MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY
Department of English

TEACHING PLAN

Subject: English
Subject code: HSMC 201
Academic Year: 2020-2021
Semester: 1
Name of the faculty: DrSher Mohammed Khan
Faculty code: SMK
Theory class: B.E ¼ (EEE)-I-Semester

S.No.	UNIT No.	Topics to be covered	No of hours	PPT/BB/ e-material	**Relevant COs**
1	**UNIT-1**	Reading: R.K.Narayan ,'A Horse and Two Goats'.	2	Online	CO1
2		Vocabulary: Word-Formation- Prefix, Suffixes and Root words.	1	Online	CO1
3		Grammar: Articles, Prepositions and	2	Online	CO1
4		Grammar: Connectives	1		
5		Writing: Guided Writing: Expanding the outline/writing from verbal cues.	2	Online	CO1
6	**UNIT-2**	Reading: Rudyard Kipling, 'If'	1	online	CO2
7		Vocabulary: Word Formation- Compounding and Blending, contractions	1	online	CO2
8		Grammar: Transitions, Connectives	1	online	CO2
9		Writing: Paragraph Writing	2	online	CO2
10	**UNIT-3**	Reading: Martin Luther King Jr. " I Have a Dream"	1	Online	CO3
11		Vocabulary: Synonyms and Antonyms	1	Online	CO3
12		Vocabulary: One-Word Substitutes	1		
13		Grammar: Voice	2	Online	CO3
14		Writing: Letter Writing	2	Online	CO3
15	**UNIT-4**	Reading: Robert Frost " Road Not Taken"	1	online	CO4
16		Vocabulary: Homophones, Homonyms and Homographs	2	Online	CO4
17		Grammar: Narration (Direct-Indirect Speech)	1	Online	CO4
18		Writing: Report Writing	3	Online	CO4
19	**UNIT-5**	Reading: George Orwell " The Sporting Spirit"	1	Online	CO5
20		Vocabulary: Inclusive Language and Euphemisms	1	Online	CO5
21		Grammar: Tenses	1	Online	CO5
22		Writing: SOP	1	Online	CO5
	Total No. Of Periods		31		

Faculty Incharge

Head-ECED

Head of Department
Electronics & Communication Engineering
Muffakham Jah College of Engg. & Tech.
Road No: 3, Banjara Hills Hyderabad-34

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MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF ENGLISH

Lesson Plan (Semester I) 2020-21

Faculty Name	:	**Dr. Shabana Tahniyath**	**Code**	:	**HS101 EG**
Subject Name	:	**English**	**Semester**	:	**I**
Degree and Year	:	**B.E. I/IV**	**Academic year:**		**2020-21**
Degree and Branch	:	**B.E. AIDS)**			

Sl. No.	Unit Focus	Topic	PPT/e-material	No. of Classes Planned	Relevant COs
		Unit-I			
1	Reading	R. K. Narayan, "A Horse and Two Goats"	Online	2	CO1
2	Vocabulary	Word formation-- Prefixes and Suffixes, Root words	Online	2	CO2
3	Grammar	Articles, Prepositions, Determiners	Online	2	CO2
		Unit -II			
4	Reading	Rudyard Kipling, "If"	Online	1	CO1
5	Vocabulary	Word formation—Compounding and Blending, Contractions	Online	1	CO2
6	Grammar	Transitions, Connectives	Online	1	CO2
7	Writing	Paragraph Writing	Online	2	CO3
		Unit-III			
8	Reading	Martin Luther King Jr., "I Have a Dream"	Online	2	CO1
9	Vocabulary	Synonyms, Antonyms, One word substitutes	Online	1	CO2
10	Grammar	Voice	Online	2	CO2
11	Writing	Letter Writing	Online	2	CO3
		Revision	Online	1	
		Class Test I			
		Unit-IV			
13	Reading	Robert Frost, "Road not Taken"	Online	1	CO1
14	Vocabulary	Homophones, Homonyms, Homographs	Online	1	CO2
15	Grammar	Narration (Direct-Indirect Speech)	Online	2	CO2
16	Writing	Report writing	Online	2	CO4
		Unit-V			
17	Reading	George Orwell, " The Sporting Spirit" Excerpt	Online	2	CO1
18	Vocabulary	Inclusive language, Euphemisms	Online	1	CO2
19	Grammar	Tense	Online	2	CO2
20	Writing	SOP	Online	1	CO5
		Revision	Online	1	
		Class Test II			

Total No of Classes – 32

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Dr. Shabana Thayniath
MA, M.Phil, B.Ed, PGCTE & Ph.D
Associate Prof. & Head, Dept. of English
MJCET
FACULTY INCHARGE Hills, Hyderabad-500 034.

MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY COMMUNICATION ENGINEERING				ELECTRONICS &	
EC354: MICROPROCESSOR & MICROCONTROLLER SECTION I-SEM A.Y:2020-2021				B.E 3/4 A & B -	
SEM DURATION	UNIT	TOPICS	TEACHING AIDS	CLASS HELD ON	NO. OF CLASS (58)
2020 to Jan 2021		**UNIT-I: Intel 8086/8088 Architecture and Instruction Set**			
	I	Introduction and brief overview of Intel family of 8-bit and 16-bit microprocessors, Introduction to basic terminology, Limitations of 8085.	BB and PPT		1
		Timeline of microprocessor evolution and classification of microprocessors	BB and PPT		-
		Intel 8086/8088 architecture : Features of 8086, organization of microprocessor- based system, Word length of µp and its performance.	BB and PPT		1
		Register organization, Architecture of 8086-Functional Block diagram : Bus Interface Unit (Calculation of physical address, Instruction queue, accessing memory locations), Execution Unit (General purpose registers, Status flag register), Concept of Pipelining	BB and PPT		2
		Signal pin description of 8086 - Common function signals, maximum and minimum mode signals, Differences between 8086	BB and PPT		1
		Function of pins Common to Minimum and Maximum modes, Function of pins used in Minimum mode, Function of pins used in Maximum mode	BB and PPT		2
		Overlapping and Non-overlapping segments, Advantages of segmented memory scheme	BB and PPT		1
		Physical memory organization-Even & Odd memory banks, four possible ways to accesss data, signals for byte & word operations, Aligned-misaligned word	BB		-
		Minimum and Maximum modes of operation : Min mode configuration, need for latch, transceivers,clock generator. Max mode configuration, need for bus controller.	BB and PPT		2
		Timing diagram : Terminology, Bus operation in MIN/MAX mode.	BB and PPT		-
		Addressing modes : Types with syntax & examples, Instruction format of 8086	BB and PPT		2
		Instruction set : Classification,Their types with syntax & examples	BB and PPT		2
		Assembler directives : Types with examples, Macros and procedures	BB and PPT		1
		8086 assembly language ptogramming using data transfer, arithmetic, logical, branching and string manipulation instructions	BB and PPT		2
		ASSIGNMENT : On ~~02-02-2018~~			
		SLIPTEST 1: On ~~07-02-2018~~			
		TUTORIAL: On ~~03-02-2018~~			
		UNIT-II: Peripheral Interfaces			
	II	**8086 Interrupt structure :** Introduction, Interrupt types in 8086, Processing of interrupts by 8086, 8086 Interrupt Vector Table, Dedicated Interrupt types in 8086, Software interrupts - Types 00H - FFH, Priority among 8086 interrupts	BB and PPT		2
		IO Interfacing concepts using 8086 : IO instructions with syntax & example, methods of IO interfacing(I/O mapped I/O & Memory mapped I/O), interfacing problems of simple IO devices like DIP switches, LEDs with 8086 with ALP programs	BB and PPT		2
		Memory Interfacing concepts using 8086 : Revise 8086 physical memory org. Formation of system bus(Demultiplexing/Buffering/generation of control signals)	BB and PPT		1
		Interfacing RAM & EPROM chips - using logic gates, using decoder IC and gates. Problems on memory interfacing design	BB and PPT		2
		IC Chip Peripherals :			
		8255 PPI : Features, block diagram, Operating modes and Control words of 8255, interfacing 8255 with 8086 & programming examples	BB and PPT		2+1
		8254 Programmable timer : Features, block diagram, Operating modes and Control word of 8254, Interfacing of 8254 with 8086, Application examples	BB and PPT		2
		8257 DMA controller : Need for DMA,Features, Operation of 8257 with 8086, Sequence of operation in DMA.	BB and PPT		1
		8251 USART : Introduction to serial communication, features and details of 8251 USART, Control words (Mode word, Command word and Status word), Interfacing 8251 with 8086 with Programming example.	BB and PPT		2+1
		ASSIGNMENT : On ~~24-02-2018~~			
		SLIPTEST: ---			
		TUTORIAL: On ~~01-03-2018~~			

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Sept

	UNIT-III: 8051 Architecture and Instruction Set			
III	**8051 Microcontroller**, Criteria for choosing processor, Features of 8051 Family	BB and PPT		1
	8051 Pin configuration & Internal architecture : Pin details,Block diagram and Internal architecture of 8051	BB and PPT		2
	8051 Memory Organization, RAM memory space allocation in 8051, 8051 Register Banks, 8051 SFRs, 8051 Flag bits and PSW Register	BB and PPT		1
	Stack in the 8051 and its Operations with examples, The upper limit of the stack, Stack and bank 1 conflict	BB and PPT		1
	8051 I/O Port Structures: Internal structure and Components of I/O Port0, Port1, Port2 & Port3 and their Operation	BB and PPT		1
	8051 addressing modes: Types with syntax, examples and ALP programs	BB and PPT		1
	8051 Instruction set : Types with syntax, examples and ALP programs, Bit addressable features of 8051, CALL Instruction and the role of the stack	BB and PPT		3
	Time delay generation and Calculation, 8051 Machine cycle	BB and PPT		1
	Assembly language programming using data transfer, arithmetic, logical and branch instructions	BB and PPT		2
	ASSIGNMENT : ~~23.03.2018~~			
	SLIP TEST 2: ~~06.04.2018~~			
	TUTORIAL: ~~28.03.2018~~			
	UNIT-IV: 8051 Timers/Counters, Serial data comm, Interrupts			
IV	**8051 Timers/Counters and its programming :** Timer registers and modes, delay calculations,,Steps to program timers/counters in different modes, generating a larger time delay.Overall control logic for Timer/Counter operation	BB and PPT		2
	Serial data communication and its programming : Basics, features, baud rate in 8051, serial comm registers, programming steps to transmit, receive, on serial data communication. Doubling the baud rate.	BB and PPT		2
	8051 interrupts, Interrupt vector table, Interrupt programming: Interrupt vs polling, Interrrupt sources and interrupt vector table, interrupt registers(IE,IP). Programs of interrupts based on timers/external interrupts/serial comm.interrupts	BB and PPT		2
	ASSIGNMENT : ~~06.04.2018~~			
	SLIPTEST:			
	TUTORIAL: ~~07.04.2018~~			
	UNIT-V: External Interfaces			
V	**Real world interfacing of 8051 with external memory:** 8031/51 interfacing with external ROM(Program ROM & Data ROM) with examples. 8051 Data memory space and interfacing with external Data RAM, 8031 system interfacing with ROM and RAM	BB and PPT		2
	Expansion of I/O ports : 8051 system with 8255: Connecting 8031/51 to an 8255, and ALP programs.	BB and PPT		1
	ADC, DAC: ADC804 chip,pin details,Steps to program ADC DAC converter types, DAC0808 chip. ***ALP/Embedded C*** program to generate waveforms.	BB and PPT		1
	LCD : LCD applications, pin details, LCD commands codes, timing diagram; ***ALP/Embedded C*** Program and interfacing	BB and PPT		1
	Stepper motor interfacing : Structure of stepper motor, step angle, switching sequences of motor, interfacing stepper motor with 8051, ***ALP /Embedded C*** programs to rotate clockwise, anticlockwise and at angles.	BB and PPT		1
	ASSIGNMENT : ~~13.04.2018~~			
	SLIPTEST:			
	TUTORIAL:			

Faculty Incharge

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MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRONICS & COMMUNICATION

SUBJECT : SIGNALS & SYSTEMS
ACADEMIC YEAR : 2019-20
NAME OF THE FACULTY: MS.SHEIK SABEERA KHADER

SUBJECT CODE : ES 215 EC
YEAR – SEMESTER : B.E 2/4 ECE II SEM –B
FACULTY CODE : SK

Unit	Topic	No. of Scheduled Classes	Teaching Methodology	Course Outcome
I	Introduction to signals and systems	1	Chalk and board	CO1
	Classification of Continous time(CT) signals Types of CT signals-Impulse, step, ramp, parabolic etc	1	Chalk and board	CO1
	Basic operations on CT signals & Problems	2	Chalk and board	CO1
	Characteristics of CT signals.Problems	2	Chalk and board	CO1
	Classification of CT systems.	1	Chalk and board	CO1
	Properties of CT systems Problems on systems	1	Chalk and board	CO1
II	**Fourier series:** Analogy between vectors and signals.	1	Chalk and board	CO2
	Orthogonality of vectors & signal space. Evaluation of Mean Square error. Comparison: correlation	2	Chalk and board	CO2
	Trigonometric Fourier Series, Exponential Fourier Series	2	Chalk and board	CO2
	computational formulae. Problems	1	Chalk and board	CO2
	LTI system response to periodic inputs.. Problems	1	Chalk and board	CO2
III	**Continuous-Time Signal Analysis**: Fourier Transform: Aperiodic signal representation by Fourier integral The direct and inverse FT, existence of FT	1	Chalk and board	CO3
	Fourier Transform of some useful functions,	1	Chalk and board	CO3
	Properties of Fourier Transform.Problems	2	Chalk and board	CO3
	Signal transmission through LTI Systems, ideal and practical filters. Signal energy	2	Chalk and board	CO3
	Introduction, ROC of Laplace Transform ,	1	Chalk and board	CO3
	Laplace transform of standard Signals. Inverse Laplace transform. Problems	1	Chalk and board	CO3
	Properties of Laplace transform,	2	Chalk and board	CO3
	Solution of differential equations using Laplace transform	2		CO3
IV	**Discrete-time signals and systems**: Introduction, some useful discrete-time signal models,	1	Chalk and board	CO4

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	Sampling continuous-time sinusoids and aliasing, Useful signal operations,	1	**Chalk and board**	
	Discrete-time systems.examples	1	**Chalk and board**	**CO4**
	Fourier analysis of discrete-time signals, periodic signal representation of discrete-time Fourier series,	2	**Chalk and board**	**CO4**
	Fourier integral. aperiodic signal representation by	2	**Chalk and board**	**CO4**
	Linear Convolution of discrete time signals with graphical representation. Problems	2	**Chalk and board**	**CO4**
	Correlation of discrete time signals with graphical representation Problems	2	**Chalk and board**	**CO4**
V	**Discrete-time signal analysis**: Z-Transform of basic signals, some properties of Z-Transform,	2	**Chalk and board**	**CO5**
	Solution to Linear difference equations using Z-Transform,	2	**Chalk and board**	**CO5**
	System realization.	2	**Chalk and board**	**CO5**
	Relation between Laplace transform and Z-Transform.	1	**Chalk and board**	**CO5**
	DTFT: Definition, Properties of DTFT,	1	**Chalk and board**	**CO5**
	Comparison of continuous-time signal analysis with discrete-time signal analysis.	1	**Chalk and board**	**CO5**
	Discrete Fourier series	1	**Chalk and board**	**CO5**
	Total Number of Classes	48		

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MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY

Department of Electronics and Communication Engineering

Lesson Plan

Faculty Name	:	Dr. Salma Fauzia	Dept	:	ECE
Subject Name	:	Basic Electronics	Code	:	ES214EC
Year	:	III	Semester	:	III
Degree and Branch	:	B.E (ECE)	Academic Year	:	2020-21

S.NO	UNIT	TOPIC	PPT/ BB/ OHP/e Material	No of Hours	Relevant COs
1.	I	Energy levels, Intrinsic semiconductors	Online	02	01
2.	I	Extrinsic semiconductors	Online	02	01
3.	I	Mobility, drift and diffusion current	Online	02	01
4.	I	Characteristics of PN junction diode, Parameters and applications	Online	02	01
5.	I	Half wave	Online	02	01
6.		Full wave rectifier	Online	02	01
7.	I	Bridge rectifier, filters	Online	02	01
8.	I	CRO and its applications	Online	02	01
9.	II	Bipolar junction transistors	Online	02	02
10.	II	Bipolar junction transistors	Online	02	02
11.	II	h parameters	Online	02	02
12.	II	FET	Online	02	02
13.	II	Basic amplifiers classification and their circuits	Online	02	02
14.	II	Zener diode regulator	Online	02	02
15.	III	Properties of negative feedback amplifiers	Online	02	03
16.	III	Classification of negative feedback amplifiers	Online	02	03
17.	III	LC type oscillators-Hartley and Colpitts	Online	02	03
18.	III	RC type oscillators- RC phase shift oscillator, Wien bridge oscillator	Online	02	03
19.	III	Crystal oscillators	Online	02	03
20.	IV	Operational amplifiers	Online	02	04
21.	IV	Summer, adder, integrator, differentiator, instrumentation amplifier	Online	02	04
22.	IV	Digital systems: basic logic gates, half adder, full adder, subtractors	Online	02	04
23.	V	Transducers, LVDT, strain gauge	Online	02	05
24.	V	DAC, R-2R, Successive approximation Register	Online	02	05
25.	V	Instrumentation systems	Online	02	05
				50	

Total no of classes:

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HEAD - ECE
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MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY
Department of Electronics and Communication Engineering

TEACHING PLAN

Subject: Electronic Devices
Academic Year: 2020-2021
Name of the faculty: Ms. Maliha Naaz
Theory class: B.E 2/4 (ECE)-III-Semester Sec-A&B

Subject code: PC 202EC
Semester : Even
Faculty code: MN

S.No.	UNIT No.	Topics to be covered	No of hours	PPT/BB/ e-material	**Relevant COs**
1	**UNIT-1**	Introduction to electronics devices and circuits, Atomic structure,	2	Online	CO1
2		Classification of materials, Intrinsic &extrinsic semiconductor.	2	Online	CO1
3		Formation of PN junction, biasing, current components & diode equation.	2	Online	CO1
4		V-I chararacteristics of a diode, diode resistances, breakdown in diodes	2	Online	CO1
5		Zener diode, Zener voltage regulator & its limitations.	2	Online	CO1
6		Diode capacitances, Small Signal model of diode	1	Online	CO1
7	**UNIT-2**	Operation of half-wave and full-wave rectifier	4	Online	CO1
8		Analysis of half-wave and full-wave Rectifier without filters	4	Online	CO1
9		Analysis of half-wave and full-wave Rectifier with filters	4	Online	CO1
10		Special Diodes	1	Online	CO1
11	**UNIT-3**	BJT characteristics, current components of a transistor, Early effect, Band diagrams	4	Online	CO1
12		Modes of transistor operation, CB,CE,CC, different parameters	2	Online	CO1
13		BJT biasing techniques, stability factors	4	Online	CO1
14		Compensation techniques, Thermal runaway.	2	Online	CO1
15	**UNIT4**	Small signal model of a transistor, determination of various parameters	2	Online	CO1
16		Analysis of BJT amplifier	3	Online	CO1
17		Hybrid pi model and its analysis	2	Online	CO1
18	**UNIT-5**	JFET operation and characteristics	3	Online	CO2
19		Small signal model of FET, Analysis of FET amplifiers, CS, CD, CG.	3	Online	CO2
20		MOSFET characteristics,	1	Online	CO2
21		MOSFET operation, enhancement & depletion	2	Online	CO2
	Total No. Of Periods 52				

