SIDDHARTH INSTITUTE OF ENGINEERING &TECHNOLOGY: PUTTUR

Department of Electronics and Communication Engineering

CAY – 2020-2021

S. No	Course Code	Subject Name
1	C111	Algebra and Calculus
2	C112	Applied Chemistry
3	C113	Communicative English
4	C114	Principles of Electrical Circuits
5	C115	Engineering Graphics
6	C116	Applied Chemistry Lab
7	C117	Communicative English Lab
8	C118	Workshop Practice Lab
9	C121	Differential Equations and Complex Analysis
10	C122	Applied Physics
11	C123	C Programming and Data Structures
12	C124	Fundamentals of Digital Computing Systems
13	C125	Electrical Technology
15	C126	Applied Physics Lab
16	C127	C Programming and Data Structures Lab
17	C128	Electrical Technology Lab
18	C211	Numerical Methods and Transforms
19	C212	Network Theory
20	C213	Electronic Devices & Circuits
21	C214	Signals, Systems and Random Processes
22	C215	Linux Programming
23	C216	Switching Theory and Logic Design lab
24	C217	Electronic Devices & Circuits Lab
25	C218	Basic Simulation Lab
26	C221	Electronic Circuit Analysis
27	C222	Analog Communications
28	C223	Linear & Digital IC Applications
29	C224	Electromagnetic Theory and Transmission Lines
30	C225	Fundamentals of Urban Planning
31	C226	Java Programming
32	C227	Electronic Circuit Analysis LAB
33	C228	Analog Communications LAB
34	C229	Linear & Digital IC Applications LAB
35	C311	Control Systems
36	C312	Electromagnetic Theory &Transmission Lines
37	C313	Electronic Measurements and Instrumentation
38	C314	Digital Signal Processing

39	C315	Digital Communications
40	C316	Electronic Measurements and Instrumentation Lab
41	C317	Digital Signal Processing Lab
42	C318	Digital Communications Lab
43	C321	Data Communication and Networking
44	C322	Antennas and Wave Propagation
45	C323	Microprocessors and Microcontrollers
46	C324	Microwave Theory and Techniques
47	C325	Elements of Road Traffic Safety
48	C326	Python Programming
49	C327	Antennas and Wave Propagation Lab
50	C328	Microcontroller and Applications Lab
51	C411	Entrepreneurship Development
52	C412	Embedded Systems
53	C413	Optical Fiber Communication
54	C414	VLSI Design
55	C415	Digital Image Processing
56	C416	Elements of Road Traffic Safety
57	C417	NON- Conventional Energy Resources
58	C418	Data Base Management System
59	C419	Microwave and optical communication Lab
60	C4110	Embedded Systems Lab
61	C421	Real time operating Systems
62	C422	Radar & Navigational Aids
63	C423	Wireless Communication &Networks
64	C424	SEMINAR
65	C425	PROJECT

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Dept. of Electronics & Communication Engg.
Siddharth Institute of Engg. & Tech.
Narayanavanam Road, Puttur-517 583.

R18

B.Tech. –ECE

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY: PUTTUR
(AUTONOMOUS)

III B.Tech – I Sem.

L	T	P	C
3	-	-	3

(18EC0415) DIGITAL COMMUNICATIONS

COURSE OBJECTIVES

The objectives of this Course:

1. *To understand the building blocks of digital communication system.*
2. *To Understand and analyze the signal flow in a digital communication system.*
3. *To Analyze error performance of a digital communication system in presence of noise and other interferences.*

COURSE OUTCOMES (COs)

On Successful Completion of this Course the Student will be able to

1. *Understand the Elements of Digital Communication System & Fundamental concepts of sampling Theorem along with different Modulation Techniques.*
2. *Describe and determine the performance of line codes and methods to mitigate inter symbol interference.*
3. *Learn the generation and detection of pass band system.*
4. *Understand the generation, detection signal space diagram, spectrum, bandwidth efficiency, and probability of error analysis of different band pass modulation techniques.*
5. *Describe and determine the performance of different error control coding schemes for the reliable transmission of digital representation of signals and information over the channel.*
6. *Apply the knowledge of digital electronics and describe the error control codes like Linear block codes, convolutional codes.*

UNIT – I

Source Coding Systems: Introduction – Elements of digital communication systems – sampling process – quantization – quantization noise – encoding – Differential encoding –Line codes – Pulse Code Modulation (PCM) – Noise considerations in PCM systems –Differential PCM (DPCM)– Delta modulation (DM) – Comparison of the above systems –Illustrative Problems

UNIT – II

Baseband Pulse Transmission: Introduction – Matched filter – Properties of Matched filter – Matched filter for rectangular pulse – Inter-symbol Interference (ISI) – Nyquist's criterion for distortion less baseband binary transmission – Correlative coding – Duo binary & Modified duo binary signaling schemes – Baseband M-array PAM transmission – Eye diagrams – Illustrative Problems

UNIT – III

Signal Space Analysis: Introduction – Geometric representation of signals – Gram-Schmidt Orthogonalization procedure – Conversion of the Continuous AWGN channel into a vector

channel – Correlation receiver – Equivalence of correlation and Matched filter receivers – Signal constellation diagram.

UNIT – IV

Pass band Data Transmission: Introduction – Pass band transmission model – Coherent digital modulation techniques-ASK, BFSK, BPSK and QPSK – Generation and detection of Coherent ASK, BPSK, BFSK– Error probabilities of BPSK, BFSK – M-array PSK – M-array
Quadrature amplitude modulation (M-array QAM) – Non-coherent orthogonal modulation schemes-Differential PSK, Binary FSK – Generation and detection of non-coherent BFSK, DPSK.

UNIT – V

Channel Coding: Introduction – Error Detection & Correction – Parity Check Codes – Code Vectors and Hamming Distance – Forward Error Correction (FEC) Systems – Automatic Retransmission Query (ARQ) Systems. Linear Block Codes–Matrix Representation of Block Codes(encoding) – Syndrome decoding. Convolutional Codes – Convolutional Encoding – Decoding Methods – Illustrative Problems

TEXTBOOKS

1. Simon Haykin, *Communication Systems,* Wiley India Edition, 4th Edition, 2011.

2. B.P. Lathi, &Zhi Ding, *Modern Digital & Analog Communication Systems*, Oxford University Press, International 4th edition, 2010

REFERENCES

1. Sam Shanmugam, *Digital and Analog Communication Systems*, John Wiley, 2005.

2. Bruce Carlson, & Paul B. Crilly, *Communication Systems – An Introduction to Signals &Noise in Electrical Communication"*, McGraw-Hill International Edition, 5th Edition, 2010

3. Bernard Sklar, *Digital CommunicationS*, Prentice-Hall PTR, 2nd edition, 2001.

4. Sanjay Sharma *Communication Systems*, Kindle Edition.

5. J.G. Proakis, M Salehi, Gerhard Bauch, *Modern Communication Systems Using MATLAB,* CENGAGE, 3rd Edition, 2013.

Signature of the HOD
HEAD
Dept. of Electronics & Communication Engg
Siddharth Institute of Engg. & Tech
Narayanavanam Road, Puttur-517 583.

SIDDHARTH GROUP OF INSTITUTIONS: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code: DC (18EC0415) **Course & Branch**: B. Tech & ECE
Year & Sem: III-B.Tech & I-Sem **Regulation:** R18

UNIT –I

Source Coding Systems

1.	a)	Define Encoding.	[L1] [CO1] [2M]
	b)	State Sampling Theorem.	[L1] [CO1] [2M]
	c)	Define Differential Encoding.	[L1] [CO1] [2M]
	d)	Define Decoding.	[L1] [CO1] [2M]
	e)	Define Filtering.	[L1] [CO1] [2M]
2.	a)	Explain the DPCM system with neat diagram?	[L2] [CO1] [5M]
	b)	What are the advantages & disadvantages of DPCM?	[L2] [CO1] [5M]
3.	a)	Write the differences between PCM, DPCM, and DM?	[L6] [CO1] [6M]
	b)	Describe about Differential Encoding?	[L2] [CO1][4M]
4.	a)	Explain the delta modulation system with suitable diagrams?	[L2] [CO1][10M]
5.	a)	With a neat block diagram explain PCM transmitter and receiver?	[L5] [CO1][5M]
	b)	Explain the following line codes for 101001110 i) Unipolar RZ & NRZ ii) polar RZ & NRZ iii) Bipolar RZ &NRZ	[L5] [CO1][5M]
6.	a)	Discuss the Noise considerations in PCM systems?	[L2] [CO1][5M]
	b)	Draw and explain the block diagram of regenerative repeaters?	[L4] [CO1][5M]
7.	a)	Derive the quantization noise in PCM?	[L4] [CO1][5M]
	b)	Derive the S/N ratio of PCM?	[L4] [CO1] [5M]
8.	a)	State sampling theorem.	[L5] [CO1][5M]
	b)	Consider an audio signal consisting of the sinusoidal term given as x (t) =3cos (500πt) i) Determine the SNR noise ratio. When this is quantized using 10 bits PCM. ii) How many bits of quantization are needed to achieve a SNR ratio of at least 40dB?	[L4] [CO1][5M]
9.	a)	Explain the Process of Quantization through one Example?	[L2] [CO1][5M]
	b)	Give types of Quantization in Detail?	[L1] [CO1][5M]
10.	a)	Draw the block diagram of digital communication system? Explain each block?	[L4] [CO1][5M]
	b)	A Television signal having a bandwidth of 4.2 MHz is transmitted using binary PCM system. Given that the number of quantization levels is 512. Determine i) Codeword length? ii)Transmission Bandwidth? iii) Final Bit rate? iv) Output SNR ratio?	[L4] [CO1][5M]
11.	a)	Discuss the noise effects in Delta Modulation.	[L2] [CO1][5M]
	b)	Give brief note on Encoding, Decoding & Filtering	[L6] [CO1][5M]

