wave, half range sine and cosine series		
8, 9, 10.	Fourier integrals, Fourier transforms, Shifting theorem (both on time and frequency axes),		
11, 12, 13	Fourier transforms of derivatives, Fourier transforms of integrals		
14, 15, 16	Convolution theorem, Fourier transform of Dirac-delta function.		
	UNIT II		
17, 18,19, 20	Functions of Complex Variable: Definition, Exponential function,		
21, 22, 23	Trigonometric and Hyperbolic Functions, Cauchy-Riemann equations, necessary and sufficient conditions for a function to be analytic,		
Plan for course, to be covered before 2ND sessional Exam			
24, 25	polar form of the Cauchy-Riemann equations		

26, 27,28	Harmonic functions, application to flow problems. Integration of complex functions. Cauchy-Integral theorem and formula.		
	UNIT III	3 Mathematics IIIrd, N. P. Bali	
29, 30, 31	Power series, radius and circle of convergence, Taylor's Maclaurin's and Laurent's series		
32, 33	Zeroes and singularities of complex functions, Residues		
34	Evaluation of real integrals using residues (around unit and semi circle only)		
35, 35, 36	Probability Distributions and Hypothesis Testing: Conditional probability, Bayes theorem and its applications		
37, 38	Expected value of a random variable. Properties and application of Binomial, Poisson and Normal distributions.		
Plan for course, to be covered before 2ND sessional Exam			
	UNIT IV	Mathematics IIIrd, N. P. Bali	
39, 40, 41, 42	Testing of a hypothesis, tests of significance for large samples		
43, 44	Student's t-distribution (applications only), and Chi-square test of goodness of fit		
45, 46, 47	Linear Programming: Linear programming problems formulation		
48,49,50 ,51	solving linear programming problems using Graphical method (ii) Simplex method (iii) Dual simplex method		
	CT 2		
52	Revision		
53	Revision		
54	Revision		
	Question Bank (Answers of Two Sessional exams)		

DELHI COLLEGE OF TECHNOLOGY & MANAGEMENT(DCTM), PALWAL	**LECTURE PLAN**	**RECORD NO.: QF/ACD/009** **Revision No.: 00**

Name of Faculty: KULDEEP SINGH **Department: CSE**
Course Title: COMPUTER NETWORKS **Course No. IT-305-F**
Semester/Section: 6th / CSE **Session: Jan–May 2018**

Instruction Plan Details:

Lecture No.	Topics to be covered	References	Week
	Section-A		
1	Introduction of computer Network	Tenenbaum	01
2	Network Architecture: Introduction to Computer Networks, Example networks ARPANET, Internet, Private Networks	Tenenbaum	01
3	Network Topologies: Bus-, Star, Ring-, Hybrid -, Tree -	Tenenbaum	01
4	Complete -, Irregular –Topology; Types of Networks,	Tenenbaum	01
5	Local Area Networks, Metropolitan Area Networks, Wide Area Networks	Tenenbaum	02
6	Layering architecture of networks, OSI model, Functions of each layer,	Tenenbaum	02
7	Services and Protocols of each layer	Tenenbaum	02
8	Test of 1st unit Assignment 1.	Tenenbaum	03
	SECTION B		
9	TCP/IP: Introduction, History of TCP/	Tenenbaum	03
10	Layers of TCP/IP	Tenenbaum	03
11	Protocols, Internet Protocol	Tenenbaum	03
12	Transmission Control Protocol	Tenenbaum	04
13	User Datagram Protocol, IP Addressing	Tenenbaum	04
14	IP address classes	Frouzen	04
15	Subnet Addressing	Frouzen	05
16	ARP, RARP, ICMP	Frouzen	05
17	Internet Control Protocols	Frouzen	06
18	Domain Name System, Email – SMTP, POP,IMAP	Frouzen	06

19	FTP, NNTP, HTTP, Overview of IP version 6.	Frouzen	06
Section C			
20	Introduction to LANs, Features of LANs, Components of LANs	Frouzen	07
21	Usage of LANs, LAN Standards	Frouzen	07
22	IEEE 802 standards	Frouzen	07
23	Channel Access Methods, Aloha	Frouzen	08
24	CSMA, CSMA/CD	Frouzen	08
25	Token Passing, Ethernet	Frouzen	08
26	Layer 2 & 3 switching	Frouzen	09
27	Fast Ethernet and Gigabit Ethernet	Frouzen	09
28	Token Ring, LAN interconnecting devices: Hubs, Switches	Frouzen	09
29	Bridges, Routers, Gateways.	Frouzen	10
30	Introduction of WANs, Routing.	Frouzen	10
31	Congestion Control	Frouzen	10
32	WAN Technologies	Frouzen	11
33	Distributed Queue Dual Bus (DQDB)	Frouzen	11
34	Synchronous Digital Hierarchy (SDH)	Frouzen	12
35	Synchronous Optical Network (SONET)	Frouzen	12
36	Asynchronous Transfer Mode (ATM)	Frouzen	12
37	Frame Relay, Wireless Links.	Frouzen	13
	Section D		
38	Introduction to Network Management:	Frouzen	13
39	Polling, Traps, Performance Management	Frouzen	13
40	Class of Service, Quality of Service	Frouzen	14
41	Security management	Frouzen	14
42	Remote Monitoring Techniques	Frouzen	14
43	Doubt clearing	Frouzen	15
44	Last years paper discussion.	Frouzen	15