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MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY
SUBJECT WISE LOAD ALLOCATION (2020-21)
AICTE MODEL CURRICULUM
B.E. (III SEM)
Department of English

s.no	Name of the faculty	Subject (Theory)	Subject Code	Section/Semester
1.	Dr.Sher Mohammed Khan	Effective Technical Communication in English	HS201EG	CSE-A
2.	Ms Ghazala Anjum	Effective Technical Communication in English	HS201EG	CSE-B & Civil-B
3.	Dr,T.Anitha	Effective Technical Communication in English	HS201EG	EIE
4.	Dr.Gitasri Mukherjee	Effective Technical Communication in English	HS201EG	EEE & Civil-A

Dr.Shabana Thayniath

Assoc –Prof & Coordinator, Dept. of English

Dr. Shabana Thayniath
M.A. PGCTE, M.Ed., Ph.D.
Incharge of English Section
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MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY
TEACHINGSCHEDULE - 2020-2021 -III Semester

Subject : Analog Electronic Lab **Subject Code:PC251EC**
Faculty : ShubhangiSaxena **Class : CBCS-EIE-III Semester**

Sl.No	Name of the experiment	No. of classes
1.	PN-Junction Diode Characteristics(Si, Ge, Zener)	2
2.	Full Wave Rectifier with and without filters	2
3.	Static Characteristics of BJT in CE Configuration	2
4.	Clipping circuits	2
5.	Clamping circuits	2
6.	Inverting Amplifier using op-Amp	2
7.	Non-Inverting Amplifier using op-Amp	2
8.	Op-amp applications as an adder , subtractor	2

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HEAD - ECE

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MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY

Department of Electronics and Communication Engineering

TEACHING PLAN

Subject: Digital Electronics
Academic Year: 2020-2021
Name of the faculty: Md Noorullah Khan
Theory class: B.E 2/4 (ECE)-III-Semester Sec-A, B

Subject code: ES 216EC
Semester : Odd
Faculty code: MNK

S.No.	UNIT No.	Topics to be covered	No of hours	PPT/BB/ e-material	Relevant COs
1	UNIT-1	**Number system and Codes:** Decimal, Binary, Octal, Hexa Decimal numbers,	1	Online	CO1
2		Conversion of one number system to the other,	1	Online	CO1
3		Signed binary numbers: 1's Complement, 2's complement;	1	Online	CO1
4		**Types of codes**: Weighted , Un Weighted code, BCD, Excess -3 code,	1	Online	CO1
5		Development of Gray code, Parity code	1	Online	CO1
6		**Boolean Algebra:** Properties Laws and Theorems,	1	Online	CO1
7		Canonical and Standard Forms, Logic Gates	1	Online	CO1
8	UNIT-2	**Minimization of Switching Functions:** K-Map	1	Online	CO2
9		5-variable map, Minimal Functions and their properties.	1	Online	CO2
10		Prime implicants, Essential Prime Implicants, Quine-McCluskey Tabular Method,	1	Online	CO2
11		**Logic Design realization:** Design with basic logic gates	1	Online	CO2
12		AND-OR, OR-AND and NAND/NOR Realizations	1	Online	CO2
13		Exclusive-OR and Equivalence Functions	1	Online	CO2
14	UNIT-3	**Combinational Logic Design:** Comparators, multiplexer and its applications	1	Online	CO3
15		Decoders, demultiplexers,			
16		Priority encoders, Code Conversion, Parity generator and checker,			
17		BCD to seven segment decoder; ROM as a combination of decoder with encoder	1	Online	CO3
18		Full Adder and Subtractor, Serial adder, Ripple carry adder	1	Online	CO3
19		Carry-look ahead adder. Two's complement ADD/ Subtractor, Decimal adder	1	Online	CO3
20		**Design of combinational circuits using Programmable Logic Devices (PLDs):**	1	Online	CO3
21		General structure of a Programmable Array Logic (PAL), Programmable Logic Arrays (PLAs),	1	Online	CO3
22		Structure of CPLDs and FPGAs, 2-input and 3-input lookup tables(LUTs)	1	Online	CO3

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23	UNIT-4	**Sequential Logic Design**: Memory element, S-R, J-K and D Latch operation,	1	Online	CO3
24		Race around condition, Master Slave J-K Flip Flop,			
25		Flip-Flop types: S-R, J-K State table, State diagram, Characteristic equation and excitation table,	1	Online	CO4
26		Flip-Flop types:D, T, State table, State diagram, Characteristic equation and excitation table	2	Online	CO4
27		Set up and hold time,	2	Online	CO4
28		Flip flop conversions	2	Online	CO4
29		**Sequential Logic Design**: Classification, state diagram, state table,	1	Online	CO4
30		Asynchronous counters, Synchronous counters,	1	Online	CO4
31		Skipping state counter, Counter Lock – out, Shift registers and applications	1	Online	CO4
32	UNIT-5	Basic Design Steps, Finite State machine(FSM) ,	1	Online	CO5
33		representation using Moore and Mealy state models,	1	Online	CO5
34		State minimization, Design of FSM for Sequence Generation and Detection,	1	Online	CO5
35		Algorithmic State Machine charts.	1	Online	CO5
	Total No. Of Periods 35				

Faculty Incharge

Head-ECED

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MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY
Department of English

TEACHING PLAN
Subject: Effective Technical Communication in English (B.E. II/IV)

Code: HS 102EG
Academic Year: 2020-2021
Name of the faculty:
Branch:

S.No.	UNIT No.	Topics to be covered	No of hours	PPT/ e-material	Relevant COs	Date of the Session
1	UNIT-1	Definition and features of technical communication (precision, relevance, format, style, use of visual aids)	1	Online	CO1	
2		Differences between general writing and technical writing	1	Online	CO1	
3		Types of technical communication (oral and written	1	Online	CO1	
4	UNIT-2	Emails	1	Online	CO2	
5		IOM	1	Online	CO2	
6		Business letters	3	Online	CO2	
7		Business proposals	1	Online	CO2	
8	UNIT-3	Project report	2	Online	CO3	
9		Feasibility report	2	Online	CO3	
10		Progress report	2	Online	CO3	
11		Evaluation report	2	Online	CO3	
12		Revision/ Quiz	1	Online		
		CLASS TEST 1				
13	UNIT-4	Types of manuals: User manual, Product manual	1	Online	CO4	
14		User manual	2			
15		Product manual	2	Online	CO4	
16		Operations manual	2	Online	CO4	
17	UNIT-5	Information Transfer and Presentations	1	Online	CO5	
18		Non-verbal (bar diagram, flow chart, pie chart, tree diagram)	1	Online	CO5	
19		Verbal (written) to non-verbal	1	Online	CO5	
20		Important aspects of oral and visual presentations.	1	Online	CO5	
21		Revision/Quiz	1	Online		
		CLASS TEST 2				
						Total No. of Periods 30

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MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRONICS & COMMUNICATION

SUBJECT : BASIC ELECTRONICS **SUBJECT CODE : ES214EC**

ACADEMIC YEAR : 2020-2021 **SEMESTER : B.E. III Sem (MECH-A & B)**

Lecture No.	Topics To Be Covered	PPT/Board/e-Material	No. Of Hrs.	Relevant Cos
1.	Semiconductor Materials, Properties, Doping	PPT	1	CO1
2.	PN diode construction, Biasing, Characteristics, Current equation.	PPT	1	CO1
3.	Half wave rectifier, circuit, working, Idc, Irms,	Open Board	1	CO1
4.	Ripple, regulation, TUF, Efficiency	Open Board	1	CO1
5.	Full wave Centre tapped circuit, working, Idc, Irms,Ripple, regulation, TUF, Efficiency	Open Board	1	CO1
6.	Full wave Bridge rectifier circuit, working, Idc, Irms, Ripple, regulation, TUF, Efficiency	Open Board	1	CO1
7.	Filter, Types, L, C filter circuit and ripple factor.	Open Board	1	CO1
8.	Zener diode Regulator, CRO and CRT	PPT/Animation Video	1	CO1
9.	BJT construction, Types, Biasing, Modes of operation	PPT	1	CO2
10.	Configurations- CE circuit , characteristics, early effect	Open Board	1	CO2
11.	Configurations- CB and CC circuit , characteristics, current gain	Open Board	1	CO2
12.	CE amplifier circuit, working, hybrid parameter,	Open Board	1	CO2
13.	H-parameters for CE,CB,CC, JFET construction	Open Board	1	CO2
14.	JFET working, characteristics, parameters.	Open Board	1	CO2
15.	Feedback, Block diagram,Types, Gain	PPT	1	CO3
16.	Types of negative feedback, Advantages ,sampling, Mixing	Open Board	1	CO3
17.	Voltage series Feedback analysis for gain and impedances	Open Board	1	CO3
18.	Voltage shunt Feedback analysis for gain and impedances	Open Board	1	CO3
19.	Current series & shunt Feedback analysis for gain and impedances	Open Board	1	CO3
20.	Oscillators, classification, condition for sustained oscillation.	Open Board	1	CO3
21.	RC phase shift osc. Wein Bridge Osc.	Open Board	1	CO3
22.	LC hartley and colpitt,sOsc., crystal osc.	Open Board	1	CO3
23.	Introduction to OP Amp, Block diagram, schematic symbol, Characteristics	e-material/ Open board	1	CO4
24.	Applications –Inverting and Non-inverting Amplifiers, differential amplifier, open loop, closed loop	Open Board	2	CO4

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MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRONICS & COMMUNICATION

SUBJECT : BASIC ELECTRONICS **SUBJECT CODE : ES214EC**

ACADEMIC YEAR : 2020-2021 **SEMESTER : B.E. III Sem (MECH-A & B)**

25.	Summer, Integrator, Differentiator	Open Board	1	CO4
26.	Problems on op-amp applications	Open Board	1	CO4
27.	**Digital Systems:** Basic Logic Gates, symbol, truth table, universal gates	Open Board	1	CO4
28.	Half, Full Adder and Subtractors.	Open Board	1	CO4
29.	DAS,Transducers, classification, factors for selection	PPT	1	CO5
30.	LVDT, Strain Gauge	PPT	1	CO5
31.	Temperature and Instrumentation amplifier	PPT	1	CO5
32.	Data converter, R-2R ladder DAC	e-material/ Open board	1	CO5
33.	Successive approximation and FLASH ADC.	e-material/ Open board	1	CO5

FACULTY INCHARGE

HEAD - ECE

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Muffakham jah college of Engineering & Technology
Department Of Electronics & Communication Engineering

Subject : Network Theory **Subject code : PC 203 EC**
Academic Year : 2020-21 **Semester:Odd**
Faculty : Ms. Rafath Unnisa **Faculty Code : RU**
Theory Class: BE 2/4 (ECE) III Semester Section A & B

S. No	Topics to be covered	No. Of hours	Methodology (PPT/Black board /e-material)	Relevant COs
1	**Two Port networks:** Z, Y, h, g and ABCD parameters,	3	Wacom Device	CO1
2	Equivalence of two ports networks, T-π transforms,	1		
3	Reciprocity theorem,	1		
4	Interconnection of two port networks and Brune's test for inter connections.	3		
5	Problems	2		
	ASSIGNMENT & TUTORIAL			
6	**Introduction to types of networks** Symmetrical & Asymmetrical nw	3	Wacom Device	CO2
7	Deriving Symmetrical properties of the nw Characteristic impedance, Propagation constant	4		
8	Defining & Designing Symmetrical T, π, Bridge-T nw **Content Beyond Syllabus**: Lattice nw	5		
9	Defining & Designing Asymmetrical network T, π, L, Bridge nw	5		
10	Deriving Asymmetrical properties-Image & Iterative impedance, Image & Iterative transfer constant – Problems	3		
	ASSIGNMENT & TUTORIAL			
11	**Introduction to filters:** Types & uses Designing Constant K LPF. Deriving α, β, Zo, fc & their characteristics	2	Wacom Device	CO3
12	Designing Constant K HPF . Deriving α, β, Zo, fc & their characteristics	3		
13	Designing Band pass & band stop filter & deriving α, β, Zo, fc & their characteristics	3		
14	Disadvantages of constant k filters & its remedy. Designing & deriving m-derived LPF & HPF. α, β, fα & their characteristics	3		
15	Disadvantages of m-derived filters & its remedy. Designing Composite filters LPF & HPF. Notes on Notch filter and problems	3		
	ASSIGNMENT & TUTORIAL			
16	**Attenuators:** Attenuation, Types of Attenuators, Symmetrical T-Type, Pi-Type Attenuator	2	Wacom Device	CO4
17	Symmetrical Bridged T-Type, Lattice-Type Attenuator, Asymmetrical L, T, Pi-Type Attenuator	2		
18	Inverse Impedance, Two-Terminal Equalizers, Four-Terminal **Equalizers:** Element, Capacitance Element,	2		
19	Full Series Equalizer, Full Shunt Equalizer, Bridged T Equalizer, Lattice Equalizer.	1		
20	Designing Problems	2		
	ASSIGNMENT & TUTORIAL			
21	**Network synthesis:** Hurwitz polynomials, positive real functions	2	PPT and Wacom Device	CO5
22	Basic Philosophy of Synthesis, L-C Immitance functions	1		
23	RC impedance functions and RL admittance functions, RL impedance functions and RC admittance functions	1		

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24	Cauer And Foster's forms of RL impedance and RC admittance Properties of RC, RL networks	1		
	ASSIGNMENT & TUTORIAL			
Total Classes		**60**		

References:

1. Networks Filters and Transmission Lines by P.K.Jain and Gurbir Kaur
2. Networks and Transmission Lines by Umesh Sinha
3. Network Theory : Analysis and Synthesis by Smarjit Ghosh
4. Network Analysis and Synthesis by S.P.Ghosh and A.K.Chakraborty

Course Coordinator **Module Coordinator** **Program Coordinator** **HOD,ECED**

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MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY

Department of Electronics and Communication Engineering

TEACHING PLAN

Subject: Analog Electronic Circuits
Academic Year: 2020-2021
Name of the faculty: Ms. Maliha Naaz
Theory class: B.E 2/4 (ECE)-IV-Semester Sec-A

Subject code: PC 403EC
Semester : Even
Faculty code: MN

S.No.	UNIT No.	Topics to be covered	No of hours	PPT/BB/ e-material	**Relevant COs**
1		Review of H-parameter model of BJT	1	Online	CO1
2		Common emitter amplifier AC analyses parameters	1	Online	CO1
3		Approximate hybrid model	1	Online	CO1
4		Comparison of AC analyses parameters of CE,CB, CC amplifiers:	1	Online	CO1
5		High frequency model of BJT [GIOCOLETTO model]:	1	Online	CO1
6		Relation between High frequency and low frequency hybrid model:	1	Online	CO1
7		Relation between High frequency and low frequency hybrid model:	1	Online	CO1
8		Millers theorem	1	Online	CO1
9		Approximate High frequency π model	1	Online	CO1
10	UNIT-1	Frequency response of single stage RC coupled BJT amplifier in Low, mid and high frequency regions	1	Online	CO1
11		Short circuit current gain of common emitter amplifier at very high frequency	1	Online	CO1
12		Frequency response of single stage RC coupled JFET amplifier in Low, mid and high frequency regions	1	Online	CO1
13		Frequency response of single stage transformer coupled BJT amplifier in Low, mid and high frequency regions	1	Online	CO1
14		Multi stage amplifiers-effect of cascading upon gain and bandwidth	1	Online	CO1
15		Types of cascading (CE-CE, CC-CC, CE-CB)	1	Online	CO1
16		Multi stage amplifier analyses	1	Online	CO1
17		Block diagram of negative feedback amplifier	1	Online	CO2
18		Characteristics of a negative feedback amplifier	1	Online	CO2
19		Effect of negative feedback upon gain	1	Online	CO2
20		Effect of negative feedback upon stability	1	Online	CO2
21		Effect of negative feedback upon bandwidth	1	Online	CO2
22		Effect of negative feedback upon device characteristics (R_i , R_O)	1	Online	CO2
23		Effect of negative feedback upon frequency distortion	1	Online	CO2
24	UNIT-2	Effect of negative feedback upon harmonic distortion	1	Online	CO2
25		Effect of negative feedback upon noise	1	Online	CO2
26		Analysis of Negative feedback amplifiers Steps	1	Online	CO2
27		Analyses Problems: Voltage series / Current Shunt	4	Online	CO2

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		Current Series Voltage Shunt			
28	UNIT-3	Block diagram of a positive feedback system	1	Online	CO3
29		Block diagram of an oscillator			
30		Classification of the oscillators			
31		RC phase shift oscillator	1	Online	CO3
32		Wien bridge oscillator	1	Online	CO3
33		LC oscillator block diagram	1	Online	CO3
34		Hartley oscillator, Colpitts oscillator, Clapp oscillator	1	Online	CO3
35		Crystal oscillator, Series resonance, parallel resonance	1	Online	CO3
36		Regulators, Series and Shunt	1	Online	CO3
37	UNIT-4	Difference between voltage and power amplifiers	1	Online	CO3
38		Classification of power amplifiers			
39		Distortion in amplifiers (second harmonic distortion)	1	Online	CO4
40		Class-A power amplifier (series fed / Direct coupled)	2	Online	CO4
41		Class-A transformer coupled power amplifier	2	Online	CO4
42		Class-B push pull Power amplifier	2	Online	CO4
43		Class-AB push pull power amplifier	1	Online	CO4
44		Transformer less push pull (Complementary symmetry)	1	Online	CO4
45		Class-D power amplifier	1	Online	CO4
46	UNIT-5	Difference between voltage and tuned amplifier	1	Online	CO5
47		Classification of tuned amplifiers	1	Online	CO5
48		Analysis of single tuned direct coupled tuned amplifier	1	Online	CO5
49		Analysis of single tuned transformer coupled tuned amplifier	1	Online	CO5
50		Analysis of double tuned amplifier	1	Online	CO5
51		Synchronously tuned amplifier – Single tuned	1	Online	CO5
52		Synchronously tuned amplifier – Double tuned	1	Online	CO5
53		Stagger tuned	1	Online	CO5
54		Problem of unstability in tuned amplifiers	1	Online	CO5
	Total No. Of Periods 51				

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Head of Department
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M.J.C.E.T.

Department of ECE
LESSON PLAN

Subject: Probability Theory and Stochastic Processes
Academic Year: 2020-21
Name of the Faculty: **Mr.IFTEKHARUDDIN**
Theory Class: **B.E. 2/4 (ECE) Section – A / B**

Subject Code: PC403EC
Semester: IV
Faculty Code:

Unit	Topics to be covered	NO. of Periods Scheduled	PPT/BB	Relevant COs
I	Review of Set theory	1	Board	CO-1
	Basic definitions. Random expt, outcome, sample space, discrete and continuous sample space, equally likely events, favourable events	1	Board	CO-1
	Probability of random events, different definitions of probability such as classical, relative frequency and axiomatic definition	1	Board/PPT	CO-1
	Mutually exclusive events, Marginal probability, joint probability	1	Board	CO-1
	Conditional probability, statistically independent events	1	Board	CO-1
	Total Probability and Baye's Theorem	1	Board	CO-1
	Problems on probability	1		CO-1
	Problems on independent events	1	Board	CO-1
	Problems on conditional probability and Baye's theorem	2	Board	CO-1
	Concept of RV	1	Board/PPT	CO-1
	Discrete, continuous and mixed types of RV	1	Board/PPT	CO-1
II	Probability density function(pdf) , CDF and their properties	1	Board	CO-2
	Types of different RV distribution and density functions	1	Board	CO-2
	Conditional distribution and density	1	Board/PPT	CO-2
	Mean and variance of RV X	1	Board/PPT	CO-2
	Mean and Variance of different distributions	1	Board	CO-2
	Characteristic function, its properties	1	Board	CO-2
	Moment generating function and its properties	1	Board	CO-2
	Functions of random variable g(x)	2	Board	CO-2
	Different examples of functions of RV,	2	Board/PPT	CO-2
	Density and distribution functions of different g(x)	1	Board	CO-2
III	Bivariate distributions	1	Board	CO-3
	Problems on Bivariate RV	1	Board	CO-3
	Joint Moments	2	Board/PPT	CO-3
	One function of two random variables	1	Board/PPT	CO-3
	Two function of two random variables	1	Board/PPT	CO-3
	Conditional distributions and statistical averages	2	Board	CO-3
	Joint moments and its properties	1	Board	CO-3
	Joint characteristic function and its properties	1	Board	CO-3
IV	Introduction to Stochastic processes	2	Board	CO-4
	SSS AND WSS Stationary processes	2	Board	CO-4
	Ergodicity and statistical averages of random process	2	Board/PPT	CO-4
	White and color noise, power spectral density	2	Board/PPT	CO-4
	Linear systems with random inputs	2	Board	CO-4
	Markov process	1	Board	CO-4

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V	Power spectral density and its properties	1	Board	CO-5
	Relation between PSD and ACF	2	Board	CO-5
	PROBLEMS	1	Board	CO-5
	Linear systems	1	Board	CO-5
	problems	2	Board	CO-5
	problems	2	Board	CO-5

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Head-ECED

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M.J.C.E.T.