UNIT –II

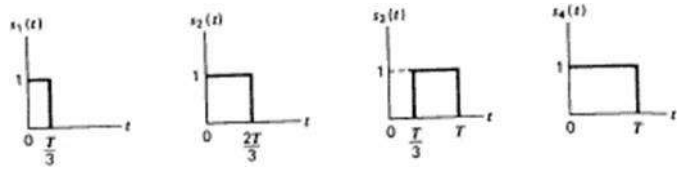
BASEBAND PULSE TRANSMISSION

1.	a)	Define Matched Filter.	[L1] [CO1] [2M]
	b)	Define ISI.	[L1] [CO1] [2M]
	c)	What is Correlative Coding?	[L1] [CO1] [2M]
	d)	What is Baseband binary data Transmission System?	[L1] [CO1] [2M]
	e)	What do you mean an Eye pattern?	[L1] [CO1] [2M]
2.	a)	Explain the matched filter.	[L2] [CO2][5M]
	b)	Derive the properties of matched filter.	[L3] [CO2][5M]
3.		Explain in detail about Inter symbol interference and its effects?	[L2] [CO2][10M]
4.	a)	Describe the baseband M-array PAM Transmission system.	[L2] [CO2][5M]
	b)	Give a brief explanation on modified duo binary signaling scheme?	[L4] [CO2][5M]
5.	a)	What is ISI? Draw the basic block diagram of baseband binary data transmission	[L4] [CO2][5M]
	b)	Explain the rectangular pulse for a matched filter?	[L2] [CO2][5M]
6.		Derive the expression for the Nyquist criterion for distortion less baseband transmission inthe absence of noise in terms of time domain & Frequency domain.	[L4] [CO2][10M]
7.	a)	Derive the expression for impulse response of a matched filter.	[L2] [CO2][5M]
	b)	What are the remedies to reduce ISI.	[L1] [CO2][5M]
8.		A polar NRZ waveform has to be received into the help of a matched filter. Here binary '1' isrepresented as a rectangular positive pulse. Also, binary '0' is represented by a rectangular negative pulse. determine the impulse response of the matched filter. Also sketch it	[L4] [CO2][10M]
9.		What is correlative coding? Explain its types.	[L3] [CO2][10M]
10.	a)	What are the effects of ISI?	[L2] [CO2][5M]
	b)	Write a brief note on Eye pattern and construct the diagram.	[L4] [CO2][5M]
11.		Explain duo-binary signaling scheme through one example.	[L4] [CO2][10M]

UNIT –III

Signal Space Analysis

1.	a)	Define Orthogonality.	[L1] [CO1] [2M]
	b)	Define AWGN.	[L1] [CO1] [2M]
	c)	Define signal constellation diagram.	[L1] [CO1] [2M]
	d)	What is orthogonal basis function?	[L1] [CO1] [2M]
	e)	Define analyzer.	[L1] [CO1] [2M]
2.	a)	What is Gram-Schmidt orthogonalization procedure? Explain	[L1] [L4] [CO3] [5M]
	b)	Write a brief note on signal constellation diagram.?	[L5] [CO3] [5M]
3.		Describe the concept of continuous AWGN channel into a vector channel.	[L2] [CO3][10M]
4.		Consider the signals $s_1(t)$, $s_2(t)$, $s_3(t)$, $s_4(t)$, shown in fig. Find the orthogonal basis function using Gram Schmidt orthogonalization procedure	[L2] [CO3] [10M]



5.		Draw the block diagram of the structure and behavior of Matched filter Receiver?	[L4] [CO3] [10M]
6.	a)	Explain the the concept of Schwarz Inequality	[L2] [CO3][5M]
	b)	Explain signal representation of a signal N=2and M=3.	[L4] [CO3][5M]
7.	a)	What is the concept of orthogonal basis function?	[L2] [CO3][5M]
	b)	Give the condition for Orthogonality for basis function.	[L5] [CO3][5M]
8.	a)	Draw the block diagram of a most basic form of digital communication system.	[L4] [CO3][5M]
	b)	Illustrate optimum receiver for AWGN channel?	[L3] [CO3][5M]
9.	a)	a) Draw the signal constellation diagrams for N=M=2	[L4] [CO3][5M]
	b)	b) Explain the geometrical representation of signals.	[L4] [CO3][5M]
10.		Explain the following i) Additive White Gaussian noise? ii) Orthogonality? iii) signal vector? iv) synthesizer?	[L1] [CO3][4M]
11.	a)	Explain the concept of AWGN channel.	[L5] [CO] [5M]
	b)	With a neat sketch explain the working of correlation receiver.	[L2] [CO3][5M]

UNIT –IV

Passband Data Transmission

1.	a)	Define ASK, FSK, PSK.	[L1] [CO1] [2M]
	b)	What is meant by DPSK?	[L1] [CO1] [2M]
	c)	Define BFSK.	[L1] [CO1] [2M]
	d)	Define digital modulation techniques.	[L1] [CO1] [2M]
	e)	What is the Bandwidth of BPSK?	[L1] [CO1] [2M]
2.	a)	Compare all the digital modulation techniques	[L4][CO][5M]
	b)	Derive the probability of error for a coherent QPSK system	[L2] [CO4][5M]
3.	a)	Sketch with a neat diagram of M-array PSK transmitter and receiver	[L1] [CO4][5M]
	b)	What are the parameters you can consider to choose the modulation techniques	[L5] [CO4] [5M]
4.	a)	Draw the block diagram of ASK transmitter and receiver and explain the operation.	[L4] [CO4] [5M]
	b)	Derive an expression for probability of error in BFSK	[L6] [CO4] [5M]
5.	a)	Derive an expression for probability of error of coherent binary ASK?	[L2] [CO4] [5M]
	b)	What is Bandwidth of BPSK, BFSK?	[L4][CO4][5M]
6.	a)	Obtain the expression for probability of error for BPSK.	[L5] [CO4] [5M]
	b)	How will you differentiate binary PSK and M-PSK, explain with block diagrams?	[L6] [CO4] [5M]
7.	a)	Illustrate the pass band transmission model with neat diagram?	[L3] [CO4] [5M]
	b)	Explain pass band transmission with band pass transmission	[L3] [CO4][5M]
8.	a)	Describe the generation and detection of DPSK	[L3][CO4][5M]
	b)	A binary data stream 101101100 is to be transmitted using DPSK. Determine the encoded and decoded output.	[L4][CO4][5M]
9.		Draw the block diagram of QPSK transmitter & receiver and explain each block in detail	[L6] [CO4] [10M]
10.	a)	i) Define coherent digital modulation technique?	[L1] [CO4] [4M]
	b)	ii) What is meant by DPSK?	[L1][CO4][2M]
		iii) Give a brief note on BPSK?	[L1][CO4][2M]
		iv) Write the two differences between QPSK and BPSK?	[L2][CO4][2M]
11.	a)	Describe the generation and detection of BPSK	[L4][CO4][5M]
	b)	Discuss in brief about coherent detection of binary FSK	[L4][CO4][5M]

UNIT –V

Channel Coding

1.	a)	Define Hamming Distance	[L1] [CO1] [2M]
	b)	Define Code Word	[L1] [CO1] [2M]
	c)	What is Generator matrix?	[L1] [CO1] [2M]
	d)	What are the types of parity check codes?	[L1] [CO1] [2M]
	e)	What is Parity check matrix?	[L1] [CO1] [2M]
2.		A generator matrix for a (6, 3) block code is given below $\begin{bmatrix}1&0&0&0&1&1\\0&1&0&1&0&1\\0&0&1&1&1&0\end{bmatrix}$	
	a)	List all the code vectors.	[L5][CO5][4M]
	b)	Find out minimum distance & weight of the code.	[L5][CO5][3M]
	c)	How many errors can be detected &corrected?	[L5][CO5][3M]
3.	a)	Explain the concept of matrix representation of Linear block codes.	[L2] [CO5] [5M]
	b)	Write short notes on Error detection and correction codes.	[L2][CO5][5M]
4.	a)	What are the types of parity check codes explain with neat diagrams?	[L3][CO5][5M]
	b)	Explain the concept of Parity check matrix for linear block codes.	[L2][CO5]][5M]
5.		The parity check matrix for a (7, 4) block code is given below $\begin{bmatrix}1&1&1&0&1&0&0\\1&1&0&1&0&1&0\\1&0&1&1&0&0&1\end{bmatrix}$	[L5][CO5][5M]
	a)	Find the generator matrix (G).	[L5][CO5][5M]
	b)	List all the code vectors.	[L3][CO5][5M]
6.	a)	What is forward error correction system and explain in detail?	[L2][CO5][5M]
	b)	Describe the matrix representation of linear block codes?	[L1][CO5][5M]
7.	a)	Draw and explain the block diagram of ARQ system in detail	[L5][CO5][5M]
	b)	Write about various types of ARQ systems.	[L5][CO5][5M]
8.		The Generator matrix(G) for a (7, 4) block code is given below $\begin{bmatrix}1&0&0&0&1&0&1\\0&1&0&0&1&1&1\\0&0&1&0&1&1&0\\0&0&0&1&0&1&1\end{bmatrix}$	
	a)	Find the Parity check matrix (G).	[L5][CO5][5M]
	b)	Find code vectors for any eight messages.	[L5][CO5][5M]
9.	a)	Explain the Convolutional Encoding and Decoding methods.	[L2] [CO5] [5M]
	b)	Discuss in brief about sequential decoding of convolutional codes.	[L4][CO5][5M]

10. For a systematic (7, 4) linear block code the sub matrix 'P' is given as [L4 [CO5]] [10M]

$$P = \begin{bmatrix} 1 & 1 & 1 \\ 1 & 1 & 0 \\ 1 & 0 & 1 \\ 0 & 1 & 1 \end{bmatrix}$$

Detect & correct the error using syndrome vector for the code vectors $Y_A = [0111110]$ $Y_B = [1011100] C) Y_C = [1010000]$

11.
i) Define code efficiency. [L1][CO5][4M]
ii) Define Hamming Distance [L1][CO5][2M]
iii) Define code vectors. [L1][CO5][2M]
iv) Minimum distance. [L1][CO5][2M]

Prepared by: **U. Srinivasulu, M.Prasanth**

Signature of the HOD
HEAD
Dept. of Electronics & Communication Engg
Siddharth Institute of Engg. & Tech
Narayanavanam Road, Puttur-517 583.

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(Accredited by NAAC with 'A' Grade)
Puttur-517583, Chittoor District, A.P. (India)

Department of Electronics and Communication Engineering

Name of the faculty: U Srinivasulu

Course name: Digital Communications(C315) Year of Study: 2020-21(III /I Sem)

Course Outcomes:

C315.1	Understand the Elements of Digital Communication System, Fundamental concepts of sampling theorem along with various base band and pass band transmission techniques.
C315.2	Describe and determine the performance of Matched Filter and methods to mitigate inter symbol interference.
C315.3	Analyze the generation and detection of band pass and pass band systems.
C315.4	Apply the concepts of signal space diagram, spectrum, and bandwidth efficiency in different transmission techniques.
C315.5	Analyze the performance of various schemes for the reliable transmission of digital representation of signals and information over the channel.

Course name: Digital Communications (C315) Year of Study: 2020-21 (III / I Sem)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C315.1	3	2	1	-	-	-	-	-	-	-	-	-	-	3	-
C315.2	3	2	1	1	-	-	-	-	-	-	-	-	2	-	-
C315.3	2	2	2	-	-	-	-	-	-	-	-	-	2	-	-
C315.4	3	1	2	2	2	-	-	-	-	-	-	-	-	3	-
C315.5	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
C315	2.6	1.8	1.6	1.5	2								2	2.67	

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(Accredited by NAAC with 'A' Grade)
Puttur-517583, Chittoor District, A.P. (India)

Department of Electronics and Communication Engineering

Academic Year:**2020-21**

Subject:**Digital Communications(C315)** Year/Sem**: III/I**

COs	Internal	External	Average
CO-1	73	53.4	63.2
CO-2	83	53.4	68.2
CO-3	65	53.4	59.2
CO-4	71	53.4	62.2
CO-5	72	53.4	62.2
Average	74	53.4	63.7
Attainment Level	3	1	2

OVERALL ATTAINMENT LEVEL=40% OF
Attainment Level

INTERNAL+60%OF EXTERNAL

1	>50%
2	>60%
3	>70%

OVERALL ATTAINMENT	1.8

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Department of Electronics and Communication Engineerin

Academic Year:**2020-21**

Subject:**Digital Communications (C315)** Year/Sem:**III/I**

CO-PO-PSO ATTAINMENT

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C315.1	73	73	73	73	73	-	-	-	-		73	-	-	-	-
C315.2	83	-	83	83	83	-	-	-	-	83		-	-	-	-
C315.3	65	65	65	65	65	-	-	-	-	-	65	-	-	-	-
C315.4	-	71	-	71	71	-	-	-	-	-		71	-	-	-
C315.5	72	72	72	-	72	-	-	-	-	-	72		-	-	-
Avg	**75**	**72**	**75**	**75**	**74**	-	-	-	-	**83**	**73**	**76**	-	-	-
C315	3	3	3	3	3	-	-	-	-	3	3	3	-	-	-

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HEAD
Dept. of Electronics & Communication Engg.
Siddharth Institute of Engg. & Tech.
Narayanavanam Road, Puttur-517 583.

SIDDHARTH INSTITUTE OF ENGIEERING & TECHNOLOGY :: PUTTUR

(Autonomous)

Course Assessment & Attainment Work Sheet

Course Name :Digital Communications
Year: 2020-21
Batch: 2018-2022

18EC0415
Department : **ECE**
Faculty : **U.Srinivasulu**

Test Marks

Question	Obj1			ASS1			1	1	2	2	3	3	4	4	5	5	6	6
							a	b	a	b	a	b	a	b	a	b	a	b
Blooms Level							L1	L1	L3	L2	L2	L3	L4		L2		L2	
CO	CO1	CO2	CO3	CO1	CO2	CO3	CO1	CO1	CO1	CO1	CO2	CO2	CO2		CO3		CO3	
Max Marks	**10**	**10**	**10**	**10**	**10**	**10**	**5**	**5**	**5**	**5**	**5**	**5**	**10**		**10**		**10**	
18F61A0401	10	10	10	9	9	9		4			3							
18F61A0402	10	10	10	9	9	9	5	3				2			6			
18F61A0403	10	10	10	10	10	10		4		5			2		3			
18F61A0404	10	10	10	10	10	10	4	5			3	2			10			
18F61A0405	10	10	10	10	10	10	3	3					5		9			
18F61A0406	10	10	10	9	9	9	5		4		3		2					
18F61A0407	10	10	10	8	8	8	2								10			
18F61A0408	10	10	10	10	10	10	4	2				2			10			
18F61A0410	10	10	10	9	9	9	5								5			
18F61A0411	9	9	9	7	7	7	4		3			2		5				
18F61A0412	10	10	10	10	10	10	5		4			5			8			
18F61A0413	10	10	10	8	8	8	3		4			4			8			
18F61A0414	10	10	10	7	7	7		2				1			6			
18F61A0415	10	10	10	10	10	10	4		5		6		1		8			
18F61A0416	9	9	9	10	10	10	3	3			2	2			8			
18F61A0417	10	10	10	10	10	10	3	3			3	2						
18F61A0418	10	10	10	10	10	10					1							
18F61A0419	10	10	10	10	10	10	4	3							6			
18F61A0420	10	10	10	10	10	10	3	3							6			
18F61A0421	10	10	10	7	7	7	3	2							6			
18F61A0422	10	10	10	5	5	5	2	3					3					
18F61A0423	10	10	10	9	9	9	2	3										
18F61A0424	10	10	10	9	9	9		2							2			
18F61A0425	10	10	10	7	7	7					1				9			
18F61A0426	10	10	10	10	10	10	2	1										
18F61A0427	10	10	10	8	8	8									1			
18F61A0428	10	10	10	10	10	10	4	5				1			9			
18F61A0429	10	10	10	9	9	9	4	1							7			
18F61A0430	10	10	10	10	10	10	3	2							5			
18F61A0431	10	10	10	10	10	10	3	1					1		8			
18F61A0432	10	10	10	10	10	10	2	1				1			8			

Question	Obj2			ASS2			1	1	2	2	3	3	4	4	5	5	6	6	CO Total Marks (from all Tests & Assignments)						*CO IN %*						SEE
							a	b	a	b	a	b	a	b	a	b	a	b													
Blooms Level							L2		L2	L1	L1	L2	L1	L1	L1	L1	L2														
CO	CO4	CO5	CO6	CO4	CO5	CO6	CO4	CO4	CO4	CO4	CO5	CO5	CO5	CO5	CO6	CO6	CO6	CO6	CO1	CO2	CO3	CO4	CO5	CO6	CO1	CO2	CO3	CO4	CO5	CO6	CO2 CO3
Max Marks	**10**	**10**	**10**	**10**	**10**	**10**	**10**		**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**10**		**40**	**40**	**40**	**40**	**40**	**40**	**29**	**28**	**30**	**30**	**31**	**28**	Target
18F61A0401	4	4	4	10	10	10			4	2			3	3	2				23	22	19	20	20	16	**79**	**79**	**63**	**67**	**65**	**57**	**43**
18F61A0402	4	4	4	10	10	10	5				3	2				3			27	21	25	19	19	17	**93**	**75**	**83**	**63**	**61**	**61**	**39**
18F61A0403	6	6	6	10	10	10			1				3	2	2	3			29	22	23	17	21	21	**100**	**79**	**77**	**57**	**68**	**75**	**32**
18F61A0404	4	4	4	10	10	10	4		3	2	4	4					8		29	25	30	23	22	22	**100**	**89**	**100**	**77**	**71**	**79**	**34**
18F61A0405	5	5	5	10	10	10			4	2			3	3	3	3			26	25	29	21	21	21	**90**	**89**	**97**	**70**	**68**	**75**	**31**
18F61A0406	2	2	2	8	8	8	4						3	3					28	24	19	14	16	10	**97**	**86**	**63**	**47**	**52**	**36**	**41**
18F61A0407	7	7	7	10	10	10							5						20	18	28	17	22	17	**69**	**64**	**93**	**57**	**71**	**61**	**29**
18F61A0408	9	9	9	10	10	10			3	2	3	4			4	3			26	22	30	24	26	26	**90**	**79**	**100**	**80**	**84**	**93**	**46**
18F61A0410	6	6	6	10	10	10			4	3	3	2			3	2			24	19	24	23	21	21	**83**	**68**	**80**	**77**	**68**	**75**	**46**
18F61A0411	5	5	5	10	10	10			3						4	4			23	18	16	18	15	23	**79**	**64**	**53**	**60**	**48**	**82**	**34**
18F61A0412	2	2	2	10	10	10					2	3	2						29	25	28	12	19	12	**100**	**89**	**93**	**40**	**61**	**43**	**41**
18F61A0413	2	2	2	10	10	10	8				2	2							25	22	26	20	16	12	**86**	**79**	**87**	**67**	**52**	**43**	**36**
18F61A0414	2	2	2	8	8	8										4			19	18	23	10	10	14	**66**	**64**	**77**	**33**	**32**	**50**	**29**
18F61A0415	7	7	7	10	10	10	6				3	2			3	1			29	27	28	23	22	21	**100**	**96**	**93**	**77**	**71**	**75**	**24**
18F61A0416	6	6	6	10	10	10	4				3	3					5		25	23	27	20	22	21	**86**	**82**	**93**	**67**	**71**	**75**	**26**
18F61A0417	3	3	3	10	10	10	3				1	3			2	1			26	25	20	16	17	16	**90**	**89**	**67**	**53**	**55**	**57**	**35**
18F61A0418	3	3	3	7	7	7	3												20	21	20	13	10	10	**69**	**75**	**67**	**43**	**32**	**36**	**41**
18F61A0419	4	4	4	10	10	10			4	3	2	4	1		3	3			27	20	26	21	21	20	**93**	**71**	**87**	**70**	**68**	**71**	**37**
18F61A0420	7	7	7	10	10	10					3	3	1		3	3			26	20	26	17	24	23	**90**	**71**	**87**	**57**	**77**	**82**	**31**
18F61A0421	5	5	5	8	8	8							3	3	3	2			22	17	23	13	19	18	**76**	**61**	**77**	**43**	**61**	**64**	**34**
18F61A0422	8	8	8	5	5	5					3	4			4	4			20	18	15	13	20	21	**69**	**64**	**50**	**43**	**65**	**75**	**43**
18F61A0423	4	4	4	10	10	10			3				3	2	4	4			24	19	19	17	19	22	**83**	**68**	**63**	**57**	**61**	**79**	**44**
18F61A0424	1	1	1	6	6	6	3				3								21	19	21	10	10	7	**72**	**68**	**70**	**33**	**32**	**25**	**44**
18F61A0425	2	2	2	8	8	8	6				4	3			2				17	18	26	16	17	12	**59**	**64**	**87**	**53**	**55**	**43**	**41**
18F61A0426	6	6	6	10	10	10				4	4				4	3			23	20	20	20	20	23	**79**	**71**	**67**	**67**	**65**	**82**	**29**
18F61A0427	6	6	6	7	7	7					3	3			2	2			18	18	19	13	19	17	**62**	**64**	**63**	**43**	**61**	**61**	**41**
18F61A0428	4	4	4	10	10	10			1		3	4			4	4			29	21	29	15	21	22	**100**	**75**	**97**	**50**	**68**	**79**	**24**
18F61A0429	3	3	3	10	10	10							2	1	3	3			24	19	26	13	16	19	**83**	**68**	**87**	**43**	**52**	**68**	**39**
18F61A0430	7	7	7	10	10	10	6				3	3			1	2			25	20	25	23	23	20	**86**	**71**	**83**	**77**	**74**	**71**	**36**
18F61A0431	5	5	5	10	10	10	4				3	2			3	3			24	21	28	19	20	21	**83**	**75**	**93**	**63**	**65**	**75**	**10**
18F61A0432	10	10	10	10	10	10	7				3	2			3	3			23	21	28	27	25	26	**79**	**75**	**93**	**90**	**81**	**93**	**27**