DETAIL LESSON PLAN

Subject: **Electro-Magnetic Theory and Transmission Lines** Subject Code: PC 222 EC
Academic Year: 2020-2021 Semester: IV
Name of the Faculty: **Mr.IFTEKHARUDDIN** Faculty Code:
Theory Class: **B.E. 2/4 (ECE) Section – A / B**

Unit	Topics to be covered	NO. of Periods Scheduled	PPT/BB	Relevant COs	M
I	Introduction to vector analysis Scalar and vector quantities, representation of a vector, unit vector, vector addition, Dot product, Cross product, vector distance.	1	Board	CO-1	
	Review of coordinate systems Cartesian ,Cylindrical and Spherical coordinate systems	1	Board	CO-1	
	The del operator, Del operator, gradient, divergence and curl in different coordinate systems. Problems	1	Board/PPT	CO-1	
	Introduction to Electrostatics Definition, electric charge, +ve and –ve charge. Coulomb's law, Electric field intensity, principle of superposition, different types of charge distributions	2	Board	CO-1	
	Electric field intensity due to line charge , surface charge and volume charge distributions	1	Board	CO-1	
	Electric flux, flux density, relation between D and E. Gauss's law, Gauss law in point form	1	Board	CO-1	
	Applications of Gauss's law . Divergence theorem. Stoke's theorem, problems.	1		CO-1	
	Work done in moving a charge Electric Potential, Potential field of a system of charges	1	Board	CO-1	
	Potential difference, to prove electric field is conservative, potential due to a point charge, Potential gradient, electric dipole	1	Board	CO-1	
	Capacitor and Capacitance and it's calculations for different type of conductors such as parallel plate capacitor, isolated sphere, spherical capacitor, coaxial capacitor	1	Board/PPT	CO-1	
	Energy stored in a capacitor, Poisons equation, Laplace equation	1	Board/PPT	CO-1	
II	Introduction to Steady Magnetic field Biot-Savart's law Line current, surface current and volume current distribution	1			
	Applications of Biot-Savart's law Magnetic intensity due to a linear conductor Magnetic intensity at the center of a circular conductor	2	Board	CO-2	
	Magnetic flux and flux density, Ampere's law.	1	Board	CO-2	
	Magnetic scalar and vector potential	1	Board/PPT	CO-2	
	Electric and Magnetic boundary conditions,	2	Board/PPT	CO-2	
	Conduction current and current density. Introduction to Time-Varying fields, Maxwell's equations for static and Time-Varying fields, continuity equation.	2	Board	CO-2	
	Inconsistency in Ampere's law, Maxwell's equations in integral form	1	Board	CO-2	
III	EM wave equations for free space and conductors Uniform Plane Wave, Uniform plane wave motion in free space and conductors To prove E/H = 377 Ohm	2	Board	CO-2	
	Wave motion in Perfect Dielectrics, Lossy Dielectrics.	2	Board	CO-2	

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	Polarization of electromagnetic waves Linear ,Elliptical and Circular Polarizations	2	Board/PPT	CO-2	
	Poynting Theorem, Poynting vector Instantaneous, average and Complex Poynting Vector	2	Board	CO-2	
	Reflection of Plane Waves by a Perfect Conductor Normal incidence Oblique incidence	1	Board	CO-3	
	Reflection of Plane Waves by a Perfect Dielectric Normal incidence Oblique incidence.	1	Board	CO-3	
	Reflection coefficient and Transmission coefficient, Critical angle, Brewster's angle	1	Board/PPT	CO-3	
IV	Introduction to networks symmetrical & asymmetrical networks Characteristic impedance and propagation constant Symmetrical T and π network	2	Board/PPT	CO-3	
	Transmission line Types and characteristics of transmission lines equivalent circuit, primary constants, basic transmission line equation	2	Board/PPT	CO-3	
	General solution of transmission line terminated with any load impedance input impedance, o/c, s/c tr line	2	Board	CO-3	
	Infinite transmission line To prove infinite line is equivalent to finite line, secondary constants in terms of primary constants	2	Board	CO-3	
	Distortion in transmission line Attenuation distortion and phase distortion Condition for distortion less line	2	Board	CO-3	
	Loading of transmission line, Campbell's formula	1	Board	CO-4	
V	Properties of Transmission line at UHF Reflection and reflection Coefficient Reflection coefficient of open, short and matched load Reflection coefficient interms of Z_R and Z_O	1	Board	CO-4	
	SWR, Voltage maxima, voltage minima	2	Board/PPT	CO-4	
	Reflection coefficient & SWR for open circuit, short circuit & matched load	1	Board/PPT	CO-4	
	Transmission lines as circuit elements, Characteristics of half wave, quarter wave, one-eight wave lines	1	Board	CO-4	
	Impedance matching by stubs Single stub matching Double stub matching	2	Board	CO-4	
	Smith Chart, construction , properties and applications	2	Board	CO-5	
	Problems	2	Board	CO-5	

Faculty Incharge

Head-ECED

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Muffakham Jah College of Engineering and Technology

Banjara Hills, Road No. 3, Hyderabad-500034

Department of Electronics and Communication Engineering

LESSON PLAN

Course title	**Computer Organization and Architecture**	
Academic year	**2020-2021**	
Course code	**PC234EC**	
Programme	**B.E.**	
Semester	**IV**	**Electronics and Communication Engineering**
Course faculty	**Md. Zakir Hussain**	

Lecture No.	Topics to be covered	PPT/BB/OHP/ e-material	No.of Hrs.	Relevant COs
1	Introduction to Computer Systems, Organization and architecture, evolution, and computer generations	BB	1	CO1
2	Fixed point representation of numbers, digital arithmetic algorithms for Addition, Subtraction	BB	2	CO2
3	Multiplication using Booth`s algorithm	BB	2	CO3
4	Division using restoring algorithms	BB	2	CO1
5	Division using non-restoring algorithms.	BB	2	CO1
6	Floating-point representation with IEEE standards	BB	2	CO1
7	Floating-point arithmetic operations.	BB	3	CO1
8	Instruction codes, stored program organization, computer registers and common bus system	BB	2	CO2
9	computer instructions, timing and control, instruction cycle: Fetch and Decode	BB	2	CO2
10	Register reference instructions; Memory reference instructions. Input, output and Interrupt: configuration, instructions	BB	2	CO2
11	Program interrupt, Interrupt cycle	BB	2	CO2
12	Microprogrammed Control organization	BB	2	CO2
13	address sequencing	BB	2	CO2

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Department of Electronics and Communication Engineering

LESSON PLAN

14	micro instruction format and micro program sequencer.	BB	2	CO2
15	General register organization, stack organization	PPT	3	CO3
16	instruction formats, addressing modes, Data transfer and manipulation	PPT	3	CO3
17	Program control. CISC and RISC: features and comparison.	PPT	2	CO3
18	Pipeline and vector Processing, Parallel Processing	PPT	2	CO3
19	Pipelining, Instruction Pipeline, Basics of vector processing and Array Processors.	PPT	2	CO3
20	I/O interface. I/O Bus and interface modules, I/O versus Memory Bus.	PPT	2	CO4
21	Asynchronous data transfer: Strobe control, Handshaking, Asynchronous serial transfer.	PPT	2	CO4
22	Modes of Transfer: Programmed I/O, Interrupt driven I/O.	PPT	3	CO4
23	Priority interrupt; Daisy chaining, Parallel Priority interrupt.	PPT	2	CO4
24	Direct memory Access, DMA controller and transfer.	PPT	3	CO4
25	Input output Processor, CPU-IOP communication, I/O channel.	PPT	2	CO4
26	Memory hierarchy, Primary memory, Auxiliary memory	PPT	2	CO5
27	Associative memory, Cache memory: mapping functions	PPT	2	CO5
28	Virtual memory	PPT	2	CO5
29	address mapping using pages, Memory management.	PPT	3	CO5
	TOTAL HOURS REQUIRED		65	

Faculty Incharge

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Electronics & Communication Engineering
Muffakham Jah College of Engg. & Tech.
Road No: 3, Banjara Hills, Hyderabad-34

23/03/2022

PRINCIPAL
Muffakham Jah College Of
Engineering & Technology,
Banjara Hills, Road No.3,
HYDERABAD - 500 034. A.P

Muffakham jah college of Engineering & Technology
Department Of Electronics & Communication Engineering

Subject : Pulse and Digital Circuits | **Subject code : PC 233 EC**
Academic Year : 2020-21 | **Semester/Section: even**
Faculty : Ms. Rafath Unnisa | **Faculty Code : RU**
Theory Class :BE 2/4 (ECE) IV Semester Section A & B

S. No	Topics to be covered	No. of hours	Methodo-logy (PPT/Black Board/e-)	Relevant COs
1	**Linear Wave shaping** Introduction, **High pass RC** circuit response for sinusoidal	1	-- each with derivation and example problems using wacom	CO 1
2	**High pass RC** circuit response for step, pulse and square wave inputs. a. Capacitor Charging, Voltage- Current Levels & graphs	4		
3	b. Calculate Time Constant ,			
4	c. Calculate Rise & fall time and their relation.			
5	d. Calculate upper cut-off and lower cut-off frequency for rectangular wave input			
6	e. Calculate Tilt on rectangular waveform			
7	f. RC circuit as a differentiator			
8	**High pass RC** circuit response for ramp, and exponential inputs. Capacitor Charging, Voltage- Current Levels & graphs	1		
9	b. Calculate Time Constant ,			
10	c. Calculate Rise & fall time and their relation.			
11	d. Calculate upper cut-off and lower cut-off frequency for rectangular wave input			
12	e. Calculate Tilt on rectangular waveform			
13	**Low pass RC** circuit response for sinusoidal inputs	1		
14	**Low pass RC** circuit response for step, pulse, square, ramp and exponential wave inputs	4		
15	a. Capacitor Charging, Voltage- Current Levels & graphs			
16	b. Calculate Time Constant ,			
17	c. Calculate Rise & fall time and their relation.			
18	d. Calculate upper cut-off and lower cut-off frequency for rectangular wave input			
19	e. Calculate Tilt on rectangular waveform			
20	f. RC circuit as an integrator			
21	**Attenuators** a. Equivalent circuit	1		
22	b. Its application as a CRO Probe			
23	b. Ringing circuit**RL and RLC circuits and their response for step input**	1		
24	a. Step response, current and voltage levels, time constant, ,			
	ASSIGNMENT & TUTORIAL			
25	**NON-LINEAR WAVE SHAPING: Clipping circuits** a. Diode clippers, shunt clippers, series clippers	2	PPT -- each with derivation and example problems using wacom	CO 2
26	b. Clipping at two independent levels,			
27	d. series and shunt noise clippers,			
28	c. Transfer characteristics of clippers			
29	d. Transistor clippers	2		
30	e. Emitter coupled clipper			
31	Comparators, Applications of voltage comparators	1		

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	f. Clamping circuits, clamping operation, effects of clamping circuit taking source and diode resistance into account. Clamping circuits using diode with different inputs,	2		
	g. practical clamping circuits, Clamping circuit theorem, Transfer characteristics of clampers.	2		
	ASSIGNMENT & TUTORIAL			
33	**MULTIVIBRATORS:** a. Design and Analysis of Bistable Multivibrators	2	PPT -- each with derivation and example problems using wacom	**CO 3**
34	b. Fixed bias bistable multivibrator			
35	c. Self-biased transistor binary			
36	d. Commutating capacitors			
37	e. Triggering the binary			
38	f. The Emitter coupled binary (Schmitt Trigger Circuit)	1		
39	a. Design and Analysis of Monostable Multivibrators	2		
40	b. The Collector coupled Monostable Multivibrators			
41	c. Emitter coupled of Monostable Multivibrators			
42	d. Triggering the Monostable Multivibrators			
43	a. Design and Analysis of Astable Multivibrators	2		
44	b. The Collector coupled Monostable Multivibrators			
45	c .Emitter coupled of Monostable Multivibrators			
46	**TIME BASE GENERATORS:** a. General features of time base signals	2		
47	b. Methods of generating time base waveforms			
48	c. Speed, transmission and displacement errors			
49	Analysis and Design of Sweep circuits using UJT	2		
50	Analysis and Design of Sweep circuits using SCR	1		
51	**SAMPLING GATES:** a. Basic operating principles of sampling gates,	2	PPT using wacom and problems	**CO 4**
52	b. Unidirectional and Bi-directional sampling gates,	2		
53	c. Reduction of the pedestal in gate circuits,			
54	d. Applications of sampling gates			
55	**LOGIC FAMILY:** a. AND,OR Gates using diodes and Transistors	2	PPT -- each with derivation and example problems using wacom	**CO 5**
56	b. CMOS Logic: CMOS Inverter, NAND and NOR Gates. CMOS implementation of simple Boolean functions.			
57	**CMOS Characteristics**, PS, Noise Margin, Power dissipation, Switching speed, Fan-out, Static sensitivity, Latch-up, CMOS transmission Gate	2		
58	**Output Configuration:** a. Open collector/open drain outputs, Buffers and Drivers, Tri state logic outputs and buffers, bus contention, Wired Logic	2		
59	**ECL logic Family:** Basic ECL Circuit, ECL OR/NOR Gate, ECL Characteristics, Interfacing ECL and TTL	2		
60	**IC Interfacing:** TTL Driving CMOS, CMOS Driving TTL, High Voltage CMOS driving TTL and Vice versa	2		
	ASSIGNMENT & TUTORIAL			
	Total Classes	**50**		

Course Coordinator Module Coordinator Program Coordinator HOD,ECED

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Muffakhamjah College of Engineering and Technology
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Department of Electronics and communication and Engineering

LESSON PLAN

Faculty Name	:	**Mohammed Muneeruddin**	**Dept**	:	**ECE**
Subject Name	:	**Signals and Systems**	**Code**	:	**ES305EC**
Year	:	**II**	**Semester**	:	**IV**
Degree & Branch	:	**BE(ECE)**	**Academic Year**	:	**2020-21**

Lecture number	Topics to be covered	PPT/BB/OHP /e-material	No. of Hours	Relevant COs
1	Definitions and classifications: Classification of signals.	PPT/BB	1	CO1
2	Elementary continuous time signals, Basic operations on continuous-time signals.	PPT/BB	1	CO1
3	Classification of continuous-time systems	PPT/BB	1	CO1
4	Continuous time &discrete time systems, lumped-parameter & distributed –parameter systems	PPT/BB	1	CO1
5	Static & dynamic systems	PPT/BB	1	CO1
6	Causal & non-causal systems	PPT/BB	1	CO1
7	Time-invariant & time-variant systems	PPT/BB	1	CO1
8	Stable & unstable systems	PPT/BB	1	CO1
9	Representation of Continuous-time signals	PPT/BB	1	CO2
10	Analogy between vectors and signals, orthogonality and completeness.	PPT/BB		
11	Fourier series Analysis of Continuous-time signals.	PPT/BB	1	CO2
12	Fourier series – Existence of Fourier series	PPT/BB	1	CO2
13	Trigonometric Fourier series	PPT/BB	2	
14	Exponential Fourier series	PPT/BB	2	CO2

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15	Computational formulae	PPT/BB	1	CO2
16	symmetry conditions	PPT/BB	1	CO2
17	complex Fourier spectrum	PPT/BB	1	CO2
18	Continuous-time Fourier Transform (FT): The direct and inverse FT.	PPT/BB	1	CO3
19	Existence of FT, Properties of FT.	PPT/BB	1	CO3
20	FT of standard signals, properties of FT, The Frequency Spectrum.	PPT/BB	1	CO3
21	Graphical interpretation, properties of convolution.	PPT/BB	1	CO3
22	Auto and Cross correlation, graphical interpretation, properties of correlation.	PPT/BB	1	CO3
23	The direct LT, Region of convergence, existence of LT, Properties of LT.	PPT/BB	2	CO3
24	The inverse LT, Solution of differential equations, system transfer function	PPT/BB	2	CO3
25	Discrete-time signals and systems: Sampling, Classification of discrete-time signals	PPT/BB	1	CO4
26	Basic operations on discrete time signals,	PPT/BB	1	CO4
27	Classification of discrete time systems, properties of systems.			
28	Graphical interpretation, properties of discrete convolution	PPT/BB	1	CO4
29	Discrete-time Fourier transform (DTFT),properties of DTFT	PPT/BB	1	CO4
30	Transfer function, Discrete Fourier transform	PPT/BB	1	CO4
31	Properties of DFT	PPT/BB	1	CO4

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32	Z-Transform analysis of signals & systems.	PPT/BB	1	CO5
33	The direct Z transform, Region of convergence	PPT/BB	1	CO5
34	Z-plane and S┐ plane correspondence. Inverse Z transform	PPT/BB		
35	Properties of Z-transforms	PPT/BB	1	CO5
36	Solution to linear difference equations	PPT/BB	1	CO5
37	Linear constant coefficient systems	PPT/BB	1	CO5
38	System transfer function	PPT/BB	1	CO5

FACULTY INCHARGE

HEAD - ECE

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MJCET
Banjara Hills, Hyderabad – 500034

Department of ECE

LESSON PLAN

Faculty Name: Mr. J.K.Nag **Dept: ECE**

Subject Name: COMPUTER ORGANIZATION AND ARCHITECTURE ***Code: PC234EC***

Year: II ***Semester: IV***

Degree & Branch: BE (ECE A) ***Academic Year: 2020-21***

Lecture No.	Topics to be covered	PPT/BB/ OHP/ e-material	No. of Hrs	Relevant COs
1.	**Data representation and Computer arithmetic:** Introduction to Computer Systems, Organization and Architecture, evolution and computer generations;	PPT	1	CO1
2.	Fixed point representation of numbers	PPT	1	CO1
3.	Digital arithmetic algorithms for Addition, Subtraction, Multiplication hardware algorithm for signed magnitude data	PPT	2	CO1
4.	Multiplication using Booth's algorithm and numerical example	PPT	1	CO1
5.	Division using restoring and non-restoring algorithms	PPT	1	CO1
6.	Floating point representation with IEEE standards and its arithmetic operations	PPT	3	CO1
7.	**Basic Computer Organization and Design:** Instruction codes, Stored program organization	PPT	1	CO2
8.	Computer registers and common bus system	PPT	1	CO2
9.	Computer instructions, Timing and Control	PPT	2	CO2
10.	Instruction cycle: Fetch and Decode	PPT	1	CO2
11.	Register reference instructions, Memory reference instructions	PPT	2	CO2
12.	Input, output and interrupt: configuration, instructions, program interrupt, interrupt cycle	PPT	2	CO2
13.	Hardwired Control organization, Microprogrammed Control organization, address sequencing	PPT	2	CO2
14.	Micro-instruction format and micro program sequencer	PPT	2	CO2
15.	**Central Processing Unit:** General register organization, Control Word	PPT	1	CO3
16.	Stack Organization: Register Stack, Memory Stack	PPT	2	CO3
17.	Reverse Polish Notation, Evaluation of Arithmetic Expressions	PPT	1	CO3
18.	Instruction formats, Single Accumulator, General Register and Stack organized CPU organizations	PPT	1	CO3
19.	Addressing modes: Types, Numerical Example	PPT	1	CO3
20.	Data Transfer and manipulation, Program control.	PPT	2	CO3