17F61A0406	4	4	4	10	10	10			2	2	3	3			4	3			4	4	4	10	10	10	5						3	3	4	3			18	20	18	19	20	21	62	71	60	63	65	75	35
17F61A04A8	5	5	5	10	10	10					2	3			4	3			7	7	7	10	10	10	8		4	2	3	3	5	4	3	3			15	20	19	31	32	23	52	71	63	103	103	82	35
17F61A04D8	8	8	8	10	10	10					2	1			3	2			5	5	5	8	8	8			2				3	1	3	3			18	21	21	15	17	19	62	75	70	50	55	68	35
17F61A04K0	9	9	9	8	8	8	4		2				2	2					4	4	4	10	10	10	4		2				2	2					23	19	17	20	18	14	79	68	57	67	58	50	35
Total students																																											295	295	295	295	295	295	295
Students above Target																																											216	245	192	210	212	236	0
CO Assesment (%)																																											73	83	65	71	72	80	1
CO Attainment Level																																											3	3	2	3	3	3	1
CO Attainment Status																																											A	A	A	A	A	A	A
CO Attainment																																											CO1	CO2	CO3	CO4	CO5	CO6	
40% of IA Attainment																																											1.2	1.2	0.8	1.2	1.2	1.2	
60% of SEE Attainment																																											0.6	0.6	0.6	0.6	0.6	0.6	
Total CO Attainment																																											1.8	1.8	1.4	1.8	1.8	1.8	1.73333

Faculty

(U.Srinivasulu - Asst.Prof / ECE)

HOD/ECE

HEAD

Dept. of Electronics & Communication Engg
Dr. P. Ratnakamala
Siddharth Institute of Engg. & Tech.
Narayanavanam Road, Puttur-517 583.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY::PUTTUR

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE &CSE)

(Accredited by NAAC with 'A' Grade)

Puttur-517583, Chittoor District, A.P. (India)

Department of Electronics and Communication Engineering

Name of the faculty: B Ganeshan **Year of Study: 2020-21(I/I SEM)**

Course name: Communicative English (C113)

Course Outcomes:

CO1	To understand social or transactional dialogues spoken by native speakers of English and identify the context, topic, and pieces of specific information.
CO2	To ask and answer general questions on familiar topics and introduce oneself/others.
CO3	To employ suitable strategies for skimming and scanning to get the general idea of a text and locate specific information.
CO4	To recognize paragraph structure and be able to match beginnings/endings/headings with paragraphs.
CO5	To form sentences using proper grammatical structures and correct word forms.
C06	To use effective sentence structure for their professional activities.

Course name: Communicative English (C113) Year of Study: 2020-21 (I / I Sem)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C113.1	3	3	3	1	1						2				
C113.2	3		3	3	2					2					
C113.3	3	3	2	3	2						1				
C113.4		2		2	3							2			
C113.5	3	3	3		3						2				
C113.6	3	2	2	3	3						2	2			
AVG	3	3	3	2	2					2	2	2			

Signature of the faculty

Signature of the HOD

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(Accredited by NAAC with 'A' Grade)
Puttur-517583, Chittoor District, A.P. (India)

Department of Electronics and Communication Engineering

Academi Year: **2020-21** Year &Sem:**I&I**

Subject: **Communicative English(C113)**

Attainment Level of Course Outcomes

COs	Internal	External	Average
CO1	**98**	**98**	98
CO2	**86**	**98**	92
CO3	**83**	**98**	90.5
CO4	**87**	**98**	93
CO5	**98**	**98**	98
CO5	**77**	**98**	88
Average	**88**	**98**	**93.33**
Attainment Level	**3**	**3**	**3**

OVERALL ATTAINMENT LEVEL= 40% OF INTERNAL+60% OF EXTERNAL

FINAL CO - ATTAINMENT	**3**

Attainment Levels

1	**>50%**
2	**>60%**
3	**>70%**

Signature of the faculty

Signature of the HOD

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Puttur-517583, Chittoor District, A.P. (India)

Department of Electronics and Communication Engineering

ACADEMIC YEAR: 2020-21 **YEAR & Sem: I / I**

SUBJECT: COMMUNICATIVE ENGLISH C113)

CO-PO-PSO ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	98	98	98	98	98						98				
CO2	86		86	86	86					86					
CO3	83	83	83	83	83						83				
CO4		87		87	87							87			
CO5	98	98	98		98						98				
CO6	77	77	77	77	77						77	77			
AVG	**88**	**89**	**88**	**86**	**88**					**86**	**89**	**82**			
ATT	3	3	3	3	3					3	3	3			

Signature of the faculty

Signature of the HOD

SIDDHARTH INSTITUTE OF ENGIEERING & TECHNOLOGY :: PUTTUR

(Autonomous)

Course Assessment & Attainment Work Sheet

Course Name : COMMUNICATIVE ENGLISH
Year: 2020-21 I SEM
Batch: 2020-2024

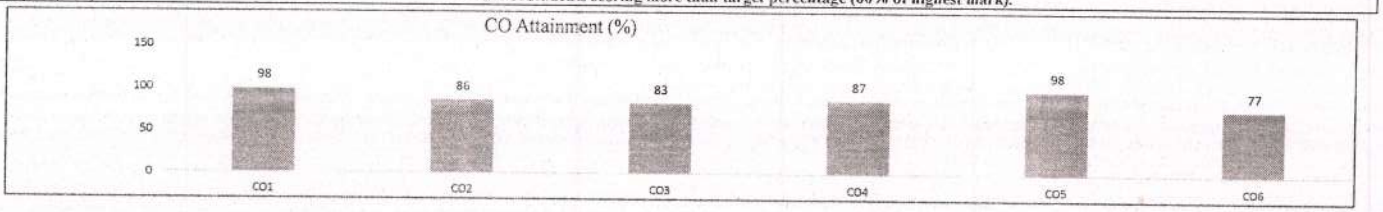
Course Code : 20HS0810
Department : **ENGLISH**
Faculty : **B.GANESHAN**

	Test Marks																																				CO Total Marks (from all Tests & Assignments)						*CO IN %*						SEE
Question	Obj1			ASS1			1	1	2	2	3	3	4	4	5	5	6	6	Obj2			ASS2			1	1	2	2	3	3	4	4	5	5	6	6															
							a	b	a	b	a	b	a	b	a	b	a	b							a	b	a	b	a	b	a	b	a	b	a	b															
Blooms Level							L1	L2	L3	L2	L3	L3	L4	L1	L2	L2	L2	L1							L2	L2	L3	L1	L1	L4	L1	L2	L1	L1	L2	L2															
CO	CO 1	CO 2	CO 3	CO 1	CO 2	CO 3	CO 1	CO 1	CO 1	CO 1	CO 2	CO 2	CO 2		CO 3		CO 3		CO 4	CO 5	CO 6	CO 4	CO 5	CO 6	CO 4	CO 4	CO 4	CO 4	CO 5	CO 5	CO 5	CO 5	CO 6	CO 6	CO 6		CO 1	CO 2	CO 3	CO 4	CO 5	CO 6	CO1	CO3	CO3	CO4	CO5	CO6	CO2 CO3
Max Marks	10	10	10	10	10	10	10		10		5	5	10		10		10		10	10	10	10	10	10	10		10		10		10		5	5	10		40	40	40	40	40	40	30	30	31	38	30	39	Target
20F61A0401	9	9	9	10	10	10	10				10				5	4			8	8	8	8	8	8	9				9						5	4	29	29	24	25	25	25	97	97	77	66	83	64	55
20F61A0402	9	9	9	10	10	10			10		10						9		10	10	10	10	10	10			10		9				4	4			29	29	28	30	29	28	97	97	90	79	97	72	54
20F61A0403	8	8	8	10	10	10	8				8				5	4			8	8	8	8	8	8	9				10				4	5			26	26	23	25	26	25	87	87	74	66	87	64	45
20F61A0404	8	8	8	10	10	10	8				8						8		10	10	10	10	10	10			9		8						5	4	26	26	26	29	28	29	87	87	84	76	93	74	53
20F61A0405	8	8	8	10	10	10	6				7				4	3			7	7	7	10	10	10	8						8				4	4	24	25	22	25	25	25	80	83	71	66	83	64	40
20F61A0406	8	8	8	10	10	10	7						5				5		9	9	9	10	10	10	10				10						5	3	25	23	23	29	29	27	83	77	74	76	97	69	58
20F61A0407	8	8	8	10	10	10			8				4	2	5				8	8	8	8	8	8			8				9				4	4	26	22	23	24	25	24	87	73	74	63	83	62	46
20F61A0408	9	9	9	10	10	10			10				5	4			9		10	10	10	10	10	10			9		10				5	5			29	24	28	29	30	30	97	80	90	76	100	77	56
20F61A0409	9	9	9	10	10	10			10		10						10		9	9	9	10	10	10	8				8				4	4			29	29	29	27	27	27	97	97	94	71	90	69	55
20F61A0410	8	8	8	10	10	10	10						5	5	5	5			10	10	10	10	10	10			9		8				5	4			28	23	23	29	28	29	93	77	74	76	93	74	48
20F61A0411	9	9	9	10	10	10			10				5	5			10		9	9	9	8	8	8			7		8				4	4			29	24	29	24	25	25	97	80	94	63	83	64	52
20F61A0412	8	8	8	10	10	10	9				9				5	4			10	10	10	8	8	8			7		6						4		27	27	23	25	24	22	90	90	74	66	80	56	43
20F61A0413	9	9	9	10	10	10			10				5	5	5	5			8	8	8	10	10	10	9						9		5	4			29	24	24	27	27	27	97	80	77	71	90	69	54
20F61A0414	8	8	8	10	10	10	9				10						10		7	7	7	10	10	10			10				9				5	4	27	28	28	27	26	26	90	93	90	71	87	67	54
20F61A0415	9	9	9	10	10	10			6				5		3				10	10	10	10	10	10	6				6						4	2	25	24	22	26	26	26	83	80	71	68	87	67	52
20F61A0416	8	8	8	10	10	10			10		10						9		8	8	8	10	10	10	9				9				5	5			28	28	27	27	27	28	93	93	87	71	90	72	51
20F61A0417	9	9	9	10	10	10	7						5		4	3			10	10	10	10	10	10			7				6				4		26	24	23	27	26	24	87	80	74	71	87	62	40
20F61A0418	9	9	9	10	10	10	10				10				5	4			10	10	10	10	10	10	9				9						5	5	29	29	24	29	29	30	97	97	77	76	97	77	57
20F61A0419	9	9	9	10	10	10			10				5	5			9		8	8	8	10	10	10			10		9				5	4			29	24	28	28	27	27	97	80	90	74	90	69	54
20F61A0420	9	9	9	10	10	10			10		10				5	5			10	10	10	10	10	10	10								5	5	5	4	29	29	24	30	20	39	97	97	77	79	67	100	52
20F61A0421	10	10	10	10	10	10	8						4	3			6		9	9	9	10	10	10			8		9				4	4			28	24	26	27	28	27	93	80	84	71	93	69	46
20F61A0422	9	9	9	10	10	10	10						5	5	5	4			9	9	9	10	10	10	9				8				4	5			29	24	24	28	27	28	97	80	77	74	90	72	49
20F61A0423	9	9	9	10	10	10			9		8						7		10	10	10	10	10	10	8						9		4	4			28	27	26	28	29	28	93	90	84	74	97	72	48
20F61A0424	8	8	8	10	10	10	7				7				4	3			10	10	10	8	8	8			7		7				3	3			25	25	22	25	25	24	83	83	71	66	83	62	31
20F61A0425	8	8	8	10	10	10			8		8				4	4			10	10	10	10	10	10			9				9		5	5			26	26	22	29	29	30	87	87	71	76	97	77	56
20F61A0426	9	9	9	10	10	10	9				10						10		10	10	10	10	10	10	9						9				5	5	28	29	29	29	29	30	93	97	94	76	97	77	51
20F61A0427	8	8	8	10	10	10			9		10				5	4			10	10	10	10	10	10			9				10		4	5			27	28	23	29	30	29	90	93	74	76	100	74	57
20F61A0428	6	6	6	10	10	10	10						5	5			9		10	10	10	10	10	10			9		8				5	4			26	21	25	29	30	29	87	70	81	76	100	74	52
20F61A0429	9	9	9	10	10	10			10				5	5	5	5			9	9	9	10	10	10	9				8						4	3	29	24	24	28	27	26	97	80	77	74	90	67	54
20F61A0430	10	10	10	10	10	10	8				9						8		10	10	10	10	10	10	8						9				4	4	28	29	28	28	29	28	93	97	90	74	97	72	45
20F61A0431	7	7	7	8	8	8	10				10						10		10	10	10	10	10	10			7		8				2	2			25	25	25	27	28	24	83	83	81	71	93	62	48
20F61A0432	9	9	9	10	10	10	9				10				5	5			9	9	9	10	10	10			8				9				4		28	29	24	27	28	23	93	97	77	71	93	59	50
20F61A0433	7	7	7	10	10	10	8				8				4	3			10	10	10	10	10	10			7				6		4				25	25	21	27	26	24	83	83	68	71	87	62	47
20F61A0434	9	9	9	10	10	10			9		9						9		8	8	8	10	10	10			6		7				4	3			28	28	28	24	25	25	93	93	90	63	83	64	49
20F61A0435	9	9	9	10	10	10	10				10				5	5			9	9	9	10	10	10			9				9		5	5			29	29	24	28	28	29	97	97	77	74	93	74	54
20F61A0436	8	8	8	10	10	10			8				5				5		10	10	10	8	8	8	7				6						5		26	23	23	25	24	23	87	77	74	66	80	59	42
20F61A0437	8	8	8	10	10	10	9				8				5	5			10	10	10	10	10	10	10				10				4	5			27	26	23	30	30	29	90	87	74	79	100	74	49
20F61A0438	9	9	9	10	10	10	8				7						8		10	10	10	10	10	10	9						8				4		27	26	27	29	28	24	90	87	87	76	93	62	44
20F61A0439	10	10	10	10	10	10	10				9						9		10	10	10	10	10	10	9				9				5	4			30	29	29	29	29	29	100	97	94	76	97	74	47

Total students	261	261	261	261	261	261	259
Students above Target	257	224	216	226	257	200	254
CO Assesment (%)	98	86	83	87	98	77	98
CO Attainment Level	3	3	3	3	3	3	3
CO Attainment Status	A	A	A	A	A	A	A

CO Attainment	CO1	CO2	CO3	CO4	CO5	CO6
40% of IA Attainment	1.2	1.2	1.2	1.2	1.2	1.2
60% of SEE Attainment	1.8	1.8	1.8	1.8	1.8	1.8
Total CO Attainment	3	3	3	3	3	3

Attainment levels Vs Targets			
Attainment level 1			>50% of students scoring more than target percentage (60% of highest mark).
Attainment level 2			>60% of students scoring more than target percentage (60% of highest mark).
Attainment level 3			>70% of students scoring more than target percentage (60% of highest mark).



CO - PO - PSO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	3	1	1						2				
CO2	3		3	3	2					2					
CO3	3	3	2	3	2						1				
CO4		2		2	3							2			
CO5	3	3	3		3						2				
CO6	3	2	2	3	3						2	2			
AVG	3	3	3	2	2	######	#####	#####	#####	2	2	2	###	######	#######

CO - PO-PSO Attainment

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	98	98	98	98	98						98				
CO2	86		86	86	86					86					
CO3	83	83	83	83	83						83				
CO4		87		87	87							87			
CO5	98	98	98		98						98				
CO6	77	77	77	77	77						77	77			
AVG	88	89	88	86	88	######	#####	#####	#####	86	89	82	###	######	#######

Faculty B. Yamuna

HOD/ENGLISH

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(Accredited by NAAC with 'A' Grade)
Puttur-517583, Chittoor District, A.P. (India)

Department of Electronics and Communication Engineering

Name of the faculty: Dr P G Kuppusamy

Course name: Signals, Systems and Random Processes (C214)

Year of Study: 2020-21(II /I Sem)

Course Outcomes:

C214.1	Analyze different types of signals.
C214.2	Represent continuous systems in time and frequency domain using different transforms.
C214.3	Investigate the system stability
C214.4	Understand the concept of convolution of signals.
C214.5	Understand and analyze the Laplace Transform and ROC
C214.6	A student will able to determine the temporal and spectral characteristics of random signal response of a given linear system

Course name: Signals, Systems and Random Processes (C214)
Year of Study: 2020-21 (II / I Sem)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C214.1	3	2	3	-	-	-	-	-	-	-	-	-	1	-	-
C214.2	3	2	2	-	-	-	-	-	-	-	-	-	1	-	-
C214.3	3	3	2	1	-	-	-	-	-	-	-	-	2	-	-
C214.4	2	3	1	-	-	-	-	-	-	-	-	-	2	-	-
C214.5	2	3	2	1	-	-	-	-	-	-	-	1	2	-	1
C214.6	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-
C214	2.5	2.5	2	1								1	1.33		1

Signature of the faculty

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Puttur-517583, Chittoor District, A.P. (India)

Department of Electronics and Communication Engineering

Academic Year:**2020-21**

Subject:**Signals, Systems&Random Processes(C214)** YEAR/SEM**: II/I**

COs	Internal	External	Average
CO-1	92	87	89.5
CO-2	87	87	87
CO-3	94	87	90.5
CO-4	72	87	79.5
CO-5	78	87	82.5
CO-6	54	87	70.5
Average	79.5	87	83.2
Attainment Level	3	3	3

OVERALL ATTAINMENT LEVEL=40% OF
Attainment Level

INTERNAL+60%OF EXTERNAL

1	>50%
2	>60%
3	>70%

OVERALL ATTAINMENT	3

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Department of Electronics and Communication Engineering

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Subject:**Signals, Systems&Random Processes (C214)** YEAR/SEM**: II/I**

CO-PO-PSO ATTAINMENT

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C214.1	92	92	92	92	92						92				
C214.2	87		87	87	87					87					
C214.3	94	94	94	94	94						94				
C214.4		72		72	72							72			
C214.5	78	78	78		78						78				
C214.6	54	54	54	54	54						54	54			
Avg	**81**	**78**	**81**	**80**	**79**					**87**	**79**	**63**			
C214	3	3	3	3	3	-	-	-	-	3	3	3			

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Course Assessment & Attainment Work Sheet

Course Name :Signals,Systems and Random Processes
Year: 2020-21
Batch: 2019-2023

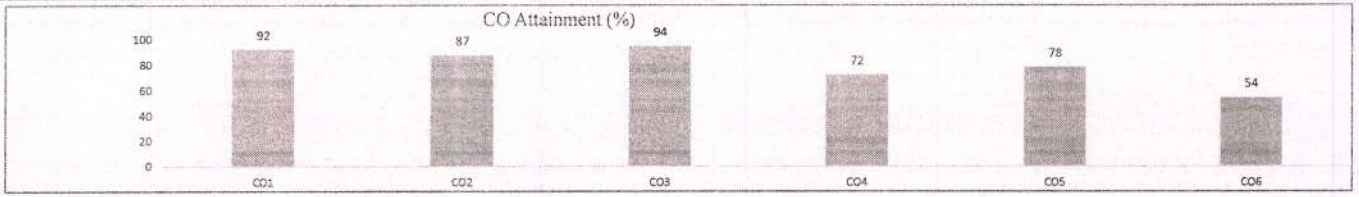
Course Code : 19EC0403
Department : **ECE**
Faculty : **V.R.Chandhini**