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21.	CISC and RISC: features and comparison	PPT	1	CO3
22.	Pipeline and Vector processing, parallel processing, pipelining, instruction pipeline	PPT	2	CO3
23.	Basics of vector processing and Array processors	PPT	1	CO3
24.	**Input-output organization:** I/O interface, I/O Bus and interface modules, I/O versus Memory Bus: Isolated Vs. Memory-Mapped I/O	PPT	2	CO4
25.	Example of I/O Interface	PPT	1	CO4
26.	Asynchronous data transfer: Strobe control, Handshaking Timing Diagrams	PPT	1	CO4
27.	Asynchronous serial transfer, Asynchronous Communication Interface	PPT	2	CO4
28.	Modes of transfer: Programmed I/O, interrupt-initiated I/O	PPT	1	CO4
29.	Priority interrupt, Daisy Chaining Priority	PPT	1	CO4
30.	Parallel Priority interrupt, Priority Encoder, Priority interrupt Hardware, Interrupt Cycle	PPT	2	CO4
31.	Direct Memory Access, DMA controller and DMA Transfer in a computer system	PPT	1	CO4
32.	Input output processor (IOP), CPU-IOP Communication, I/O channel	PPT	1	CO4
33.	**Memory Organization:** Memory hierarchy, Primary memory,(RAM & ROM Chips) Memory Address Map, Memory connections to CPU	PPT	1	CO5
34.	Auxiliary Memory, Associative Memory, Hardware organization	PPT	1	CO5
35.	Cache memory, locality of reference property, Types of Mapping procedures	PPT	1	CO5
36.	Cache memory: mapping functions Direct Mapping, Associative Mapping – Numerical example	PPT	2	CO5
37.	Set-Associative Mapping – Numerical example Writing into cache, cache Initialization	BB	1	CO5
38.	Virtual memory: Address Space and Memory Space, Address mapping using pages	BB	2	CO5
39	Memory Management Hardware: Basic components, Segmented-Page Mapping	BB	1	CO5
40.	Solving Numerical Problems related to V Unit	BB	1	1

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HEAD - ECE

MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY
SUBJECT WISE LOAD ALLOCATION (2020-21)
AICTE MODEL CURRICULUM
B.E. (IV SEM)
Department of English

Sl.o	Name of the faculty	Subject (Theory)	Subject Code	Section
1.	Dr.Sher Mohammed Khan	Human Values &Professional Ethics	MC871EG	ECE A
2.	Dr,T.Anitha	Human Values &Professional Ethics	MC871EG	ECE-B

Shabana.

Dr.Shabana Thayniath

Assoc –Prof & Coordinator, Dept. of English

Dr. Shabana Thayniath
B.Ed.,MA, PGCTE, M.Phil, Ph.D.
Incharge of English Section
MJCET

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MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY
Department of Electronics and Communication Engineering

TEACHING PLAN

Subject: Automatic Control systems
Academic Year: 2020-2021
Name of the faculty: Ms. Kamala Kumari
Theory class: B.E 3/4 (ECE)-V-Semester Sec-A&B

Subject code: PC 503EC
Semester : Odd
Faculty code: KK

S.No.	UNIT No.	Topics to be covered	No of hours	PPT/BB/ e-material	Relevant COs
1	UNIT-I	Concepts of Control Systems	1	Online	CO1
2		Open Loop and closed loop control systems	1	Online	CO1
3		Mathematical modeling of mechanical systems	1	Online	CO1
4		Problems on Mechanical translational systems	1	Online	CO1
5		Problems on Mechanical translational systems	1	Online	CO1
6		Block diagram representation	1	Online	CO1
7		Problems on block diagram reduction	1	Online	CO1
8		Problems on block diagram reduction	1	Online	CO1
9		Problems on block diagram reduction	1	Online	CO1
10		Signal flow graph	1	Online	CO1
11		Problems SFG	1	Online	CO1
17	UNIT-2	Transfer function and impulse response, types of input	1	Online	CO2
18		Transient response for second order system with step input	1	Online	CO2
19		Time domain specifications	1	Online	CO2
20		Problems on time domain specifications	1	Online	CO2
21		Types of systems. static error coefficients	1	Online	CO2
22		Routh-Hurwitz criterion for stability	1	Online	CO2
23		Problems on RH criteria	1	Online	CO2
24		Analysis of typical systems using root locus techniques	1	Online	CO2
25		Problems on Root locus	1	Online	CO2
26		Problems on Root locus	1	Online	CO2
28	UNIT-3	Bode plots, Frequency domain specifications	3	Online	CO3
29		Gain margin and phase margin,principle of argument			
30		Problems on Bode Plot			
31		Problems on Bode Plot	1	Online	CO3
32		Nyquist plot, Nyquist stability criterion	2	Online	CO3
33		Problems on Nyquist criteria	2	Online	CO3
34		Cascade and feedback compensation using bode plots	1	Online	CO3
35		Phase lag , lead, lag-lead compensators.	2	Online	CO3
36		PID controllers	1	Online	CO3
37	UNIT-4	Digital control, advantages and disadvantages	1	Online	CO3
38		Digital control system architecture			
39		Discrete transfer function ,sampled data system	1	Online	CO4
40		Transfer function of sampled data	2	Online	CO4
41		Stability of discrete data systems	2	Online	CO4
42		State, state variables and state model	1	Online	CO5
43		State models of linear time invariant systems	1	Online	CO5
44		State transition matrix,solution of state equations	2	Online	CO5
45		Design of digital control systems using state –space concepts	1	Online	CO5
46		Controllability and Observability	2	Online	CO5
47			1	Online	CO5
		Total No. Of Periods	51		

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Faculty Incharge

Head-ECED

SSP Lab Schedule

Subject: Systems and Signal Processing Lab ***Subject Code: PC551EC***

Academic Year: 2020-2021 ***Semester: V***

Name of the Faculty:Mrs. NAZEERUNNISA/ Mrs. B.SUCHARITHA ***Faculty Code: NU&BS***

Class: B.E. 3/4 (ECE) Section – B

Exp. No.	List of Programs	No. of Classes	Online SCILAB	Relevant COs	FACULTY
1.	**PART-A**: Introduction to SCILAB / MATLAB	2	B1/B2/B3	CO1	NU
2.	Generation of Basic Sequences : Impulse, Step, ramp, sine and Square	2	B1/B2/B3	CO1	NU
3.	Program to obtain DFT and IDFT of the following sequences 1. X(n)=[1 2 3 4] 2. X(n)=[1 2 3 4 5 6 7 8] and IDFT of the Sequence [0,-2+2J,-2,-2-2J] USING Standard equation and Keywords	2	B1/B2/B3	CO1	BS
4.	Program to obtain Linear convolution and Correlation of the two sequences x(n)=[1 2 3 4] h(n)=[5 6 7 8]	2	B1/B2/B3	CO1	BS
5.	Program to obtain Circular convolution and Correlation of the two sequences x(n)=[1 2 3 4] h(n)=[5 6 7 8]	2	B1/B2/B3	CO1	NU
6.	Study of different window functions for FIR filter design and Programs to design FIR Low pass filter using all window techniques: Rectangle, hanning, Hamming, Triangular window and Blackman window	2	B1/B2/B3	CO3	NU
7.	Programs to design FIR HPF;BPF & BSF using all window techniques: Rectangle, Hanning, Hamming, Triangular window and Blackman window	2	B1/B2/B3	CO3	NU
8.	Programs to design Butterworth LPF and HPF of the following specifications: pass band attenuation =5db,stop band attenuation=15db,pass band cutoff frequency=1000hz, stop band cutoff frequency =1500hz and sampling frequency =10000hz	2	B1/B2/B3	CO2	BS
9.	Programs to design Chebyshev type –I & II LPF and HPF of the following specifications: pass band attenuation =5db,stop band attenuation=15db,pass band cutoff frequency=1000hz, stop band cutoff frequency =1500hz and sampling frequency =10000hz	2	B1/B2/B3	CO2	NU
10.	MultiMate Programs: Interpolation and Decimation	2	B1/B2/B3	CO4	BS
11.	**PART-B**:Introduction to Code Composer Studio , C-Program to obtain linear convolution, Circular convolution using CCS	2	B1/B2/B3	CO5	NU
12.	Audio signal Processing using DSK	2	B1/B2/B3	CO5	NU/BS
13.	Lab Internal	2	B1/B2/B3		NU/BS

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MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY

Teaching Schedule

Subject: Antennas and Wave propagation
Academic Year:2020-2021
Name of the Faculty: Prashanthi
Class: B.E. 3/4 (ECE-A&B)

S.No	Unit	Topic	PPT/Black board	No. of Classes
1	I	Introduction of Antennas	PPT	1
2	I	Principles of radiation, Isotropic radiator	PPT	1
3	I	Radiation pattern ,front-to-back ratio & related problems	PPT	1
4	I	Antenna field regions, radiation intensity, Beam area	PPT	1
5	I	Beam efficiency, reciprocity, Directivity	PPT	1
6	I	Gain, antenna apertures, antenna polarization	PPT	1
7	I	Antenna impedance, Antenna temperature, Friis transmission equation	PPT	1
8	I	Problems related to above concepts	PPT	1
9	I	Retarded potential	PPT	1
10	II	Half-wave dipole, quarter wave monopole-Electric & magnetic fields and power ,problems	PPT	2
11	II	Problems related to above concepts	PPT	1
12	II	Effect of earth on vertical patterns, Loop	PPT	2
13	II	Far field pattern of circular loop with uniform current.	PPT	2
14	II	Helical Antennas: Axial mode pattern, wideband characteristics.	PPT	2
15	II	Radiation efficiency, Q, Bandwidth, S/N ratio.	PPT	2
16	III	V-antenna, VHF,UHF turnstile antennas, Rhombic Antenna. Problems	PPT	2
17	III	Log periodic Antenna, Yagi - Uda Array, Folded dipole antenna	PPT	2
18	III	Horn, Parabolic Reflector Antennas, feed mechanisms. Lens antennas.	PPT	2
19	III	Microstrip antennas: different types, advantages and disadvantages of Microstrip antennas	PPT	1
20	III	Antenna Measurements: Antenna Test Site, impedance .	PPT	2
21	III	Radiation pattern and gain measurement techniques. Antenna temperature.	PPT	2
22	IV	Broadside and End fire arrays, Arrays of point sources, two element array with equal	PPT	2
23	IV	Two element array with unequal amplitudes, Problems related to above concept	PPT	2
24	IV	Arrays of point sources with different phases. Linear array with uniform distribution	PPT	2
25	IV	Problems related to above concept	PPT	2
26	IV	Principle of pattern multiplication.	PPT	1
27	IV	Binomial array, Effect of inter element phase shift on beam scanning	PPT	1
28	V	Ground wave propagation, Space and Surface waves.	PPT	1
29	V	Sky wave propagation, Expression for refractive index, critical frequency, Virtual height, MUF.	PPT	2
30	V	Tropospheric refraction and reflection, Duct propagation, problems	PPT	2
32	V	Line of sight propagation. problems	PPT	2

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Recommended Textbooks: -

1. John D. Krauss, Ronald J. Marhefka & Ahmad S. Khan, "*Antennas and Wave Propagation*," 4/e, TMH, 2010.
2. Constantine A. Balanis, "*Antenna Theory: Analysis and Design*," 3/e, John Wiley, 2005.
3. Edward C. Jordan and Kenneth G. Balmain, "*Electromagnetic Waves and RadiatingSystems*," 2/e, PHI, 2001.
4. Chatterjee, R., "Antenna *Theory and Practice*," New Age Publishers, 2008

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FACULTY INCHARGE **HEAD - ECE**

SSP Lab Schedule

Subject: Systems and Signal Processing Lab ***Subject Code: PC551EC***

Academic Year: 2020-2021 ***Semester: V***

Name of the Faculty: *Mrs. B.SUCHARITHA* ***Faculty Code: BS & NZ***
Mrs. NAZEERUNNISA
Mrs. KAMALA KUMARI

Class: B.E. 3/4 (ECE) Section –A& B

Exp. No.	Topics to be covered
1.	Introduction
2.	Generation of Basic Sequences : Impulse, Step, ramp, sine and Square
3.	Program to obtain DFT and IDFT of the following sequences 1. X(n)=[1 2 3 4] 2. X(n)=[1 2 3 4 5 6 7 8] 3. X(n)=1; 0<x<10 = o else and IDFT of the Sequence [0,-2+2J,-2,-2-2J] USING Standard equation and Keyword **fft**
4.	Program to obtain Linear convolution and Correlation of the two sequences x(n)=[1 2 3 4] h(n)=[5 6 7 8]
5.	Program to obtain Circular convolution and Correlation of the two sequences x(n)=[1 2 3 4] h(n)=[5 6 7 8]
6.	Study of different window functions for FIR filter design and Programs to design FIR Low pass filter using all window techniques: Rectangle, hanning, Hamming, Triangular window and Blackman window
7.	Programs to design FIR HPF,BPF & BSF using all window techniques: Rectangle, hanning, Hamming, Triangular window and Blackman window
8.	Programs to design Butterworth LPF and HPF of the following specifications: pass band attenuation =5db,stop band attenuation=15db,pass band cutoff frequency=1000hz, stop band cutoff frequency =1500hz and sampling frequency =10000hz
9.	Programs to design Chebyshev type –I & II LPF and HPF of the following specifications: pass band attenuation =5db,stop band attenuation=15db,pass band cutoff frequency=1000hz, stop band cutoff frequency =1500hz and sampling frequency =10000hz
10.	MultiMate Programs: Interpolation and Decimation

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MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRONICS & COMMUNICATION

SUBJECT :Electronic Measurements and Instrumentation SUBJECT CODE : PC604EC

ACADEMIC YEAR : 2020-2021 SEMESTER : B.E. VI Sem (ECE-A & B)

Lecture No.	Topics To Be Covered	PPT/Board/e-Material	No. Of Hrs.	Relevant Cos
1.	**Introduction to Electronic Instrumentation**	PPT	1	CO1
2.	**Accuracy, Precision, Resolution and Sensitivity**	PPT	1	CO1
3.	Errors, Sources of errors, Classification	PPT	2	CO1
4.	Standards of measurement	PPT	1	CO1
5.	Classification of standards	PPT	1	CO1
6.	IEEE standards, Elements of ISO 9001	PPT	1	CO1
7.	Quality management standards	PPT	1	CO1
8.	Introduction to Transducers	PPT	1	CO2
9.	Classification of Transducers, factors for selection of a transducer	Open Board	1	CO2
10.	Transducers for measurement of velocity, acceleration	Open Board	1	CO2
11.	Passive electrical transducers - Strain gauges and strain measurement	Open Board	1	CO2
12.	Measurement of displacement using LVDT, displacement	PPT	1	CO2
13.	Capacitive transducer and thickness measurement	Open Board	1	CO2
14.	Active electrical transducers - piezoelectric, photo conductive transducers	Open Board	1	CO2
15.	Photo voltaic and photo emissive transducers	Open Board	1	CO2
16.	Define sound, Characteristics of sound, Sound pressure level, Sound power level, Sound intensity level	Open Board	1	CO3
17.	Addition of Sound pressure levels, Variation of Intensity of sound with distance, Loudness	Open Board	1	CO3
18.	Sound level meter, Sound intensity measurement	Open Board	1	CO3
19.	Microphones, factors for selection of microphones and their types such as Condenser type, Electret type, Piezo-electric type, Electromagnetic type microphones	Open Board	1	CO3
20.	Temperature measurement, Electrical methods of temperature measurement	e-material/ Open board	1	CO3
21.	Resistance wire thermometers, Factors for selection of resistance materials, Construction & it's working	Open Board	2	CO3
22.	Semiconductor thermometers	Open Board	1	CO3
23.	Thermocouples	Open Board	1	CO3
24.	Block diagram, specification and design considerations of different	Open Board/PPT	2	CO4

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	types of DVMs such as Ramp type DVM, Integrating type DVM, Successive approximation type DVM			
25.	Digital LCR meters	OpDocument/Notes	1	CO4
26.	Spectrum analyzers such as Swept TRF Spectrum analyzer	PPT	1	CO4
27.	Swept super heterodyne spectrum analyzer, Digital spectrum analyzer, wave analyzer	PPT	1	CO4
28.	IEEE 488 or GPIB interface and protocol	PPT	1	CO4
29.	Oscilloscopes, Delayed time base oscilloscope	e-material/ PPT	1	CO4
30.	Digital storage oscilloscope, Mixed signal oscilloscope	e-material/ PPT	1	CO4
31.	Introduction to virtual instrumentation	PPT	1	CO4
32.	SCADA, Data acquisition system block diagram	PPT	1	CO4
33.	Biomedical instrumentation: Human physiological systems and related concepts	PPT	1	CO5
34.	Bio-potential electrodes	PPT	1	CO5
35.	Bio-potential recorders - ECG, EEG, EMG	PPT	1	CO5
36.	X-Ray machines and CT scanners	PPT	1	CO5
37.	MRI, Ultrasonic imaging systems	PPT	1	CO5

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M.J.C.E.T.

LESSON PLAN

Subject: DIGITAL IMAGE PROCESSING
Academic Year: 2020-2021
Name of the Faculty: Mrs.B.Sucharitha
Theory Class: B.E. 3/4 (ECE-A& B)(P.E.)