	Test Marks																																																
Question	Obj1			ASS1			1	1	2	2	3	3	4	4	5	5	6	6	Obj2			ASS2			1	1	2	2	3	3	4	4	5	5	6	6	CO Total Marks (from all Tests & Assignments)						CO IN %						SEE
							a	b	a	b	a	b	a	b	a	b	a	b							a	b	a	b	a	b	a	b	a	b	a	b													
Blooms Level							L1	L1	L3	L2	L2	L3	L4		L2		L2								L2		L2	L1	L1	L2	L1	L1	L1	L1	L2														
CO	CO1	CO2	CO3	CO1	CO2	CO3	CO1	CO1	CO1	CO1	CO2	CO2	CO2		CO3		CO3		CO4	CO5	CO6	CO4	CO5	CO6	CO4	CO4	CO4	CO4	CO5	CO5	CO5	CO5	CO6	CO6	CO6	CO6	CO1	CO2	CO3	CO4	CO5	CO6	CO1	CO2	CO3	CO4	CO5	CO6	CO2 CO3
Max Marks	10	10	10	10	10	10	5	5	5	5	5	5	5	5	5	5	5	5	10	10	10	10	10	10	10		5	5	5	5	10	5	10		5	5	40	35	30	40	45	40	32	33	30	38	36	36	Target
19F61A0401	10	10	10	9	9	9			1.5	1.5	5	2					3	2	7	7	7	10	10	10			2.5	2.5		1					2	1.5	22	26	22	22	18	20	69	79	72	58	50	56	42
19F61A0402	10	10	10	10	10	10	2.5	2.5			2	2					2		6	6	6	10	10	10	10				5	3.5					3	2.5	25	24	22	26	25	22	78	73	73	68	68	60	43
19F61A0403	10	10	10	10	10	10			2			2					5	4	7	7	7	10	10	10			5	5	4.5	4					2	1.5	22	22	25	27	26	21	69	67	82	71	71	57	43
19F61A0404	10	10	10	10	10	10	3	3			5	3					4	2	9	9	9	10	10	10	6.5				3.5	3.5			7				26	28	24	26	26	26	81	85	78	67	72	71	45
19F61A0405	10	10	10	9	9	9	2	2									2	1	9	9	9	10	10	10			5	4.5					5		1		23	19	21	29	19	24	72	58	70	75	53	65	39
19F61A0406	10	10	10	10	10	10	4	1			5	4					5	5	10	10	10	10	10	10			5	5	5	4			3				25	29	25	30	29	23	78	88	82	79	81	64	49
19F61A0407	10	10	10	9	9	9								1				2	6	6	6	10	10	10	9.5												19	19	19	26	16	16	59	58	63	67	44	44	4
19F61A0408	10	10	10	9	9	9			3		5								5	5	5	9	9	9	10				1								22	24	19	24	15	14	69	73	63	63	42	39	32
19F61A0409	10	10	10	10	10	10	4	5			5						2	2	10	10	10	10	10	10			4.5	4	4	4			5				29	25	22	29	28	25	91	76	72	75	78	68	47
19F61A0410	10	10	10	10	10	10	5	5			5				5				10	10	10	10	10	10			5	4.5	5	5					2	1.5	30	25	25	30	30	24	94	76	83	78	83	65	48
19F61A0411	10	10	10	10	10	10	4	3.5			5	1.5					4		10	10	10	10	10	10	7.5				3.5								28	27	24	28	24	20	86	80	80	72	65	56	40
19F61A0412	10	10	10	9	9	9	3.5	3			5								10	10	10	10	10	10									4				26	24	19	20	20	24	80	73	63	53	56	67	14
19F61A0413	10	10	10	10	10	10	2.5	3.5			5	4					4	3	8	8	8	10	10	10			5	5	5	5					3	2	26	29	24	28	28	23	81	88	78	74	78	63	35
19F61A0414	9	9	9	10	10	10	2.5	1.5			1.5	1.5							6	6	6	10	10	10			3	2.5	3.5						3	2	23	22	19	22	20	21	72	67	63	57	54	58	30
19F61A0415	9	9	9	10	10	10				1	5								8	8	8	10	10	10	10												20	24	19	28	18	18	63	73	63	74	50	50	29
19F61A0416	8	8	8	10	10	10	2	1.5			3.5	2					4	2	9	9	9	10	10	10			5	4.5	3	3			4				22	24	22	29	25	23	67	71	72	75	69	64	46
19F61A0417	10	10	10	10	10	10	1.5	1.5			5				2				9	9	9	10	10	10			5	5	4.5	5					4	3	23	25	22	29	29	26	72	76	73	76	79	72	37
19F61A0418	10	10	10	10	10	10	3.5	4.5			5	4.5					4	3	10	10	10	10	10	10			5	5	5	5			6				28	30	24	30	30	26	88	89	78	79	83	72	49
19F61A0419	10	10	10	10	10	10	3	4									5	4	7	7	7	10	10	10			5	3.5	5	5					3	2	27	20	25	26	27	22	84	61	83	67	75	61	49
19F61A0420	10	10	10	10	10	10	3.5	4.5			5	4					5	5	9	9	9	10	10	10	10				5	5					5	5	28	29	25	29	29	29	88	88	83	76	81	81	51
19F61A0421	10	10	10	10	10	10	1.5	4.5			5				5				10	10	10	10	10	10			5	4	5	4					4	4	26	25	25	29	29	28	81	76	83	76	81	78	47
19F61A0422	10	10	10	10	10	10			3	4	1								6	6	6	10	10	10	10				2								27	21	20	26	18	16	84	64	67	68	50	44	29
19F61A0423	10	10	10	10	10	10				1					2				5	5	5	10	10	10							2						21	20	22	15	17	15	66	61	73	39	47	42	18
19F61A0424	10	10	10	10	10	10	1												4	4	4	10	10	10	2												21	20	20	16	14	14	66	61	67	42	39	39	29
19F61A0425	10	10	10	10	10	10			2.5	2.5			3	1	1				10	10	10	10	10	10	5				4	1			2				25	23	21	25	25	22	78	70	70	66	69	61	38
19F61A0426	10	10	10	10	10	10			1		5				4				10	10	10	10	10	10			3	5	2.5				5				21	25	24	28	23	25	66	76	80	74	63	68	43
19F61A0427	10	10	10	10	10	10							4	3			5	5	8	8	8	10	10	10			2.5	3.5	4.5	3.5			7				20	24	25	24	26	25	63	73	82	63	72	69	52
19F61A0428	10	10	10	10	10	10			5	1									9	9	9	10	10	10			2	3							1		26	20	20	24	19	20	81	61	67	63	53	56	28
19F61A0429	10	10	10	10	10	10			5	1									9	9	9	10	10	10	10				5	4					5	4.5	26	20	20	29	28	28	81	61	67	76	78	78	40
19F61A0430	10	10	10	10	10	10	3.5	3.5			5						1	1	9	9	9	10	10	10			5	5	4.5								27	25	21	29	24	19	84	76	70	76	65	53	29
19F61A0431	10	10	10	10	10	10	1.5	1.5			5	1							10	10	10	10	10	10			5	4	4.5	3.5							23	26	20	29	28	20	72	79	67	76	78	56	35
19F61A0432	10	10	10	10	10	10				2					1				9	9	9	10	10	10			2.5	4.5	3.5	2.5							22	20	21	26	25	19	69	61	70	68	69	53	41
19F61A0433	10	10	10	10	10	10	2	2			5								10	10	10	10	10	10	6.5				5						2	2.5	24	25	20	27	25	25	75	76	67	70	69	68	46
19F61A0434	9	9	9	10	10	10			5	5							2	1	9	9	9	10	10	10			5	5	5	5							29	19	21	29	29	19	91	58	70	76	81	53	34
19F61A0435	10	10	10	10	10	10	2	2			3						4	2	10	10	10	10	10	10			5	4.5	5	5							24	23	24	30	30	20	75	70	80	78	83	56	39
19F61A0436	10	10	10	10	10	10	0												10	10	10	10	10	10	2				1.5	1.5					4		20	20	20	22	23	24	63	61	67	58	64	67	17
19F61A0437	10	10	10	10	10	10	3	3							2				10	10	10	10	10	10			4	3	5	5							26	20	22	27	30	20	81	61	73	71	83	56	50
19F61A0438	10	10	10	10	10	10			4										10	10	10	10	10	10	3												24	20	20	23	20	20	75	61	67	61	56	56	29
19F61A0439	10	10	10	10	10	10			5	3	1	3					2		8	8	8	10	10	10			3	3			5.5		6				28	24	22	24	24	24	88	73	73	63	65	65	46

Total students	280	280	280	280	280	280	280
Students above Target	257	244	264	201	218	151	244
CO Assesment (%)	92	87	94	72	78	54	87
CO Attainment Level	3	3	3	3	3	1	3
CO Attainment Status	A	A	A	A	A	A	A

CO Attainment	CO1	CO2	CO3	CO4	CO5	CO6	
40% of IA Attainment	1.2	1.2	1.2	1.2	1.2	0.4	
60% of SEE Attainment	1.8	1.8	1.8	1.8	1.8	1.8	
Total CO Attainment	3	3	3	3	3	2.2	2.86667

Attainment levels Vs Targets			
Attainment level 1			>50% of students scoring more than target percentage (60% of highest mark).
Attainment level 2			>60% of students scoring more than target percentage (60% of highest mark).
Attainment level 3			>70% of students scoring more than target percentage (60% of highest mark).



CO - PO - PSO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	3	1	1						2				
CO2	3		3	3	2					2					
CO3	3	3	2	3	2						1				
CO4		2		2	3							2			
CO5	3	3	3		3						2				
CO6	3	2	2	3	3						2	2			
AVG	3	3	3	2	2	######	#####	#####	#####	2	2	2	###	######	#######

CO - PO-PSO Attainment

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	92	92	92	92	92						92				
CO2	87		87	87	87					87					
CO3	94	94	94	94	94						94				
CO4		72		72	72							72			
CO5	78	78	78		78						78				
CO6	54	54	54	54	54						54	54			
AVG	81	78	81	80	79	######	#####	#####	#####	87	79	63	###	######	#######

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Puttur-517583, Chittoor District, A.P. (India)

Department of Electronics and Communication Engineering

Name of the faculty: J. Rajanikanth

Course name: Electromagnetic Theory and Transmission (C224)

Year of Study: 2020-21(II /II Sem)

Course Outcomes:

C224.1	Understand various three dimensional spatial coordinate systems.
C224.2	Analyze and solve the problems of electric and magnetic fields that vary with three dimensional spatial co-ordinates as well as with time.
C224.3	Apply Maxwell's equation in Electric field.
C224.4	Apply Maxwell's equation in Magnetic field
C224.5	Characterize Maxwell's equation in Time varying field.
C224.6	Understand propagation of electromagnetic waves in different media.