Subject Code: PC503EC
Semester: VI sem

UNIT	TOPIC	NO.OF CLASSES	Methodology	COs
I	**Digital Image Fundamentals**: Introduction to Digital Image Processing	1	PPT	CO1
	Major Steps of Digital Image Processing , Basic Components of Image processing , Introduction to Electro Magnetic Spectrum	1	PPT	CO1
	Image sensing, acquisition, Image formation model, sampling and Quantization	1	PPT	CO1
	Basic relationships between pixels; neighbors of a pixel, adjacency, connectivity, regions and boundaries.	2	PPT	CO1
	Image formation, brightness, adaptation and discrimination Categorization of images according to their source of EM radiation	2	PPT	CO1
II	**Image Transforms**: 2D Fourier Transform Properties of 2D Fourier Transform	2	Board	CO2
	Walsh Hadamard Transforms	2	Board	CO2
	Slant and Haar Transforms	2	Board	CO2
	Discrete cosine transform and Hotelling Transform	2	Board	CO2
III	**Image Enhancement**: Spatial domain techniques: Contrast stretching, histogram equalization	2	PPT	CO3
	Histogram specification method	1	PPT	CO3
	Neighborhood averaging and adaptive Median filter.	1	PPT	CO3
	Frequency domain methods: Ideal Low pass, Butterworth and Gaussian Low pass filters. Ideal High pass,	2	PPT	CO3
	Butterworth and Gaussian High pass filters.	2	PPT	CO3
	Homomorphic filtering	1		CO3
IV	**Image Restoration**: Mathematical expression for degraded image.	1	PPT	CO4
	Estimation of degradation functions: image observation, experimentation and by modeling.	2	PPT	CO4
	Inverse filter, Wiener filter,	1	PPT	CO4
	Geometric transformation,	1	PPT	CO4
	Periodic noise reduction method.	1	PPT	CO4
V	**Image segmentation and Compression**: Detection of discontinuities, point line	2	PPT	CO5
	Edge detection methods: Gradient operation, Laplacian, Prewitt, Sobel, Laplacian of a Gaussian and Canny edge detectors.	2	PPT	CO5
	Image compression: Functional block diagram of a general image compression system various types of redundancies,	2	PPT	CO5
	Huffman coding	2	Board	CO5
	Arithmetic coding	2	Board	CO5

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MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY
Department of Electronics and Communication Engineering
Lesson Plan

Faculty Name	:	Afshan Kaleem	Dept	:	ECE
Subject Name	:	Data Communication and Computer Networks Lab	Code	:	PC652EC
Year	:	III	Semester	:	VI
Degree and Branch	:	B.E (ECE)	Academic Year	:	2020-21

PART A- Packet Tracer

Serial No	Experiment	No of Hours
1	Study of network devices in detail.	2
2	Simulation of network topologies	2
3	Simulation of Static routing protocol	2
4	Simulation of Dynamic routing protocol-RIP	2
5.	Simulation of Open shortest path first Routing	2

PART B- NS-2

Serial No	Experiment	No of Hours
6	Implement a point to point network with four nodes and duplex links between them. Analyse the network performance by setting the queue size and varying the bandwidth.	2
7	Implement a four node point to point network with links n0-n2, n1-n2 and n2-n3. Apply TCP agent between n0-n3 and UDP between n1-n3. Apply relevant applications over TCP and UDP agents changing the parameter and determine the number of packets sent by TCP/UDP.	2
8	Implement Ethernet LAN using n nodes and assign multiple traffic to the nodes and obtain congestion window for different sources/ destinations	2
9	Implement ESS with transmission nodes in Wireless LAN and obtain the performance parameters.	2

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MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY

Department of Electronics and Communication Engineering

Lesson Plan

Faculty Name	:	Afshan kaleem	Dept	:	ECE
Subject Name	:	Data Communication and Computer Networking	Code	:	PC603 EC
Year	:	III	Semester	:	VI
Degree and Branch	:	B.E (ECE)	Academic Year	:	2020-21

S.NO	Topics	PPT/ BB/ OHP/e Material	No of Hours	Relevant COs
UNIT I	A Communication Model, The Need for Protocol Architecture and Standardization	PPT	02	01
	Network Types: LAN, WAN, MAN.	PPT	02	01
	Network Topologies:Bus, Star, Ring, Hybrid. Line configurations. Reference Models: OSI, TCP/IP.	PPT	02	01
	Circuit Switching, Principles and concepts	PPT	02	01
	Virtual circuit and Datagram subnets, X.25.	PPT	02	01
UNIT II	Data Link Layer: Need for Data Link Control, Design issues	PPT	02	01
	Framing, Error Detection and Correction	PPT	02	02
	Flow control Protocols: Stop and Wait, Sliding Window, ARQ Protocols, HDLC.	PPT	02	02
	MAC Sub Layer: Multiple Access Protocols: ALOHA, CSMA	PPT	02	02
	Wireless LAN. IEEE 802.2, 802.3, 802.4, 802.11, 802.15, 802.16 standards. Bridges and Routers.	PPT	02	02
UNIT III	Network Layer: Network layer Services, Routing algorithms: Shortest Path Routing, Flooding	PPT	02	03
	Hierarchical routing, Broadcast, Multicast, Distance Vector Routing, and Congestion Control Algorithms	PPT	02	03
	Internet Working: The Network Layer in Internet: IPV4, IPV6, Comparison of IPV4 and IPV6	PPT	02	03
	IP Addressing, ATM Networks.	PPT	02	03
	Network Layer: Network layer Services, Routing algorithms: Shortest Path Routing, Flooding	PPT	02	03
UNIT IV	Transport Layer: Transport Services	PPT	02	04
	Elements of Transport Layer	PPT	02	04
	Connection management.	PPT	02	04
	TCP and UDP protocols	PPT	02	04
	ATM AAL Layer Protocol	PPT	02	04
UNIT V	Application Layer:Domain Name System,;	PPT	02	05
	SNMP, Electronic Mail,	PPT	02	05
	World Wide Web	PPT	02	05
	Network Security: Cryptography Symmetric Key and Public Key algorithms,	PPT	02	05
	Digital Signatures, Authentication Protocols	PPT	02	05
Total Number of Classes			50	

Suggested Reading:

Andrew S Tanenbaum " Computer Networks" 5/ed. Pearson Education, 2011.

1. Behrouz A. Forouzan " Data Communication and Networking" 3/e, TMH, 2008.
2. William Stallings "Data and Computer Communications", 8/e, PHI, 2004.
3. S.Keshav "An Engineering Approach to Computer Networks" 2/e, Pearson Education.

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MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY

Department of Electronics and Communication Engineering

Lesson Plan

Faculty Name	:	Dr. Salma Fauzia	Dept	:	ECE
Subject Name	:	Data Communication and Computer Networking	Code	:	PC603 EC
Year	:	III	Semester	:	VI
Degree and Branch	:	B.E (ECE)	Academic Year	:	2020-21

S.NO	Topics	PPT/ BB/ OHP/e Material	No of Hours	Relevant COs
UNIT I	A Communication Model, The Need for Protocol Architecture and Standardization	PPT	02	01
	Network Types: LAN, WAN, MAN.	PPT	02	01
	Network Topologies: Bus, Star, Ring, Hybrid. Line configurations. Reference Models: OSI, TCP/IP.	PPT	02	01
	Circuit Switching, Principles and concepts	PPT	02	01
	Virtual circuit and Datagram subnets, X.25.	PPT	02	01
UNIT II	Data Link Layer: Need for Data Link Control, Design issues	PPT	02	01
	Framing, Error Detection and Correction	PPT	02	02
	Flow control Protocols: Stop and Wait, Sliding Window, ARQ Protocols, HDLC.	PPT	02	02
	MAC Sub Layer: Multiple Access Protocols: ALOHA, CSMA	PPT	02	02
	Wireless LAN. IEEE 802.2, 802.3, 802.4, 802.11, 802.15, 802.16 standards. Bridges and Routers.	PPT	02	02
UNIT III	Network Layer: Network layer Services, Routing algorithms: Shortest Path Routing, Flooding	PPT	02	03
	Hierarchical routing, Broadcast, Multicast, Distance Vector Routing, and Congestion Control Algorithms	PPT	02	03
	Internet Working: The Network Layer in Internet: IPV4, IPV6, Comparison of IPV4 and IPV6	PPT	02	03
	IP Addressing, ATM Networks.	PPT	02	03
	Network Layer: Network layer Services, Routing algorithms: Shortest Path Routing, Flooding	PPT	02	03
UNIT IV	Transport Layer: Transport Services	PPT	02	04
	Elements of Transport Layer	PPT	02	04
	Connection management	PPT	02	04
	TCP and UDP protocols	PPT	02	04
	ATM AAL Layer Protocol	PPT	02	04
UNIT V	Application Layer: Domain Name System,;	PPT	02	05
	SNMP, Electronic Mail,	PPT	02	05
	World Wide Web	PPT	02	05
	Network Security: Cryptography Symmetric Key and Public Key algorithms,	PPT	02	05
	Digital Signatures, Authentication Protocols	PPT	02	05
Total Number of Classes			50	

Suggested Reading:

Andrew S Tanenbaum " Computer Networks" 5/ed. Pearson Education, 2011.

1. Behrouz A. Forouzan " Data Communication and Networking" 3/e, TMH, 2008.
2. William Stallings "Data and Computer Communications", 8/e, PHI, 2004.
3. S.Keshav "An Engineering Approach to Computer Networks" 2/e, Pearson Education.

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MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY
Department of Electronics and Communication Engineering
Lesson Plan

Faculty Name	:	Dr. Salma Fauzia	Dept	:	ECE
Subject Name	:	Data Communication and Computer Networks Lab	Code	:	PC652EC
Year	:	III	Semester	:	VI
Degree and Branch	:	B.E (ECE)	Academic Year	:	2020-21

PART A- Packet Tracer

Serial No	Experiment	No of Hours
1	Study of network devices in detail.	2
2	Simulation of network topologies	2
3	Simulation of Static routing protocol	2
4	Simulation of Dynamic routing protocol-RIP	2
5.	Simulation of Open shortest path first Routing	2

PART B- NS-2

Serial No	Experiment	No of Hours
6	Implement a point to point network with four nodes and duplex links between them. Analyse the network performance by setting the queue size and varying the bandwidth.	2
7	Implement a four node point to point network with links n0-n2, n1-n2 and n2-n3. Apply TCP agent between n0-n3 and UDP between n1-n3. Apply relevant applications over TCP and UDP agents changing the parameter and determine the number of packets sent by TCP/UDP.	2
8	Implement Ethernet LAN using n nodes and assign multiple traffic to the nodes and obtain congestion window for different sources/ destinations	2
9	Implement ESS with transmission nodes in Wireless LAN and obtain the performance parameters.	2

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Department of Electronics and Communication Engineering

TEACHING PLAN

Subject: Analog Electronic Circuits
Academic Year: 2020-2021
Name of the faculty: Md Noorullah Khan
Theory class: B.E 2/4 (ECE)-IV-Semester Sec-B

Subject code: PC 403EC
Semester : Even
Faculty code: MNK

S.No.	UNIT No.	Topics to be covered	No of hours	PPT/BB/ e-material	Relevant COs
1	UNIT-1	Review of H-parameter model of BJT	1	Online	CO1
2		Common emitter amplifier AC analyses parameters	1	Online	CO1
3		Approximate hybrid model	1	Online	CO1
4		Comparison of AC analyses parameters of CE,CB, CC amplifiers:	1	Online	CO1
5		High frequency model of BJT [GIOCOLETTO model]:	1	Online	CO1
6		Relation between High frequency and low frequency hybrid model:	1	Online	CO1
7		Relation between High frequency and low frequency hybrid model:	1	Online	CO1
8		Millers theorem	1	Online	CO1
9		Approximatė High frequency π model	1	Online	CO1
10		Frequency response of single stage RC coupled BJT amplifier in Low, mid and high frequency regions	1	Online	CO1
11		Short circuit current gain of common emitter amplifier at very high frequency	1	Online	CO1
12		Frequency response of single stage RC coupled JFET amplifier in Low, mid and high frequency regions	1	Online	CO1
13		Frequency response of single stage transformer coupled BJT amplifier in Low, mid and high frequency regions	1	Online	CO1
14		Multi stage amplifiers-effect of cascading upon gain and bandwidth	1	Online	CO1
15		Types of cascading (CE-CE, CC-CC, CE-CB)	1	Online	CO1
16		Multi stage amplifier analyses	1	Online	CO1
17	UNIT-2	Block diagram of negative feedback amplifier	1	Online	CO2
18		Characteristics of a negative feedback amplifier	1	Online	CO2
19		Effect of negative feedback upon gain	1	Online	CO2
20		Effect of negative feedback upon stability	1	Online	CO2
21		Effect of negative feedback upon bandwidth	1	Online	CO2
22		Effect of negative feedback upon device characteristics (R_i , R_O)	1	Online	CO2
23		Effect of negative feedback upon frequency distortion	1	Online	CO2
24		Effect of negative feedback upon harmonic distortion	1	Online	CO2
25		Effect of negative feedback upon noise	1	Online	CO2
26		Analysis of Negative feedback amplifiers Steps	1	Online	CO2
27		Analyses Problems: Voltage series / Current Shunt	4	Online	CO2

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		Current Series Voltage Shunt			
28	UNIT-3	Block diagram of a positive feedback system	1	Online	CO3
29		Block diagram of an oscillator			
30		Classification of the oscillators			
31		RC phase shift oscillator	1	Online	CO3
32		Wien bridge oscillator	1	Online	CO3
33		LC oscillator block diagram	1	Online	CO3
34		Hartley oscillator, Colpitts oscillator, Clapp oscillator	1	Online	CO3
35		Crystal oscillator, Series resonance, parallel resonance	1	Online	CO3
36		Regulators, Series and Shunt	1	Online	CO3
37	UNIT-4	Difference between voltage and power amplifiers	1	Online	CO3
38		Classification of power amplifiers			
39		Distortion in amplifiers (second harmonic distortion)	1	Online	CO4
40		Class-A power amplifier (series fed / Direct coupled)	2	Online	CO4
41		Class-A transformer coupled power amplifier	2	Online	CO4
42		Class-B push pull Power amplifier	2	Online	CO4
43		Class-AB push pull power amplifier	1	Online	CO4
44		Transformer less push pull (Complementary symmetry)	1	Online	CO4
45		Class-D power amplifier	1	Online	CO4
46	UNIT-5	Difference between voltage and tuned amplifier	1	Online	CO5
47		Classification of tuned amplifiers	1	Online	CO5
48		Analysis of single tuned direct coupled tuned amplifier	1	Online	CO5
49		Analysis of single tuned transformer coupled tuned amplifier	1	Online	CO5
50		Analysis of double tuned amplifier	1	Online	CO5
51		Synchronously tuned amplifier – Single tuned	1	Online	CO5
52		Synchronously tuned amplifier – Double tuned	1	Online	CO5
53		Stagger tuned	1	Online	CO5
54		Problem of unstability in tuned amplifiers	1	Online	CO5
		Total No. Of Periods 51			

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M.J.C.E.T.

LESSON PLAN

Subject: DIGITAL SIGNAL PROCESSING
Academic Year: 2020-2021
Name of the Faculty: Mrs.B.Sucharitha

Subject Code: PC502EC
Semester: V
Theory Class: B.E. 3/4 ECE-B

Topic	No. of Classes Req.	Methodology	Relevant COs
Introduction To Digital Signal Processing and Applications: Introduction of Signal Processing, Classifications .	2	**PPT** Explanation of applications with real time examples	CO-1
Basic Components of a Digital Signal Processing System.			
Advantages and Disadvantages of DSP.			
Applications: Communication, Speech processing, Image processing, Medicine ,Military and Consumer Electronics .			
Discrete Fourier Transforms and Properties:- Drawback in DTFT, Development of DFT from DTFT, Standard Definitions of Discrete Fourier Transforms and Inverse Discrete Fourier Transforms.	1	Board	CO-1
Properties: Linearity, Periodicity, Circular Time Shifting ,Circular Frequency shifting ,Complex Conjugate ,Time Reversal ,Multiplication ,Circular Convolution ,Circular correlation and Parseval's theorem.	2		CO-1
Comparison between circular convolution and linear convolution .	1		CO-1
Problems on DFT: Finding DFT of the given Sequences and IDFT of the given transforms.	2	Board	CO-1
Fast Fourier Transforms: Introduction, Direct Evaluation of the DFT, Fast Fourier Transform, Decimation in time Algorithm.	2	Board	CO-1
Summary step of Radix-2 DIT FFT Algorithm.	1	Video on An example on DIT-FFT of an8-point sequence	CO-1
Decimation in Frequency Algorithm, Summary step of Radix-2 DFT FFT Algorithm.	2		CO-1
An IFFT Algorithm to compute IDFT ,Differences and similarities between DIT and DIF algorithms	1		CO-1
Circular convolution : Methods to evaluate circular convolution of two sequences: Concentric circles method and Matrix computation method. Linear convolution from circular convolution.	2	Board	CO-1
Use of FFT Algorithms in linear Filtering & Correlation: Over lap-save method and Overlap add method. Problems	2	Board	CO-1
Unit-II			
Introduction to Digital filter, Comparison between Analog and digital filters, Specifications of filters and Classification of digital filters	1	PPT with real time example	CO-2
Design of Butterworth LPF and HPF filters . Problems on Butter worth filters	2	Board	CO-2
Design of Chebyshev LPF and HPF filters . Problems on Butter worth filters	2	Board	CO-2
IIR digital filter design techniques- Impulse Invariant technique and Problems	2	Board	CO-2
Bilinear transformation technique and problems	2	Board	CO-2
Complete design of Digital Butterworth and chebyshev filters.	4	Board	CO-2

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Unit-III			
Comparison between FIR and IIR filter and Amplitude and phase responses for FIR filters	1	Board	CO-3
Linear phase Characteristics and filters	1	Board	CO-3
Concept of Windowing techniques for design of Linear phase FIR filters – Rectangular, Bartlett, hamming, Blackman, Kaiser windows– realization of filters - finite word length effects comparisons between FIR and IIR filters	2	Board	CO-3
Design of FIR LPF Using window techniques	4	Board	CO-3
Design of FIR HPF Using window techniques	4	Board	CO-3
Unit-IV			
Introduction to Multi rate Sampling and Applications	1	PPT & Board	CO-4
Decimation by Factor D- interpolation by a Factor I- Sampling RateConversion by a Rational Factor I/D-	2	Board	CO-4
Implementation of sampling Rate Conversion-Multistage Implementation of Sampling Rate Conversion – Sampling Conversion by an Arbitrary factor	2	Board	CO-4
Unit-V			
Difference between DSP and other microprocessors architectures- their comparison and need for ASP	2	Board	CO-5
RISC and CPU- General Purpose DSP processors	2	Board	CO-5
TMS 320C 54XX processors, architecture, addressing modes- instruction set.	2	PPT & Board	CO-6

Total No of Classes Required : 54

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M.J.C.E.T.