Course name: Electromagnetic Theory and Transmission (C224)
Year of Study: 2020-21 (II / II Sem)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C224.1	2	1	1	-	-	-	-	-	-	-	-	-	1	-	-
C224.2	1	1	2	-	-	-	-	-	-	-	-	-	1	-	-
C224.3	1	1	2	1	1	-	-	-	-	-	-	-	2	-	-
C224.4	1	1	2	1	-	-	-	-	-	-	-	-	2	-	-
C224.5	1	-	2	1	-	-	-	-	-	-	-	1	2	-	1
C224.6	2	1	2	1		-	-	-	-	-	-	-	-	-	-
C224	1.3	1	1.8	1	1							1	1.6		1

J. Raju
Signature of the faculty

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Puttur-517583, Chittoor District, A.P. (India)

Department of Electronics and Communication Engineering

Academic Year:**2020-21**

Subject: **Electromagnetic Theory and Transmission Lines(C224)**

YEAR/SEM**: II/II**

COs	Internal	External	Average
CO-1	97	50	73.5
CO-2	97	50	73.5
CO-3	97	50	73.5
CO-4	96	50	73
CO-5	96	50	73
CO-6	53	50	51.5
Average	89.3	50	69.6
Attainment Level	3	1	

OVERALL ATTAINMENT LEVEL=40% OF
Attainment Level

INTERNAL+60%OF EXTERNAL

1	>50%
2	>60%
3	>70%

OVERALL ATTAINMENT	1.8

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Department of Electronics and Communication Engineering

Academic Year:**2020-21**

Subject: **Electromagnetic Theory and Transmission Lines (C224)**

YEAR/SEM**: II/II**

CO-PO-PSO ATTAINMENT

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C224.1	97	97	97	97	97						97				
C224.2	97		97	97	97					97					
C224.3	97	97	97	97	97						97				
C224.4		96		96	96							96			
C224.5	96	96	96		96						96				
C224.6	53	53	53	53	53						53	53			
Avg	**88**	**88**	**88**	**88**	**89**					**97**	**86**	**75**			
C423	3	3	3	3	3					3	3	3			

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Course Assessment & Attainment Work Sheet

Course Name :**Electromagnetic Theory and Transmission Lines**
Year: 2020-21
Batch: 2018-2022

Course Code : 18EC0412
Department : **ECE**
Faculty : **J Rajanikanth/K D Mohana Sundaram**

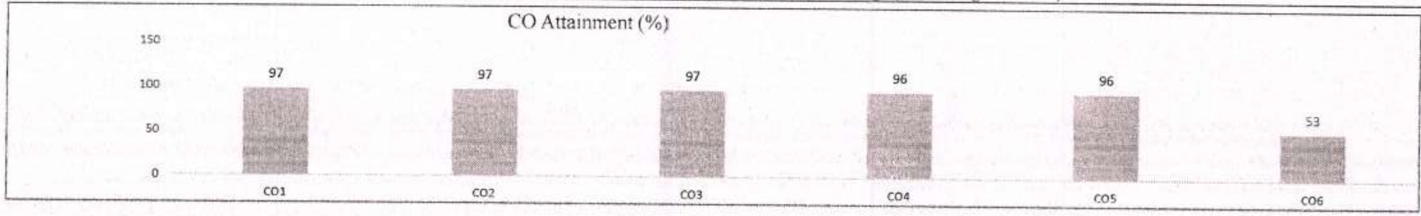
Test Marks

Question	Obj1			ASS1			1 a	1 b	2 a	2 b	3 a	3 b	4 a	4 b	5 a	5 b	6 a	6 b	Obj2			ASS2			1 a	1 b	2 a	2 b	3 a	3 b	4 a	4 b	5 a	5 b	6 a	6 b	CO Total Marks (from all Tests & Assignments)						CO IN %						SEE
Blooms Level							L1	L1	L3	L2	L2	L3	L4		L2		L2								L2		L2	L1	L1	L2	L1	L1	L1	L1	L1	L2														CO2 CO3
CO	CO 1	CO 2	CO 3	CO 1	CO 2	CO 3	CO 1,2&	CO 1,2&	CO 1,2&	CO 1&3	CO 1,2&		CO 1&3	CO 1&3	CO 1,2&	CO 1,2&	CO 1&3	CO 1&3	CO 4	CO 5	CO 6	CO 4	CO 5	CO 6	CO 1,2&	CO 2&3	CO 2&3		CO 3,4&	CO 4&5	CO 4&5	CO 4&5	CO 4&5	CO 6	CO 6	CO 6	CO 1	CO 2	CO 3	CO 4	CO 5	CO 6	CO1	CO2	CO3	CO4	CO5	CO6	Target
Max Marks	10	10	10	10	10	10	8	2	5	5	10		5	5	5	5	7	3	10	10	10	10	10	10	6	4	10		5	5	5	5	5	5	10		20	20	20	20	20	40	20	20	20	20	20	40	
18F61A0401	10	10	10	10	10	10			1	2			2		3	1			6	6	6	10	10	10	1	1							2	5	4		20	20	20	16	16	27	100	100	100	80	80	68	15
18F61A0402	10	10	10	10	10	10			4	5	2				5	1			8	8	8	10	10	10			10		4	3					10		20	20	20	18	18	28	100	100	100	90	90	70	46
18F61A0403	10	10	10	10	10	10	5	2			1			1	4		4	3	8	8	8	10	10	10	2	4				2		1	2	4			20	20	20	18	18	24	100	100	100	90	90	60	22
18F61A0404	10	10	10	10	10	10				1	1		1	1					7	7	7	10	10	10	1		2		1					2	1		20	20	20	17	17	20	100	100	100	85	85	50	22
18F61A0405	10	10	10	10	10	10	1	2						5			5		7	7	7	10	10	10	3	4									9		20	20	20	17	17	26	100	100	100	85	85	65	16
18F61A0406	10	10	10	10	10	10				3				2	4				4	4	4	10	10	10			10							3	4		20	20	20	14	14	21	100	100	100	70	70	53	26
18F61A0407	10	10	10	10	10	10					2								8	8	8	10	10	10	1	1									9		20	20	20	18	18	27	100	100	100	90	90	68	26
18F61A0408	10	10	10	10	10	10	2				10				5	5	5	5	9	9	9	10	10	10			10		5	4	5	1			10		20	20	20	19	19	29	100	100	100	95	95	73	49
18F61A0410	10	10	10	10	10	10			1	3			1	1	2	1			7	7	7	10	10	10	3	3			0	4			2	1			20	20	20	17	17	20	100	100	100	85	85	50	10
18F61A0411	10	10	10	10	10	10													3	3	3	10	10	10									1	2	4		20	20	20	13	13	19	100	100	100	65	65	48	16
18F61A0412	10	10	10	10	10	10							1	1	3	1			6	6	6	10	10	10		2				2			2	1			20	20	20	16	16	19	100	100	100	80	80	48	9
18F61A0413	10	10	10	10	10	10			1	5					5	2	7	3	6	6	6	10	10	10	3	4				3	2		5	3			20	20	20	16	16	24	100	100	100	80	80	60	43
18F61A0414	10	10	10	10	10	10				2					5	5			a	a	a	10	10	10													20	20	20	10	10	10	100	100	100	50	50	25	15
18F61A0415	10	10	10	10	10	10				1			1		1		1		6	6	6	10	10	10			3					2		5	3		20	20	20	16	16	24	100	100	100	80	80	60	22
18F61A0416	10	10	10	10	10	10	2	1							4				7	7	7	10	10	10			10					1	3	5			20	20	20	17	17	25	100	100	100	85	85	63	22
18F61A0417	10	10	10	10	10	10				3					5	5			8	8	8	10	10	10	5	4				1			3	5			20	20	20	18	18	26	100	100	100	90	90	65	27
18F61A0418	10	10	10	10	10	10			4	5			5	5			7	3	7	7	7	10	10	10	5	4	7						0	3	5	0		20	20	20	17	17	25	100	100	100	85	85	63	37
18F61A0419	10	10	10	10	10	10			5	5	8						7	3	8	8	8	10	10	10			10						3	5	5	10		20	20	20	18	18	38	100	100	100	90	90	95	46
18F61A0420	10	10	10	10	10	10	0	1					1	1					5	5	5	10	10	10	1									1			20	20	20	15	15	16	100	100	100	75	75	40	16
18F61A0421	10	10	10	10	10	10	1	0			1				5	2			7	7	7	10	10	10	2	3	4						2	5	1		20	20	20	17	17	25	100	100	100	85	85	63	22
18F61A0422	10	10	10	10	10	10				1					1		1	1	7	7	7	10	10	10			9				2	3					20	20	20	17	17	17	100	100	100	85	85	43	33
18F61A0423	10	10	10	10	10	10	2	0									0	0	6	6	6	10	10	10	1	3								5	5		20	20	20	16	16	26	100	100	100	80	80	65	22
18F61A0424	10	10	10	10	10	10		1							1		1	2	6	6	6	10	10	10	3	4	8				3	2		5	8		20	20	20	16	16	29	100	100	100	80	80	73	24
18F61A0425	10	10	10	10	10	10	6				3						6		6	6	6	10	10	10	3	4	8				1	2	3	5	10		20	20	20	16	16	34	100	100	100	80	80	85	25
18F61A0426	10	10	10	10	10	10			1	2			2	1	1	1			8	8	8	10	10	10	4	4	7	3	4				4	3	5	0		20	20	20	18	18	26	100	100	100	90	90	65	27
18F61A0427	10	10	10	10	10	10			2	3			1	2	5		5	0	8	8	8	10	10	10	5	4	8					1	2	4	5	10		20	20	20	18	18	37	100	100	100	90	90	93	22
18F61A0428	10	10	10	10	10	10				4				3	0		1	1	6	6	6	10	10	10	2	4	3		1	1		1		2	2		20	20	20	16	16	20	100	100	100	80	80	50	17
18F61A0429	10	10	10	10	10	10				1	1						3	1	7	7	7	10	10	10	3	4					3	1	1	2	9		20	20	20	17	17	29	100	100	100	85	85	73	14
18F61A0430	10	10	10	10	10	10			2	2				3					9	9	9	10	10	10		3				5					1		20	20	20	19	19	20	100	100	100	95	95	50	7
18F61A0431	10	10	10	10	10	10				3				3			2	1	8	8	8	10	10	10		3					4	1		5	8		20	20	20	18	18	31	100	100	100	90	90	78	25
18F61A0432	10	10	10	10	10	10			0	3	3				5				7	7	7	10	10	10	2	4					2	4		5	10		20	20	20	17	17	32	100	100	100	85	85	80	33
18F61A0433	10	10	10	10	10	10				1	1			1	5				6	6	6	10	10	10						1	1	1			2		20	20	20	16	16	18	100	100	100	80	80	45	7
18F61A0434	10	10	10	10	10	10				1			1	1			1	1	7	7	7	10	10	10	1	4											20	20	20	17	17	17	100	100	100	85	85	43	29

19F65A0411	10	10	10	10	10	10				1	0				0		0		7	7	7	10	10	10	0	0	0		0		0	0	0	1	0		[illegible]	20	20	17	17	18	100	100	100	85	85	45	29
19F65A0412	10	10	10	10	10	10			1	0	0				0	0			3	3	3	10	10	10			0		0	0					2		20	20	20	13	13	15	100	100	100	65	65	38	21

Total students	297	297	297	297	297	297	291
Students above Target	288	288	288	286	286	158	144
CO Assesment (%)	97	97	97	96	96	53	49
CO Attainment Level	3	3	3	3	3	1	1
CO Attainment Status	A	A	A	A	A	A	A
CO Attainment	CO1	CO2	CO3	CO4	CO5	CO6	
40% of IA Attainment	1.2	1.2	1.2	1.2	1.2	0.4	
60% of SEE Attainment	0.6	0.6	0.6	0.6	0.6	0.6	
Total CO Attainment	1.8	1.8	1.8	1.8	1.8	1	1.66667

Attainment levels Vs Targets			
Attainment level 1			>50% of students scoring more than target percentage (60% of highest mark).
Attainment level 2			>60% of students scoring more than target percentage (60% of highest mark).
Attainment level 3			>70% of students scoring more than target percentage (60% of highest mark).