LESSON PLAN

Subject: DIGITAL SIGNAL PROCESSING
Academic Year: 2020-2021
Name of the Faculty: Mrs.B.Sucharitha

Subject Code: PC502EC
Semester: V
Theory Class: B.E. 3/4 ECE-A

Topic	No. of Classes Req.	Methodology	Relevant COs
Introduction To Digital Signal Processing and Applications: Introduction of Signal Processing, Classifications .	2	**PPT** Explanation of applications with real time examples	CO-1
Basic Components of a Digital Signal Processing System.			
Advantages and Disadvantages of DSP.			
Applications: Communication, Speech processing, Image processing, Medicine ,Military and Consumer Electronics .			
Discrete Fourier Transforms and Properties:- Drawback in DTFT, Development of DFT from DTFT, Standard Definitions of Discrete Fourier Transforms and Inverse Discrete Fourier Transforms.	1	Board	CO-1
Properties: Linearity, Periodicity, Circular Time Shifting ,Circular Frequency shifting ,Complex Conjugate ,Time Reversal ,Multiplication ,Circular Convolution ,Circular correlation and Parseval's theorem.	2		CO-1
Comparison between circular convolution and linear convolution .	1		CO-1
Problems on DFT: Finding DFT of the given Sequences and IDFT of the given transforms.	2	Board	CO-1
Fast Fourier Transforms: Introduction, Direct Evaluation of the DFT, Fast Fourier Transform, Decimation in time Algorithm.	2	Board	CO-1
Summary step of Radix-2 DIT FFT Algorithm.	1	Video on An example on DIT-FFT of an8-point sequence	CO-1
Decimation in Frequency Algorithm, Summary step of Radix-2 DFT FFT Algorithm.	2		CO-1
An IFFT Algorithm to compute IDFT ,Differences and similarities between DIT and DIF algorithms	1		CO-1
Circular convolution : Methods to evaluate circular convolution of two sequences: Concentric circles method and Matrix computation method. Linear convolution from circular convolution.	2	Board	CO-1
Use of FFT Algorithms in linear Filtering & Correlation: Over lap-save method and Overlap add method. Problems	2	Board	CO-1
Unit-II			
Introduction to Digital filter, Comparison between Analog and digital filters, Specifications of filters and Classification of digital filters	1	PPT with real time example	CO-2
Design of Butterworth LPF and HPF filters . Problems on Butter worth filters	2	Board	CO-2
Design of Chebyshev LPF and HPF filters . Problems on Butter worth filters	2	Board	CO-2
IIR digital filter design techniques- Impulse Invariant technique and Problems	2	Board	CO-2
Bilinear transformation technique and problems	2	Board	CO-2
Complete design of Digital Butterworth and chebyshev filters.	4	Board	CO-2

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Unit-III			
Comparison between FIR and IIR filter and Amplitude and phase responses for FIR filters	1	Board	CO-3
Linear phase Characteristics and filters	1	Board	CO-3
Concept of Windowing techniques for design of Linear phase FIR filters – Rectangular, Bartlett, hamming, Blackman, Kaiser windows– realization of filters - finite word length effects comparisons between FIR and IIR filters	2	Board	CO-3
Design of FIR LPF Using window techniques	4	Board	CO-3
Design of FIR HPF Using window techniques	4	Board	CO-3
Unit-IV			
Introduction to Multi rate Sampling and Applications	1	PPT & Board	CO-4
Decimation by Factor D- interpolation by a Factor I- Sampling RateConversion by a Rational Factor I/D-	2	Board	CO-4
Implementation of sampling Rate Conversion-Multistage Implementation of Sampling Rate Conversion – Sampling Conversion by an Arbitrary factor	2	Board	CO-4
Unit-V			
Difference between DSP and other microprocessors architectures- their comparison and need for ASP	2	Board	CO-5
RISC and CPU- General Purpose DSP processors	2	Board	CO-5
TMS 320C 54XX processors, architecture, addressing modes- instruction set.	2	PPT & Board	CO-6

Total No of Classes Required : 54

FACULTY INCHARGE

HEAD - ECE

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MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY
Road No.3, Banjara Hills, Hyderabad – 500034
Electrical Engineering Department

TEACHING SCHEDULE

Subject: Digital System Design with Verilog HDL **Subject Code: PC506EC**

Academic Year: 2020-2021 **Semester: V**

Name of the Faculty: Dr M Mohammed Sabir Hussain **B.E. 3/4 ECE -A**

S. No.	Unit	Topic	Planned No. of Classes	Methodology
1	I	Introduction to HDL	2	Board and PPTs
2		Overview of Digital Design with Verilog HDL –Typical design flow, Importance and comparison. Basic Concepts- Lexical convention Data types-Nets,Regs,Vectors,Araays etc System tasks and Compiler Directives	4	Board and PPTs
3		Gate level modeling Hierarchical structural Data flow modeling - Examples Timing and Delays and PLI	2	Board and PPTs
4		Design of Arithmetic Circuits - Using Vectored Signals. Using a Generic Specification, Nets and Variables. Arithmetic Assignment Statements. Representation of Numbers in Verilog Code	4	PPTs
5		Gate level and hierarchical modeling of adders and Comparators. Verification: Functional verification, simulation types, Design of stimulus block - Examples	2	Board and PPTs
6	II	Switch Level Modeling with examples, design of inverter, logic gates and MUX designs	2	Board
7		Behavioral Modeling: Structured Procedures, Procedural Assignments, Timing Controls, and Conditional Statements – Examples using If, If else, case and for statements.	2	Board
8		Timing Controls, and Conditional Statements, Multi-way branching, Loops, Sequential and Parallel blocks, Generate Blocks, Tasks and Functions.	2	Board and PPTs
9		Dataflow modeling and behavioral modeling of MSI Combinational Logic modules – Example Decoder, Encoder and MUX. Static timing analysis, Logic synthesis and Register Transfer Level (RTL) Code with example.	4	Board and PPTs
10	III	Behavioral and dataflow modeling of sequential logic modules: Latches, Flip Flops, counters and shift registers.	2	Board
11		Analysis and synthesis of synchronous sequential circuits with example.	2	Board

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MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY

Department of Electronics and Communication Engineering

TEACHING PLAN

Subject: Analog Communication
Academic Year: 2020-2021
Name of the faculty: Syed Hifazath Ali Khan
Theory class: B.E 3/4 (ECE)-V-Semester Sec-A & Sec-B

Subject code: PC 501 ECE
Semester : V
Faculty code: SHAK

S.No.	UNIT No.	Topics to be covered	No of hours	PPT/BB/ e-material	Relevant COs
1	UNIT-1	Introduction of the subject	1	Online	CO1
2		Linear Modulation schemes: Need for modulation.	1	Online	CO1
3		Conventional amplitude modulation.	1	Online	CO1
4		Double side band suppressed carrier (DSB-SC).	1	Online	CO1
5		Hilbert transform, properties of Hilbert transform. Pre envelop. Complex envelop representation of band pass signals, In-phase and Quadrature component representation of band pass signals, Low pass representation of band pass systems.	3	Online	CO1
6		Single side band modulation and Vestigial-side band modulation. Modulation and demodulation of modulated schemes.	2	Online	CO1
7	UNIT-2	Angle modulation schemes: Frequency modulation and phase modulation concept of instantaneous phase and frequency.	1	Online	CO2
8		Types of FM modulation: Narrow band FM and wide band FM. FM spectrum in terms of Bessel functions.	2	Online	CO2
9		Direct and indirect (Armstrong's) methods of FM generation.	1	Online	CO2
10		Balanced discriminator, Foster-Seeley discriminator	1	Online	CO2
11		Ration detector for FM demodulation Pre-Emphasis and De-emphasis. Capture effect.	1	Online	CO2
12	UNIT-3	Transmitters and Receivers: Classification of transmitters. High level and low-level AM transmitters.	1	Online	CO3
13		FM transmitters. Principle of operation of Tuned radio frequency and super heterodyne receivers.	2	Online	CO3
14		Selection of RF amplifier. Choice of Intermediate frequency.	1	Online	CO3
15		Image frequency and its rejection ratio Receiver characteristics.	1	Online	CO3
16		Double spotting, Tracking and alignment, automatic Gain Control.	1	Online	CO3
17	UNIT-4	Noise sources and types. Atmospheric noise shot noise and thermal noise. Noise temperature. Noise in two-port network.	2	Online	CO3
18		Noise figure, equivalent noise temperature and noise bandwidth.	2	Online	CO3
19		Noise figure and equivalent noise temperature of cascade stages.	1	Online	CO4
20		Narrow band noise representation. S/N ratio.	1	Online	CO4

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21		Figure of merit calculations in AM.	1	Online	CO4
22		DSB-SC, SSB and FM systems.	2	Online	CO4
23	UNIT-5	Analog pulse modulation schemes: Sampling of continuous time signals. Sampling of low pass and band pass signals.	1	Online	CO5
24		Types of sampling. Pulse amplitude modulation generation and demodulation.	1	Online	CO5
25		Pulse time modulation schemes.	1	Online	CO5
26		PWM and PPM generation and detection.	1	Online	CO5
	Total No. Of Periods		34		

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Road No.3, Banjara Hills, Hyderabad – 500034
Electrical Engineering Department

TEACHING SCHEDULE

Subject: Digital System Design with Verilog HDL **Subject Code: PC506EC**

Academic Year: 2020-2021 **Semester: V**

Name of the Faculty: Dr. Kaleem Fatima **B.E. 3/4 ECE -B A**

S. No.	Unit	Topic	Planned No. of Classes	Methodology
1	I	Introduction to HDL	2	Board and PPTs
2		Overview of Digital Design with Verilog HDL –Typical design flow, Importance and comparison. Basic Concepts- Lexical convention Data types-Nets,Regs,Vectors,Araays etc System tasks and Compiler Directives	4	Board and PPTs
3		Gate level modeling Hierarchical structural Data flow modeling - Examples Timing and Delays and PLI	2	Board and PPTs
4		Design of Arithmetic Circuits - Using Vectored Signals. Using a Generic Specification, Nets and Variables. Arithmetic Assignment Statements. Representation of Numbers in Verilog Code	4	PPTs
5		Gate level and hierarchical modeling of adders and Comparators. Verification: Functional verification, simulation types, Design of stimulus block - Examples	2	Board and PPTs
6	II	Switch Level Modeling with examples, design of inverter, logic gates and MUX designs	2	Board
7		Behavioral Modeling: Structured Procedures, Procedural Assignments, Timing Controls, and Conditional Statements – Examples using If, If else, case and for statements.	2	Board
8		Timing Controls, and Conditional Statements, Multi-way branching, Loops, Sequential and Parallel blocks, Generate Blocks, Tasks and Functions.	2	Board and PPTs
9		Dataflow modeling and behavioral modeling of MSI Combinational Logic modules – Example Decoder, Encoder and MUX. Static timing analysis, Logic synthesis and Register Transfer Level (RTL) Code with example.	4	Board and PPTs
10	III	Behavioral and dataflow modeling of sequential logic modules: Latches, Flip Flops, counters and shift registers.	2	Board
11		Analysis and synthesis of synchronous sequential circuits with example.	2	Board

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12		Mealy and Moore FSM models for completely and incompletely specified circuits with examples	2	Board and PPTs
		State Minimization –Partitioning method Sequence detector and One-Hot Encoding with example. and Verilog implementation of sequential Circuit for above techniques.	4	Board and PPTs
13	**IV**	Algorithmic State Machines charts, Timing considerations with design example – automatic robot controller, traffic light controller etc	2	Board
14		ASMD chart for binary multiplier and their Verilog implementation	2	Board
15		Analysis of Asynchronous Sequential logic - Examples	4	Board and PPTs
16		Race conditions and hazards – Static and dynamic hazards. Design of vending machine controller-example	2	Board and PPTs
17	**V**	Introduction to ASIC's: Full-custom, standard-cell and Gate array based ASICs. SPLDs: PROM, PAL, GAL, PLA. FPGA and CPLD.	2	PPTs
19		ASIC/FPGA Design flow, CAD tools.	2	PPTs
20		Design of Combinational circuit with PLDs – PROM, PAL and PLA Examples	2	PPTs
21		Comparison, GAL Architecture and Complex PLDs, Examples	2	PPTs
Total			52	

Prescribed Text Books:

1. Samir Palnitkar, "Verilog HDL A Guide to Digital Design and Synthesis," 2nd Edition, Pearson Education, 2006.
2. M. Morris Mano, Michael D. Ciletti, "Digital Design", 4th edition, Pearson Education.
3. Michael John Sebastian Smith, *Application Specific Integrated Circuits*, Pearson Education Asia, 3rd edition 2001.
4. J. Bhasker, "A Verilog HDL Primer," 2nd Edition, BS Publications, 2001.
5. CD Victor, P. Nelson, H Troy Nagle, Bill D. Carrol and J David Irwin. *Digital Logic Circuit Analysis and Design*, PHI, 1996.
6. Charles H. Roth, *Fundamentals of Logic Design*, 5th edition, Cengage Learning 2010.

Faculty in-Charge

HEAD, ECE DEPT.

Head of Department
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MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY
Department of Electronics and Communication Engineering

TEACHING PLAN

Subject: Digital Communication
Academic Year: 2020-2021
Name of the faculty: Syed Hifazath Ali Khan
Theory class: B.E 3/4 (ECE)-VI-Semester Sec-B

Subject code: PC 601 ECE
Semester : Even
Faculty code: SHAK

S.No.	UNIT No.	Topics to be covered	No of hours	PPT/BB/ e-material	Relevant COs
1	UNIT-1	Element of Digital Communication System Advantages and Disadvantages of Digital Communication Systems over Analog Communications Systems	1	Online	CO1
2		Analog to Digital Conversion, Quantization and Encoding techniques,	1	Online	CO1
3		Application of PCM, Companding in PCM system, TDM, example of PCM system,	2	Online	CO1
4		Modulation and demodulation of DM and DPCM.	1	Online	CO1
5		Quantization noise and Slope overload error and DM, Comparison of DM and PCM.	1	Online	CO1
6		Introduction to Linear Prediction Theory with applications in DM Modulation and demodulation of ADM, SNR of PCM and DM. Vocoders, -μ law and A law	3	Online	CO1
7	UNIT-2	Uncertainty, Information and entropy. Discrete memory less channels, Probability relations in a channel,	1	Online	CO2
8		Channel capacity, Mutual information,	1	Online	CO2
9		Information rate and information capacity, Rate distortion.	1	Online	CO2
10		Priori & posteriori entropies, cascaded channels,	1	Online	CO2
11		Source coding, Shannon-Fano and Huffman coding.	2	Online	CO2
12	UNIT-3	Types of transmission errors, need for error control coding,	1	Online	CO3
13		Minimum distance of block code, error correcting and error detecting capabilities,	1	Online	CO3
14		Standard array and syndrome decoding, Hamming codes.	1	Online	CO3
15		Linear Block Codes (LBC): description of LBC, generation, Syndrome and error detection	2	Online	CO3
16		Binary cyclic codes (BCC): description of cyclic codes, encoding, decoding and error correction of cyclic codes using shift registers.	1	Online	CO3
17		BCH codes, and Convolution codes: description, encoding decoding.	1	Online	CO3
18	UNIT-4	Coherent and non-coherent ASK and PSK, FSK,	1	Online	CO3
19		Base band digital data transmission, error probability,	1	Online	CO3
20		Matched filter, correlation receiver	1	Online	CO4
21		DPSK, QPSK & its error probability	2	Online	CO4
22		Comparison of carrier modulated and base band	2	Online	CO4

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		transmissions M-array signaling schemes, Synchronization methods			
23	UNIT-5	Need for spreading a code, generation and characteristics of PN sequences	1	Online	CO5
24		Discrete sequence spread spectrum	1	Online	CO5
25		Frequency hopping spread spectrum systems and their applications.	1	Online	CO5
26		Acquisition schemes for spread spectrum receivers	1	Online	CO5
27		Tracking of FH and DS signals	1	Online	CO5
	Total No. Of Periods		34		

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MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY

ECE Department

LESSON PLAN

Academic Year: 2020-2021 **Class: B.E. VI SEMESTER (ECE-A)**

Subject: Communication Lab **Semester: EVEN**

Name of the Faculty: Mrs.G.PrasanthiSubject Code: PC 651 EC

S.No.	Name of the Experiment	Scheduled hours of Classes
1	AM generation and detection	2
2	FM generation and detection	2
3	PWM generation and detection	2
4	PCM generation and detection	2
5	ASK generation and Detection.	2
6	FSK.	2
7	Generation and Detection of PCM, Delta modulation and Digital modulation Schemes (ASK. FSK, BPSK,QPSK) by using MATLAB/Simulink/Lab-view.	2
	Lab Internal & Viva Voce	2

Total No. of Classes: 16

FACULTY INCHARGE

HEAD-ECE

23/03/2022

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Muffakhamjah College of Engineering and Technology

Banjara hills Hyderabad-500034

Department of Electronics and communication and Engineering

LESSON PLAN

Faculty Name	:	**Mohammed Muneeruddin**	**Dept**	:	**ECE**
Subject Name	:	**IOT Sensors**	**Code**	:	PC673EC
Year	:	**III**	**Semester**	:	**VI**
Degree & Branch	:	**BE(ECE)**	**Academic Year**	:	**2020-21**

Lecture number	Topics to be covered	PPT/BB/OHP /e-material	No. of Hours	Relevant COs
1	IoT-An Architectural Overview– Building an architecture	PPT	1	CO1
2	Main design principles and needed capabilities	PPT	1	CO1
3	An IoT architecture outline, standards considerations.	PPT	1	CO1
4	M2M and IoT Technology Fundamentals-	PPT	1	CO1
5	Devices and gateways,	PPT	1	CO1
6	Local and wide area networking	PPT	1	CO1
7	Data management	PPT	2	CO1
8	Business processes in IoT.	PPT	2	CO1
9	Sensors: Working principles	PPT	1	CO2
10	Different types of sensors			
11	Capacitive sensors	PPT	1	CO2
12	Resistive sensors	PPT	1	CO2
13	MEMS	PPT	1	CO2
14	Surface Acoustic wave for Temperature.			
15	Equivalent circuit of a smart sensors.	PPT	1	CO2
16	Importance of smart sensors.	PPT	1	CO2

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17	Advantages of smart sensors.	PPT	1	CO2
18	IoT Platforms	PPT	1	CO3
19	An IoT Device	PPT	1	CO3
20	Exemplary Devices: Raspberry Pi	PPT	1	CO3
21	Raspberry Pi Interfaces	PPT	1	CO3
22	Other IoT Devices: PcDuino, Beagle Bone Black	PPT	1	CO3
23	RFID-Tags,LoRa	PPT	1	CO3
24	CubieBoard, ARDUINO.	PPT	1	CO3
25	Interfacing: Design procedure	PPT	1	CO4
26	Serial, SPI Interfaces	PPT	1	CO4
27	I2C Interfaces.	PPT	1	CO4
28	Microcontroller sensor interface,	PPT	1	CO4
29	Interfacing with communication module,	PPT	1	CO4
30	Cloud Interface	PPT	1	CO4
31	Thing Speak IoT Platform	PPT	1	CO4
32	Domain specific IoTs and Case studies	PPT	1	CO5
33	Home Automation	PPT	1	CO5
34	Smart cities	PPT	1	CO5
35	Environment Applications	PPT	1	CO5
36	Energy, Agriculture	PPT	1	CO5
37	Industry	PPT	1	CO5
38	Health and Lifestyle, Logistics	PPT	1	CO5

FACULTY INCHARGE

HEAD - ECE

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MuffakhamJah College of Engineering and Technology
Department of Electronics and Communication Engineering

Teaching Schedule 2020-2021

Class & Branch: CBCS, ECE-A **Semester: VI**

Faculty: G.Prasanthi **Subject: Digital Communication(PC601EC)**

Unit	Topics	No of classes	Teaching Methodology
Unit 1 CO1	Introduction, Comparison of Analog and Digital Communication	01	PPT
	Elements of Digital Communication system	01	PPT
	Analog to Digital Conversion	01	PPT
	Quantization	01	PPT
	Encoding techniques	01	PPT
	PCM: Introduction to PCM,PCM Block diagram	01	PPT
	Derivation of SQR in PCM system	01	PPT
	Companding techniques: μ-law, A-law applications of PCM	01	PPT
	Introduction to linear prediction theory, DPCM block diagram	01	PPT
	Delta Modulation , slope overload and granular noise in DM, Derivation of SQR in DM.	01	PPT
	Advantages of ADM over DM and ADM	01	PPT
	Inter symbol Interference(ISI), eye pattern		
	Comparision of PCM,DM,DPCM and ADM		PPT
	Total no of classes	**11**	PPT
Unit 2 CO2	Uncertainty, Information and Entropy	01	PPT
	Source coding, Problems on source coding	01	PPT
	Shannon Fano coding & Huffman coding	01	PPT
	Discrete Memory less channels	01	PPT
	Probability relations in a channel, priori & posteriori entropies	02	PPT
	Cascaded channels, Mutual Information	02	PPT
	Channel Capacity, Information rate & Information Capacity	02	PPT
	Problems on information Rate	01	PPT
	Total no of classes	**11**	PPT
Unit 3	Types of Transmission errors, Need for error control coding	01	PPT
	Linear Block codes, Description and Properties of LBC	01	PPT
	Generation of LBC, problems on it	01	PPT
	Syndrome decoding of LBC, Error detection using Syndrome decoding	01	PPT

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CO3	Minimum distance of a block code, Hamming distance	01	PPT
	Error correcting and error detecting capabilities	01	PPT
	Standard array and syndrome decoding of standard array, example problems on it	01	PPT
	Binary cyclic codes (BCC), encoding : systematic and Non systematic forms	01	PPT
	Decoding of Cyclic codes using shift registers	01	PPT
	BCH codes, Convolutional codes, Description	01	PPT
	Encoding and decoding of Convolutional codes		
	Total no of classes	**10**	PPT
Unit 4 CO4	Base band digital data transmission	01	PPT
	Gaussian error probability, Matched filter,	02	PPT
	Correlation receiver	01	PPT
	Coherent and Non coherent ASK,PSK,FSK	03	PPT
	DPSK, M-ary PSK, Need for MSK modulation	01	PPT
	Comparison of Digital modulation schemes	01	PPT
	Synchronization methods	01	PPT
	Total no of classes	**10**	PPT
Unit 5 CO5	Need for spreading a code Introduction	01	PPT
	Generation of PN sequence & characteristics of PN sequence		
	Direct frequency Spread spectrum techniques(DFSS)	01	PPT
	Frequency hopping Spread spectrum(FHSS)	01	PPT
	Acquisition schemes of SS	01	PPT
	Tracking of FH and DS signals	01	PPT
	Total no of classes	**05**	PPT

Number of classes: 47

Books to be referred:

1. P. Ramakrishna Rao, "*Digital Communication*," 1/e, TMH, 2011.
2. B.P. Lathi, Zhi Ding, "*Modern Digital and Analog Communication Systems*", 4/e, Oxford University Press, 2016
3. Simon Haykin, "*Communication Systems*," 4/e, Wiley India, 2011.
4. Herbert Taub, Donald L. Shilling &GoutamSaha, "*Principles of Communication Systems*," 3/e, TMH, 2008.

FACULTY INCHARGE

HEAD - ECE

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MJCET
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Department of ECE

LESSON PLAN

Faculty Name:Afshan kaleem **Dept: ECE**

Subject Name: EMBEDDED SYSTEM ***Code: PC701EC***

Year: IV ***Semester: VII***

Degree & Branch: BE (ECE B) ***Academic Year: 2020-21***

Lecture No.	Topics to be covered	PPT/BB/ OHP/ e-material	No. of Hrs.	Relevant COs
1.	**Introduction To Embedded Systems:** Definition, Embedded Systems Vs General Computing Systems, Embedded System Components, Embedded System Characteristics	**PPT**	1	CO1
2.	Classification of Embedded Systems, Major application areas of Embedded Systems, Basic Structure of Embedded System	**PPT**	1	CO1
3.	Processor embedded into a System, Processor selection for an embedded system	**PPT**	1	CO1
4.	Embedded Hardware Units and Devices in a System	**PPT**	1	CO1
5.	Embedded Software in a System	**PPT**	1	CO1
6.	Embedded System-On-Chip(SOC	**PPT**	1	CO1
7.	Characteristics and quality attributes of embedded systems	**PPT**	1	CO1
8.	Design Process in Embedded System	**PPT**	1	CO1
9.	Design metrics and challenges in Embedded System Design	**PPT**	1	CO1
10.	**The ARM Processor Fundamentals and Instruction Set:** RISC concepts with ARM Processors, ARM Design Philosophy	**PPT**	2	CO2
11.	ARM Core data flow model, Registers, Current Program Status Register features	**PPT**	2	CO2
12.	ARM pipeline features: ARM 7 Vs ARM 9	**PPT**	1	CO2
13.	Exceptions, Interrupts and Vector Table, conditional execution	**PPT**	1	CO2
14.	ARM Core Extensions	**PPT**	1	CO2
15.	Architecture Revisions, ARM Processor Families	**PPT**	1	CO2
16.	Introduction to ARM Instruction Set: Data Processing instructions	**PPT**	1	CO2
17.	Branch instructions, Data transfer instructions	**PPT**	2	CO2
18.	Software interrupt instruction	**PPT**	1	CO2
19.	Program Status Register instructions	**PPT**	1	CO2
20.	**Serial Bus Communication Protocols:** I2C Protocol	**PPT**	1	CO3
21.	CAN, USB Protocols	**PPT**	2	CO3
22.	FireWIRE-1394 Bus Standard, Advanced Serial High Speed Buses	**PPT**	1	CO3

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23.	Parallel Bus Device Protocols: ISA, PCI, PCI-X	**PPT**	1	CO3
24.	ARM Bus, Advanced Parallel High Speed Buses	**PPT**	1	CO3
25.	Internet Enabled Systems- Network Protocols: HTTP, TCP/IP, Ethernet	**PPT**	1	CO3
26.	**Embedded Software Development Process and Tools:** Embedded System Design and Co-Design issues in System development process	**PPT**	1	CO4
27.	Design Cycle in the development phase for an Embedded System	**PPT**	1	CO4
28.	Embedded Software development process and Tools	**PPT**	1	CO4
29.	Host and Target Machines	**PPT**	1	CO4
30.	Linkers/Locators for Embedded Software	**PPT**	1	CO4
31.	Getting Embedded Software into the Target System	**PPT**	1	CO4
32.	**Testing Simulation and Debugging Techniques and Tools:** Integration and Testing of embedded hardware, Testing methods	**PPT**	1	CO5
33.	Debugging techniques	**PPT**	1	CO5
34.	Laboratory Tools and target hardware debugging	**PPT**	1	CO5
35.	Logic Analyzer: Modes of operation	**PPT**	1	CO5
36.	Simulator, Emulator and In-circuit emulator (ICE) IDE, RTOS characteristics	**PPT**	1	CO5
37.	IDE, RTOS characteristics	**PPT**	1	CO5
38.	Case Study: Embedded Systems design for Automatic Vending Machine and Digital camera design	**PPT**	1	CO5
39	Question Bank Revision	**PPT**	1	CO5

Faculty Incharge

Head-ECED

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Muffakham Jah College of Engg. & Tech.
Road No: 3, Banjara Hills, Hyderabad-34

MUFFAKHAM JAH COLLEGE OF ENGINEERING & TECHNOLOGY

Department of Electronics and Communication Engineering

TEACHING PLAN

Subject: **Industrial Administration and Financial Management** Subject code:

Academic Year: 2020-2021

Semester: Even

Name of the faculty: Dr. G. Prasasanna Kumar

Faculty code: Dr. GPK

Theory class: B.E4/4(ECE)-~~IV~~ VII-Semester Sec-A

S.No.	UNIT No.	Topics to be covered	No of hours	PPT/BB/ e-material	Relevant COs
1	UNIT-1	Industrial Organization: Types of various business organizations	1	Online	CO1
2		Organization Structure and their relative merits and demerits.	1	Online	CO1
3		Functions of Management	1	Online	CO1
4		Plant Location and layouts: Factors affecting the location of plant and layout	1	Online	CO1
5		Types of layout and their merits and demerits	1	Online	CO1
6		Industrial Organisation:Types of various business organizations	1	Online	CO1
17	UNIT-2	Work Study: Definitions, Objectives of method study and time study.	1	Online	CO2
18		Steps in conducting method study	1	Online	CO2
19		Symbols and charts used in method study	1	Online	CO2
20		Principles of Motion Economy	1	Online	CO2
21		Calculation of Standard time by Time Study and Work sampling	1	Online	CO2
22		Performance Rating Factor--Types of rating	1	Online	CO2
23		Job Evaluation and Performance Appraisal	2	Online	CO2
24		Wages, Incentives , bonus, wage payment plans	1	Online	CO2
28	UNIT-3	Inspection and Quality Control: Types and Objectives of Inspection	4	Online	CO3
29		S.Q.C , its principles.			
30		Quality control by chart and sampling plans.			
31		Quality Circles	1	Online	CO3
32		Introduction to ISO	1	Online	CO3
37	UNIT-4	Optimization: Introduction to Linear Programming and its graphical solutions	2	Online	CO3
38		Assignment problems			
39		Project Management: Introduction to PERT and CPM. Determination of critical path.	2	Online	CO4
40		Materials M.anagement : Classification of materials. Materials Planning	2	Online	CO4
41		Duties of Purchase Manager	2	Online	CO4
42		Determination of economic order quantity	2	Online	CO4
43		Types of materials purchase	1	Online	CO4
46		Cost Accounting: Elements of cost. Various Costs. Types of Overheads	2	Online	CO5

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47	UNIT-5	Break-Even analysis and its application	1	Online	CO5
48		Depreciation: Method of calculating depreciation fund	2	Online	CO5
49		Nature of Financial Management	1	Online	CO5
50		Time Value of Money	1	Online	CO5
51		Techniques of capital Budgeting and methods	1	Online	CO5
52		Cost of Capital, Financial Leverage	1	Online	CO5
		Total No. Of Periods 42			

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DEPARTMENT OF ENGLISH (MJCET)
HUMAN VALUES & PROFESSIONAL ETHICS- TEACHING SCHEDULE (2020-21)
BE IV/IV (ECE A & B) SEM VII

Name of the Teacher : Gitasri Mukherjee
Branch:

Sl No.	Topic	No. of Classes Planned	PPT/ e-material	Date of the Session
	Unit-I (CO1)			
1	Course Introduction - Need, basic Guidelines, Content and Process for Value Education: Understanding the need, basic guidelines, content and process for Value Education.	1	Online	
2	Self-Exploration - what is it? Its content and process; 'Natural Acceptance' and Experiential Validation - as the mechanism for self-exploration. Continuous Happiness and Prosperity - A look at basic Human Aspirations	2	Online	
3	Right understanding, Relationship and Physical Facilities - the basic requirements for fulfillment of aspirations of every human being with their correct priority.	1	Online	
4	Understanding Happiness and Prosperity correctly - A critical appraisal of the current scenario. Method to fulfill the above human aspirations: understanding and living in harmony at various levels.	2	Online	
5	Revision	1		
	Unit-II (CO2)			
6	Understanding Harmony in the Human Being - Harmony in Myself! : Understanding human being as a co-existence of the sentient 'I' and the material 'Body'.	1	Online	
7	Understanding the needs of Self ('I') and 'Body' - Sukh and Suvidha. Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer). Understanding the harmony of I with the Body: Sanyam and Swasthya;	2	Online	
8	Correct appraisal of Physical needs, meaning of Prosperity in detail. Programs to ensure Sanyam and Swasthya	1	Online	
9	Revision	1	Online	
	CLASS TEST I			
	Unit-III (CO3)			
10	Understanding Harmony in the Family and Society - Harmony in Human - Human Relationship: Understanding harmony in the Family the basic unit of human interaction.	2	Online	
11	Understanding values in human - human relationship; meaning of justice and program for its fulfillment;	1	Online	
12	Trust and Respect as the foundational values of relationship.Difference between intention and competence. Difference between respect and differentiation; the other salient values in relationship. Understanding the harmony in the society (society being an extension of family)	2	Online	
13	Revision	1	Online	
	Unit-IV (CO4)			
14	Understanding Harmony in the nature and Existence - Whole existence as Coexistence: Understanding the harmony in the Nature.	1	Online	
15	Interconnectedness and mutual fulfillment among the four orders of nature - recyclability and self-regulation in nature. Understanding Existence as Co-existence of mutually interacting units in all-pervasive space.	2	Online	
16	Holistic perception of harmony at all levels of existence.	1	Online	
17	Revision	1	Online	
	Unit-V (CO5)			
18	Implications of the above Holistic Understanding of Harmony on Professional Ethics: Natural acceptance of human values, Definitiveness of Ethical Human Conduct,	2	Online	
19	Basic for Humanistic Education, Humanistic Constitution and Humanistic Universal Order.	1	Online	
20	Revision	1	Online	
	CLASS TEST II			
	Total no of classes Planned 27			

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Suggested Readings:

1. R. R. Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in HumanValues and Professional Ethics.
2. Prof. K. V. Subba Raju, 2013, Success Secrets for Engineering Students, SmartStudent Publications, 3rd Edition.Ivan Illich, 1974, Energy & Equity. The Trinity Press, Worcester, and HarperCollins, USA
3. E. F. Schumancher, 1973, Small is Beautiful: a study of economics as if peoplemattered. Blond & Briggs, Britain.
4. A Nagraj, 1998 Jeevan Vidya ek Parichay, Divya Path Sansthan, Amarkantak.Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986
5. Smriti Shristava, "Human Values and Professional Ethics", Katson Publications,2007

Gitasri Mukherjee

MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY

Department of Electronics and Communication Engineering

LESSON PLAN (Academic year 2020-21)

Subject:	Microwave Techniques	Subject code:	PC 703 EC
Faculty:	Dr.Ayesha Naaz, Prof, ECED	Year and semester:	BE 4/4 I semester Sec-A&B

UNIT	TOPIC COVERED	NO.OF CLASSES	PPT/BB/OHP/Material	Relevant CO's
I	Introduction of Microwave Engineering, Advantages and Applications, Difference between transmission lines and wave guides	2	PPT / e-material	CO1
	Guided Waves: Propagation of TE, TM and TEM waves between parallel planes.	2	PPT / e-material	CO1
	Velocity of propagation, wave impedance	2	PPT / e-material	CO1
	Attenuation in parallel plane guides.	2	PPT / e-material	CO1
	Transmission line model of Parallel plates, power calculation	2	PPT / e-material	CO1
III	Waveguides: TE in rectangular waveguides, why TEM does not exist in wave guide	2	PPT / e-material	CO2
	TM waves in rectangular waveguides	2	PPT / e-material	CO2
	TE and TM waves in circular waveguides,	2	PPT / e-material	CO2
	Wave Impedance, Characteristic Wave Impedance	2	PPT / e-material	CO2
	Attenuation and Q of waveguides.	2	PPT / e-material	CO2
	Cavity resonators, resonant frequency and Q, Applications of cavity resonator.	2	PPT / e-material	CO2
III	Microwave Circuits and Components: Concept of Microwave circuit, Normalized voltage and current,	2	PPT / e-material	CO3
	Introduction to scattering parameters and their properties, S parameters for reciprocal and Non-reciprocal components	2	PPT / e-material	CO3
	S parameters for reciprocal and Non-reciprocal components- Magic Tee, Directional coupler	2	PPT / e-material	CO3
	S parameters for E and H Plane Tees and their properties, Attenuators, Phase Shifters, Isolators and circulators.	2	PPT / e-material	CO3
	S parameters for Attenuators, Phase Shifters, Isolators and circulators.	2	PPT / e-material	CO3
IV	Microwave Tubes: High frequency limitations of conventional tubes,	2	PPT / e-material	CO4
	Bunching and velocity modulation, mathematical theory of bunching, principles and operation of two cavity klystron	2	PPT / e-material	CO4
	Principles and operation of multi cavity and Reflex Klystron.	2	PPT / e-material	CO4
	Theory of crossed field interaction; Principles and operation of magnetrons	2	PPT / e-material	CO4
	Principle and operation of BWO, TWT and Cross Field amplifiers	2	PPT / e-material	CO4
V	Microwave Solid State Devices: Principles of operation, characteristics and applications of Varactor, PIN diode	2	PPT / e-material	CO5
	Principles of operation, characteristics and applications of GUNN diode and IMPATT diode.	2	PPT / e-material	CO5
	Elements of strip lines, microstrip lines	2	PPT / e-material	CO5
	Elements of slot lines and fin–lines	2	PPT / e-material	CO5

Faculty Incharge

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Head-ECED

Head of Department
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TEACHING SCHEDULE

Subject: Mobile and Cellular Communication (PE-II)
Academic Year: 2020-2021
Name of the faculty: Mrs. Nazeer Unnisa
Theory class: B.E 4/4 (ECE)-VII-Semester (A &B)

Subject code: PE 721EC
Semester : Odd
Faculty code: NU

Lecture No.	UNIT No.	Topics to be covered	No of hours	PPT/BB/ e-material	Relevant COs
1	UNIT-1	Basic cellular system & its operation	1	PPT	CO1
2		Frequency reuse and channel assignment strategies	1	PPT	CO1
3		Hand-Off Process, Factors influencing handoff, Handoff in different generations	2	PPT	CO1
4		Interference and system capacity	1	PPT	CO1
5		Crosstalk, enhancing capacity and cell coverage, trunk radio system	2	PPT	CO1
6		Manual & Automatic Electronic exchange	1	PPT	CO1
7	UNIT-2	Introduction to Free space propagation model	1	PPT	CO2
8		Three basic propagation mechanisms	1	PPT	CO2
9		Practical link budget design using path loss model	1	PPT	CO2
10		Outdoor propagation models	2	PPT	CO2
11		Indoor propagation model	2	PPT	CO2
12		Small scale multipath propagation, parameters of mobile multipath channels, types of small scale fading	2	PPT	CO2
13		Cell Tower/ Mobile antenna radiation pattern	1	PPT	CO2
14	UNIT-3	Introduction to Multiple access techniques Features of FDMA and TDMA	2	PPT	CO3
15		Features of SSMA and FHMA	1	PPT	CO3
16		Features of CDMA and SDMA	1	PPT	CO3
17		Packet radio protocols and CSMA	1	PPT	CO3
18		Reservation protocols time frame details	1	PPT	CO3
19	UNIT-4	Introduction to GSM services and features	1	PPT	CO4
20		GSM system architecture , radio sub system	2	PPT	CO4
21		Channel types, frame structure and signal processing	2	PPT	CO4
22		Digital cellular standard IS-95, Forward Channel, Reverse Channel	2	PPT	CO4
23	UNIT-5	Comparison of 1G, 2G and 2.5G technology	1	PPT	CO5
24		Feature of 3G and 4G	1	PPT	CO5
25		WLAN and Blue tooth	1	PPT	CO5
26		PAN, trends in radio and personal communication	1	PPT	CO5
27		UMTS system architecture and Radio Interface	1	PPT	CO5
	Total No. Of Periods 36				

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MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRONICS & COMMUNICATION

SUBJECT :Electronic Measurements and Instrumentation SUBJECT CODE: PE773EC

ACADEMIC YEAR : 2020-2021 SEMESTER: B.E. VII Sem (ECE-A & B) (P.E-II)

Lecture No.	Topics To Be Covered	PPT/Board/e-Material	No. Of Hrs.	Relevant Cos
1.	Introduction to Electronic Instrumentation	PPT	1	CO1
2.	Accuracy, Precision, Resolution and Sensitivity	PPT	1	CO1
3.	Errors, Sources of errors, Classification	PPT	2	CO1
4.	Standards of measurement	PPT	1	CO1
5.	Classification of standards	PPT	1	CO1
6.	IEEE standards	PPT	1	CO1
7.	Introduction to Transducers	PPT	1	CO2
8.	Classification of Transducers, factors for selection of a transducer	Open Board	1	CO2
9.	Transducers for measurement of velocity, acceleration	Open Board	1	CO2
10.	Passive electrical transducers - Strain gauges and strain measurement	Open Board	1	CO2
11.	Measurement of displacement using LVDT, displacement	PPT	1	CO2
12.	Capacitive transducer and thickness measurement	Open Board	1	CO2
13.	Active electrical transducers - piezoelectric, photo conductive transducers	Open Board	1	CO2
14.	Photo voltaic and photo emissive transducers	Open Board	1	CO2
15.	Define sound, Characteristics of sound, Sound pressure level, Sound power level, Sound intensity level	Open Board	1	CO3
16.	Addition of Sound pressure levels, Variation of Intensity of sound with distance, Loudness	Open Board	1	CO3
17.	Sound level meter, Sound intensity measurement	Open Board	1	CO3
18.	Microphones, factors for selection of microphones and their types such as Condenser type, Electret type, Piezo-electric type, Electromagnetic type microphones	Open Board	1	CO3
19.	Temperature measurement, Electrical methods of temperature measurement	e-material/ Open board	1	CO3
20.	Resistance wire thermometers, Factors for selection of resistance materials, Construction & it's working	Open Board	2	CO3
21.	Semiconductor thermometers	Open Board	1	CO3
22.	Thermocouples	Open Board	1	CO3
23.	Block diagram, specification and design considerations of different types of DVMs such as Ramp type DVM, Integrating type DVM, Successive approximation type DVM	Open Board/PPT	2	CO4
24.	Spectrum analyzers such as Swept TRF Spectrum analyzer	PPT	1	CO4
25.	Swept super heterodyne spectrum analyzer, Digital spectrum analyzer, wave analyzer	PPT	1	CO4
26.	IEEE 488 or GPIB interface and protocol	PPT	1	CO4
27.	Oscilloscopes, Delayed time base oscilloscope	e-material/ PPT	1	CO4
28.	Digital storage oscilloscope, Mixed signal oscilloscope	e-material/ PPT	1	CO4
29.	Introduction to virtual instrumentation	PPT	1	CO4
30.	SCADA, Data acquisition system block diagram	PPT	1	CO4
31.	Biomedical instrumentation: Human physiological systems and related concepts	PPT	1	CO5
32.	Bio-potential electrodes	PPT	1	CO5
33.	Bio-potential recorders - ECG, EEG, EMG	PPT	1	CO5
34.	X-Ray machines and CT scanners	PPT	1	CO5
35.	MRI, Ultrasonic imaging systems	PPT	1	CO5

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Faculty Incharge

HEAD, ECED

MJCET
Banjara Hills, Hyderabad – 500034

Department of ECE

LESSON PLAN

Faculty Name: Mr. J.K.Nag **Dept: ECE**

Subject Name: EMBEDDED SYSTEM ***Code: PC701EC***

Year: IV ***Semester: VII***

Degree & Branch: BE (ECE A) ***Academic Year: 2020-21***

Lecture No.	Topics to be covered	PPT/BB/ OHP/ e-material	No. of Hrs.	Relevant COs
1.	**Introduction To Embedded Systems:** Definition, Embedded Systems Vs General Computing Systems, Embedded System Components, Embedded System Characteristics	**PPT**	1	CO1
2.	Classification of Embedded Systems, Major application areas of Embedded Systems, Basic Structure of Embedded System	**PPT**	1	CO1
3.	Processor embedded into a System, Processor selection for an embedded system	**PPT**	1	CO1
4.	Embedded Hardware Units and Devices in a System	**PPT**	1	CO1
5.	Embedded Software in a System	**PPT**	1	CO1
6.	Embedded System-On-Chip(SOC	**PPT**	1	CO1
7.	Characteristics and quality attributes of embedded systems	**PPT**	1	CO1
8.	Design Process in Embedded System	**PPT**	1	CO1
9.	Design metrics and challenges in Embedded System Design	**PPT**	1	CO1
10.	**The ARM Processor Fundamentals and Instruction Set:** RISC concepts with ARM Processors, ARM Design Philosophy	**PPT**	2	CO2
11.	ARM Core data flow model, Registers, Current Program Status Register features	**PPT**	2	CO2
12.	ARM pipeline features: ARM 7 Vs ARM 9	**PPT**	1	CO2
13.	Exceptions, Interrupts and Vector Table, conditional execution	**PPT**	1	CO2
14.	ARM Core Extensions	**PPT**	1	CO2
15.	Architecture Revisions, ARM Processor Families	**PPT**	1	CO2
16.	Introduction to ARM Instruction Set: Data Processing instructions	**PPT**	1	CO2
17.	Branch instructions, Data transfer instructions	**PPT**	2	CO2
18.	Software interrupt instruction	**PPT**	1	CO2
19.	Program Status Register instructions	**PPT**	1	CO2
20.	**Serial Bus Communication Protocols:** I2C Protocol	**PPT**	1	CO3
21.	CAN, USB Protocols	**PPT**	2	CO3
22.	FireWIRE-1394 Bus Standard, Advanced Serial High Speed Buses	**PPT**	1	CO3

23.	Parallel Bus Device Protocols: ISA, PCI, PCI-X	**PPT**	1	CO3
24.	ARM Bus, Advanced Parallel High Speed Buses	**PPT**	1	CO3
25.	Internet Enabled Systems- Network Protocols: HTTP, TCP/IP, Ethernet	**PPT**	1	CO3
26.	**Embedded Software Development Process and Tools:** Embedded System Design and Co-Design issues in System development process	**PPT**	1	CO4
27.	Design Cycle in the development phase for an Embedded System	**PPT**	1	CO4
28.	Embedded Software development process and Tools	**PPT**	1	CO4
29.	Host and Target Machines	**PPT**	1	CO4
30.	Linkers/Locators for Embedded Software	**PPT**	1	CO4
31.	Getting Embedded Software into the Target System	**PPT**	1	CO4
32.	**Testing Simulation and Debugging Techniques and Tools:** Integration and Testing of embedded hardware, Testing methods	**PPT**	1	CO5
33.	Debugging techniques	**PPT**	1	CO5
34.	Laboratory Tools and target hardware debugging	**PPT**	1	CO5
35.	Logic Analyzer: Modes of operation	**PPT**	1	CO5
36.	Simulator, Emulator and In-circuit emulator (ICE) IDE, RTOS characteristics	**PPT**	1	CO5
37.	IDE, RTOS characteristics	**PPT**	1	CO5
38.	Case Study: Embedded Systems design for Automatic Vending Machine and Digital camera design	**PPT**	1	CO5
39	Question Bank Revision	**PPT**	1	CO5

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MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY

Department of Electronics and Communication Engineering

SUBJECT : VLSI DESIGN **SUBJECT CODE : PC702EC**

ACADEMIC YEAR : 2020-2021 **YEAR – SEM: B.E 4/4 ECE VII SEM A & B Sec**

NAME OF THE FACULTY : M.A.RAHEEM **FACULTY CODE: MAR**

UNIT	NAME OF THE TOPIC	NO. OF HOURS	REMARKS	
I	Introduction to IC Technology, MOS, PMOS, NMOS, CMOS & BiCMOS technologies-Fabrication Process.	2	CHALK BOARD	CO 1
	Basic MOS Transistor - action: Enhancement and Depletion Modes.Basic electrical properties of MOS, Threshold voltage and Body Effect.	4+2	CHALK BOARD	CO 1
	Design of MOS inverters with different loads, Basic Logic Gates with CMOS: INVERTER, NAND, NOR, AOI and OAI gates.	2	CHALK BOARD	CO 1
	Transmission gate logic circuits, Bi-CMOS inverter	2 Hours(10)+4	CHALK BOARD/PPT	CO 1
II	VLSI Design Flow MOS and CMOS circuit Design Process: MOS Layers,.	4	CHALK BOARD	CO 2
	Stick diagrams, Lambda based Design rules and Layout diagrams	4	CHALK BOARD	CO 2
	Basic Circuit Concepts: Sheet Resistance, Area Capacitance and Delay calculation Calculations – RC Delays	4 Hours(12)	CHALK BOARD	CO 2
	Scaling of MOS circuits, Limitations of Scaling		CHALK BOARD	CO 2
III	Combinational Logic: Manchester, Carry select and Carry Skip adders, Crossbar and barrel shifters, Multiplexer.	4	CHALK BOARD	CO 3
	Multipliers: Booth, Baugh-Woolley Sequential Logic: Design of Dynamic Register Element, 3T, 1T Dynamic RAM Cell, 6T Static RAM Cell	4	CHALK BOARD/PPT	CO 3
	D flip flop using Transmission gates. NOR and NAND based ROM Memory Design.	4 Hours(12)	CHALK BOARD PPT	CO 3
IV	Behavior of Bi-stable elements, SR Latch, Clocked Latch and Flip-flop circuits, CMOS D latch and Edge triggered Flip flops	2	CHALK BOARD	CO 4
	CMOS Testing, Need for testing, Test Principles, Design Strategies for test, Chip level Test Techniques,	4	CHALK BOARD	CO 4
	System-level Test Techniques, Layout Design for improved Testability.	4 Hours (10)	CHALK BOARD PPT	CO 4
V	Analog VLSI Design: Small Signal Model of MOSFETs, Simple CMOS current mirror	2	CHALK BOARD	CO 5
	Common source amplifier, source follower, common gate amplifier,	3	CHALK BOARD	CO 5
	Cascode amplifiers. Source-degenerated current mirror, cascode current mirror, Wilson current mirror	3 Hours(8)	CHALK BOARD PPT	CO 5
Total No. of Lecture Hours Planned		52+6		

Suggested Reading:

1. David A Hodges, Horace G Jackson Resve A Saleg Analysis and Design of Digital Integrated circuits, McGraw Hill Companies 3rd edition, 2006.
2. Jan M Rabaey, A Chandrakasan, Borvioje N, Digital Integrated Circuits Design Perspective, 2nd edition, PHI, 2005.
3. Wayne Wolf, Modern VLSI Design, 4th edition, Pearson Education, 2009.
4. Kamran Eshraghian, Douglas A. Pucknell, and Sholeh Eshraghian, "Essentials of VLSI circuits and systems", PHI, 2011.
5. John P. Uyemura, "Introduction to VLSI Circuits and Systems", Wiley India Pvt. Ltd., 2011.

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FACULTY INCHARGE HEAD - ECE

MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY
SUBJECT WISE LOAD ALLOCATION (2020-21)
AICTE MODEL CURRICULUM
B.E. VII SEM
Department of English

Sl.no	Name of the faculty	Subject (Theory)	Subject Code	Section
3.	Ms Ghazala Anjum	Gender Sensitization	MC901EG	Civil –A
5.	Dr.Gitasri Mukherjee	Gender Sensitization	MC901EG	Civil –B

Dr.Shabana Thayniath

Assoc –Prof & Coordinator, Dept. of English

Dr. Shabana Thayniath
B.Ed., M.A., PGTE, M.Phil., Ph.D.
Incharge of English Section
MJCET

23/03/2022

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MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY

Department of Electronics and Communication Engineering

LESSON PLAN (Academic year 2020-21)

Subject:	Global Navigational Satellite Systems	Subject code:	PE832EC
Faculty:	Dr.Ayesha Naaz, Prof, ECED	Year and semester:	BE 4/4 II semester, Sec-A&B

UNIT	TOPIC COVERED	NO.OF CLASSES	PPT/BB/OHP/Material	Relevant CO's
I	Introduction ,GPS fundamentals	2	PPT / e-material	CO1
	GPS Constellation, Principle of Operation, GPS Orbits	2	PPT / e-material	CO1
	Orbit Mechanics and Satellite position determination, Time references	2	PPT / e-material	CO1
	Geometric Dilution of precision: GDOP, VDOP, PDOP	2	PPT / e-material	CO1
	GDOP, VDOP, PDOP continued	2	PPT / e-material	CO1
II	Introduction to coordinate systems	2	PPT / e-material	CO2
	Geometry of ellipsoid, geodetic reference system , Geoids, Ellipsoids and regional datum	2	PPT / e-material	CO2
	WGS-84 , IGS ECI,ECEF	2	PPT / e-material	CO2
	Various error sources in GPS: Satellite and receiver clock errors	2	PPT / e-material	CO2
	Ephemeris errors, atmospheric errors	2	PPT / e-material	CO2
	Receiver measurement noise and UERE	2	PPT / e-material	CO2
III	GPS measurement :GPS signal structure	2	PPT / e-material	CO3
	C/A and P code and carrier phase measurement	2	PPT / e-material	CO3
	Position estimation and pseudo range measurement	2	PPT / e-material	CO3
	Spoofing and anti spoofing	2	PPT / e-material	CO3
	GPS navigation, observation data formats	2	PPT / e-material	CO3
IV	GPS Augmentation Systems: Principle of DGPS	2	PPT / e-material	CO4
	Types of GDPS: LADPS, WADGPS	2	PPT / e-material	CO4
	Satellite based Augmentation System: WAAS,GAGAN	2	PPT / e-material	CO4
	Ground based Augmentation System: LAAS	2	PPT / e-material	CO4
V	GPS Applications: Surveying Mapping marine	2	PPT / e-material	CO5
	Air and land navigation, Military and space Applications	2	PPT / e-material	CO5
	GPS Integration with GIS, INS ,Pseudolite and Cellular	2	PPT / e-material	CO5
	New satellite Navigation system: GLONASS,Galileo	2	PPT / e-material	CO5

Faculty Incharge

23/03/2022

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Banjara Hills, Road No.3,
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Head-ECED

MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY

Department of Electronics and Communication Engineering

SUBJECT :NEURAL NETWORKS **SUBJECT CODE** : PC777EC
ACADEMIC YEAR : 2020-2021 **YEAR – SEM:** B.E 4/4 ECEVIII SEM SEC A
NAME OF THE FACULTY : M MD SABIR HUSSAIN **FACULTY CODE:** SH

UNIT	NAME OF THE TOPIC	NO. OF HOURS	REMARKS	
I	Introduction to Neural Networks, Description of Biological Neuron	2	CHALK BOARD	CO 1
	Mathematical model of Artificial Neural Network, Classification of Neural Networks.	4+2	CHALK BOARD	CO 1
	Different Neuron models: McCulloch-Pitts Neuron model, Perceptron Neuron model	2	CHALK BOARD	CO 1
	ADALINE Neuron model, Basic learning laws	2 Hours(10)+4	CHALK BOARD/PPT	CO 1
II	**Activation and Synaptic dynamics of Neural Networks**: Additive	4	CHALK BOARD	CO 2
	Shunting and Stochastic activation models,	4	CHALK BOARD	CO 2
	Distinction between Activation and Synaptic dynamics models	4 Hours(12)	CHALK BOARD	CO 2
	Requirements of learning laws, Recall in Neural Networks.		CHALK BOARD	CO 2
III	**Pattern Recognition Tasks**: Pattern association, pattern storage (LTM & STM)	4	CHALK BOARD	CO 3
	Pattern clustering and feature mapping, Neural Network Memory:	4	CHALK BOARD/PPT	CO 3
	Auto Associative Memory, Hetero Associative Memory, Bidirectional Associative Memory.	4 Hours(12)	CHALK BOARD PPT	CO 3
IV	**Feed Forward Neural Networks:** Single layer &Multi layer Neural Networks	2	CHALK BOARD	CO 4
	, Peceptron Neural Networks solution of XoR problem, Perceptron Convergence Theorem,	4	CHALK BOARD	CO 4
	Back Propagation Neural Networks, its features, limitations & extensions, Kohonen Self-Organizing Networks & its applications	4 Hours (10)	CHALK BOARD PPT	CO 4
V	**Feedback Neural networks**: Hopfield network,	2	CHALK BOARD	CO 5
	capacity and energy analysis of Hopfield Neural Network & its applications, Radial Basis Function Networks	3	CHALK BOARD	CO 5
	RBN its training algorithm & applications, Boltzmann machine, Boltzman learning law.	3 Hours(8)	CHALK BOARD PPT	CO 5
Total No. of Lecture Hours Planned		52+6		

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Suggested Reading:

1. B. Yeganaranarana, *Artificial Neural Networks*, Prentice Hall, New Delhi, 2007.
2. J.A.Freeman and D.M.Skapura, *Neural Networks Algorithms, Applications and Programming Techniques*, Addison Wesley, New York, 1999.
3. Simon Haykin, *Neural Networks (A Comprehensive Foundation)*, McMillan College Publishing Company, New York, 1994.
4. S.N. Sivanandam&M.Paul Raj, *Introduction to Artificial Neural Networks*, Vikas Publishing House Pvt Limited, 2009.
5. Richard O.Duda, Peter E Heart, David G.Stork, *Pattern Classification*, John Wiley & Sons 2002

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HEAD - ECE

MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY
Department of Electronics and Communication Engineering

SUBJECT :NEURAL NETWORKSSUBJECT CODE : PC777EC
ACADEMIC YEAR : 2020-2021 **YEAR – SEM: B.E 4/4 ECEVIII SEMA& BSec**
NAME OF THE FACULTY : M.A.RAHEEM **FACULTY CODE: MAR**

UNIT	NAME OF THE TOPIC	NO. OF HOURS	REMARKS	
I	Introduction to Neural Networks, Description of Biological Neuron	2	CHALK BOARD	CO 1
	Mathematical model of Artificial Neural Network, Classification of Neural Networks.	4+2	CHALK BOARD	CO 1
	Different Neuron models: McCulloch-Pitts Neuron model, Perceptron Neuron model	2	CHALK BOARD	CO 1
	ADALINE Neuron model, Basic learning laws	2 Hours(10)+4	CHALK BOARD/PPT	CO 1
II	**Activation and Synaptic dynamics of Neural Networks**: Additive	4	CHALK BOARD	CO 2
	Shunting and Stochastic activation models,	4	CHALK BOARD	CO 2
	Distinction between Activation and Synaptic dynamics models	4 Hours(12)	CHALK BOARD	CO 2
	Requirements of learning laws, Recall in Neural Networks.		CHALK BOARD	CO 2
III	**Pattern Recognition Tasks**: Pattern association, pattern storage (LTM & STM)	4	CHALK BOARD	CO 3
	Pattern clustering and feature mapping, Neural Network Memory:	4	CHALK BOARD/PPT	CO 3
	Auto Associative Memory, Hetero Associative Memory, Bidirectional Associative Memory.	4 Hours(12)	CHALK BOARD PPT	CO 3
IV	**Feed Forward Neural Networks:** Single layer &Multi layer Neural Networks	2	CHALK BOARD	CO 4
	, Peceptron Neural Networks solution of XoR problem, Perceptron Convergence Theorem,	4	CHALK BOARD	CO 4
	Back Propagation Neural Networks, its features, limitations & extensions, Kohonen Self-Organizing Networks & its applications	4 Hours (10)	CHALK BOARD PPT	CO 4
V	**Feedback Neural networks**: Hopfield network,	2	CHALK BOARD	CO 5
	capacity and energy analysis of Hopfield Neural Network & its applications, Radial Basis Function Networks	3	CHALK BOARD	CO 5
	RBN its training algorithm & applications, Boltzmann machine, Boltzman learning law.	3 Hours(8)	CHALK BOARD PPT	CO 5
Total No. of Lecture Hours Planned		52+6		

Suggested Reading:

1. B. Yeganaranarana, *Artificial Neural Networks*, Prentice Hall, New Delhi, 2007.
2. J.A.Freeman and D.M.Skapura, *Neural Networks Algorithms, Applications, and Programming Techniques*, Addison Wesley, New York, 1999.
3. Simon Haykin, *Neural Networks (A Comprehensive Foundation)*, McMillan College Publishing Company, New York, 1994.
4. S.N. Sivanandam&M.Paul Raj, *Introduction to Artificial Neural Networks*, Vikas Publishing House Pvt Limited, 2009.
5. Richard O.Duda, Peter E Heart, David G.Stork, *Pattern Classification*, John Wiley & Sons 2002

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HEAD - ECE

MUFFAKHAM JAH COLLEGE OF ENGINEERING AND TECHNOLOGY
Department of Electronics and Communication Engineering

SUBJECT :NEURAL NETWORKSSUBJECT CODE : PC777EC
ACADEMIC YEAR : 2020-2021 **YEAR – SEM: B.E 4/4 ECEVIII SEMA& BSec**
NAME OF THE FACULTY : M.A.RAHEEM **FACULTY CODE: MAR**

Course Name – [redacted] **Year of Study – 2020 -- 21[redacted] Year Semester VII**	
PC702EC.1	Description of Biological Neuron, Mathematical model of Artificial Neural Network, Classification of Neural Networks, Different Neuron models: Basic learning laws Transmission gate logic circuit.
PC702EC.2	Activation and Synaptic dynamics of Neural Networks: Additive, Shunting and Stochastic activation models, Distinction between Activation and Synaptic dynamics models.
PC702EC.3	Neural Network Memory: Auto Associative Memory, Hetero Associative Memory, Bidirectional Associative Memory.
PC702EC.4	**Feed Forward Neural Networks:** Single layer &Multi layer Neural NetworksNetworks, its features, limitations & extensions,
PC702EC.5	**Feedback Neural networks**: Hopfield network, capacity and energy analysis of Hopfield Neural Network & its applications, Radial Basis Function Networks

EC 402 – VLSI Design Final Year Semester I	3	2	2	2	-	-	-	-	-	-	-	-
PC777EC.To differentiate etween Biological Neuron & Artificial Neuron and different Neuron Models	3	-	2	2	-	-	-	-	-	-	-	-
PC777EC.2 To analyze activation & synaptic dynamics of Neural Networks	3	2	2	2	-	-	-	-	-	-	-	-
PC777EC.3:.To summarize the Pattern Recognition Tasks & different Neural Network memories	3	2	2	-	-	-	-	-	-	-	-	-
PC777EC.4:.To solve Perceptron XoR problem & write different training algorithms for Feed forward Neural Networks	2	3	2	-	-	-	-	-	-	-	-	-
PC777EC.5: understand & train different Feedback NN and their applications	2	3	3	1	-	-	-	-	--	-	-	-

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