CO - PO - PSO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	3	1	1						2				
CO2	3		3	3	2					2					
CO3	3	3	2	3	2						1				
CO4		2		2	3							2			
CO5	3	3	3		3						2				
CO6	3	2	2	3	3						2	2			
AVG	3	3	3	2	2	#####	####	####	####	2	2	2	###	#####	######

CO - PO-PSO Attainment

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	97	97	97	97	97						97				
CO2	97		97	97	97					97					
CO3	97	97	97	97	97						97				
CO4		96		96	96							96			
CO5	96	96	96		96						96				
CO6	53	53	53	53	53						53	53			
AVG	88	88	88	88	89	#####	####	####	####	97	86	75	###	#####	######

J. Raju
Faculty

HOD/ECE

HEAD
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Department of Electronics and Communication Engineering

Name of the faculty: Dr. T. Senthil Kumar

Course name: Data Communication & Networking (C321)
Year of Study: 2020-21 (III /II Sem)

Course Outcomes:

C321.1	Understand the basics of data communication, networking, internet and their importance.
C321.2	Analyze the services and features of various protocol layers in data networks.
C321.3	Differentiate wired and wireless computer networks.
C321.4	Analyze TCP/IP and their protocols.
C321.5	Recognize the different internet devices and their functions.
C321.6	Identify the basic security threats of a network.

Course name: Data Communication & Networking (C321)
Year of Study: 2020-21 (III /II Sem)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C321.1		3										1	2		
C321.2					3									2	
C321.3					2							2			2
C321.4	2												1	2	
C321.5			3		2									2	
C321.6	2		2	2	1									2	3
C321	2	3	3	2	2							2	2	2	3

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Department of Electronics and Communication Engineering

Academic Year:**2020-21**

Subject:**Data Communication and Networking(C321)** Year/Sem**: III/II**

COs	Internal	External	Average
CO-1	96	89	92.5
CO-2	91	89	90
CO-3	89	89	89
CO-4	93	89	91
CO-5	91	89	90
CO-6	92	89	90.5
Average	92	89	90.5
Attainment Level	3	3	3

OVERALL ATTAINMENT LEVEL=40% OF
Attainment Level

INTERNAL+60%OF EXTERNAL

1	>50%
2	>60%
3	>70%

OVERALL ATTAINMENT	3

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Department of Electronics and Communication Engineering

Academic Year:**2020-21**

Subject:**Data Communication & Networking (C321)** Year/Sem:**III/II**

CO-PO-PSO ATTAINMENT

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C321.1	-	96	-	-	-	-	-	-	-	-	-	96	-	-	-
C321.2	-	-	-	-	91	-	-	-	-	-	-	-	-	91	-
C321.3	-	-	-	-	89	-	-	-	-	-	-	89	-	-	89
C321.4	93	-	-	-		-	-	-	-	-	-	-	-	93	-
C321.5	-	-	91		91	-	-	-	-	-	-	-	-	91	-
C321.6	92		92	92	92	-	-	-	-	-	-	-	-	92	92
Avg	**93**	**96**	**92**	**92**	**91**	-	-	-	-	-	-	**92**	-	**92**	**91**
C321	3	3	3	3	3	-	-	-	-	-	-	3	-	3	3

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SIDDHARTH INSTITUTE OF ENGIEERING & TECHNOLOGY :: PUTTUR

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Course Assessment & Attainment Work Sheet

Course Name :**DATA COMMUNICATION AND NETWORKING**
Year: 2020-21
Batch: 2018-2022

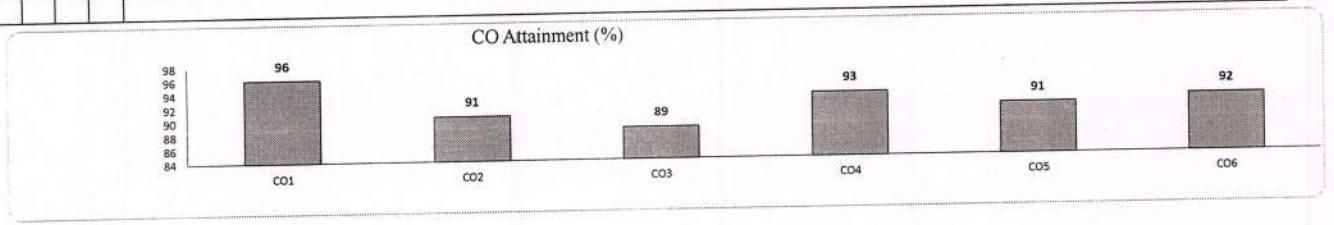
Course Code : 18EC0451
Department : **ECE**
Faculty : Dr.T.Senthil Kumar

S.No.		Test Marks																																		CO Total Marks (from all Tests & Assignments)						CO IN %						SEE
	Question	Obj1			ASS1			1 a	1 b	2 a	3 a	3 b	4 a	4 b	5 a	5 b	6 a	6 b	Obj2			ASS2			1 a	1 b	2 a	2 b	3 a	4 a	4 b	5 a	5 b	6 a	6 b													
	Blooms Level							L2	L2	L2	L1	L1	L4	L4	L1	L2	L2	L2							L2	L2	L2	L1	L2	L2	L2	L2	L2	L1	L1													
	CO	CO1	CO2	CO3	CO1	CO2	CO3	CO1	CO2	CO1	CO2	CO2	CO2	CO2	CO3	CO3	CO3	CO3	CO4	CO5	CO6	CO4	CO5	CO6	CO3	CO3	CO3	CO3	CO4	CO4	CO4	CO5	CO5	CO5	CO5	CO1	CO2	CO3	CO4	CO5	CO6	CO1	CO2	CO3	CO4	CO5	CO6	CO2 CO3
	Max Marks	10	10	10	10	10	10	4	6	10	4	6	5	5	5	5	5	5	10	10	10	10	10	10	5	5	5	5	10	5	5	5	5	5	5	34	46	60	40	40	20	31	36	41	30	29	20	Target
1	18F61A0401	10	10	10	10	10	10	2	6				3	2	3	4			ab	ab	ab	10	10	10	4	4			2	2						22	31	35	14	10	10	71	86	85	47	34	50	41
2	18F61A0402	10	10	10	9	9	9	3	6		3	6			4	4			9	9	9	10	10	10	4	4			6			4				22	34	35	25	23	19	71	94	90	83	79	95	47
3	18F61A0403	10	10	10	10	10	10	3	6				4	4			3	4	10	10	10	10	10	10	4	4			5			.		4	4	23	34	35	25	28	20	74	94	90	83	97	100	50
4	18F61A0404	10	10	10	10	10	10	3	6		4	0			4				10	10	10	10	10	10												23	30	24	20	20	20	74	83	62	67	69	100	5
5	18F61A0405	10	10	10	10	10	10	3	5		2	6				1			10	10	10	10	10	10	5	4			2							23	33	30	22	20	20	74	92	77	73	69	100	43
6	18F61A0406	10	10	10	10	10	10	3	6		2	6						1	10	10	10	10	10	10	4	2			4							23	34	27	24	20	20	74	94	69	83	69	100	40
7	18F61A0407	10	10	10	10	10	10	0	6				3	3					10	10	10	10	10	10	4	4			8							20	32	28	28	20	20	65	89	72	93	69	100	38
8	18F61A0408	10	10	10	10	10	10			9	4	6					4	4	10	10	10	10	10	10	4	4			8			4	4			29	30	36	28	28	20	94	83	92	93	97	100	44
9	18F61A0410	10	10	10	10	10	10	3	5				1	1	4	3			10	10	10	10	10	10	4	2			2			3	2			23	27	33	22	25	20	74	75	85	73	86	100	33
10	18F61A0411	ab	ab	ab	10	10	10	3	6			6			1	2			10	10	10	10	10	10	3	2			2							13	22	18	22	20	20	42	61	46	73	69	100	40
11	18F61A0412	10	10	10	10	10	10	3	6		0	0			4				10	10	10	10	10	10	4				6					2	2	23	26	28	26	24	20	74	72	72	87	83	100	36
12	18F61A0413	10	10	10	10	10	10	3	6		3	6					4	3	10	10	10	10	10	10			4	4	9			4	4			23	35	35	29	28	20	74	97	90	97	97	100	51
13	18F61A0414	10	10	10	10	10	10	2	4	0	0	0	1	1	1	0			10	10	10	10	10	10	4	0			8							22	26	25	28	20	20	71	72	64	93	69	100	32
14	18F61A0415	10	10	10	10	10	10	3	3				2	2					10	10	10	10	10	10	4	2			4			2				23	27	26	24	22	20	74	75	67	80	76	100	27
15	18F61A0416	10	10	10	10	10	10		6		3	6			4	4			10	10	10	10	10	10	4	4			8				2			20	35	36	28	22	20	65	97	92	93	76	100	46
16	18F61A0417	10	10	10	10	10	10	3	6			3			2	3			10	10	10	10	10	10	4	4			2							23	29	33	22	20	20	74	81	85	73	69	100	44
17	18F61A0418	10	10	10	10	10	10	3	6						4	4			10	10	10	10	10	10			4	4	8							23	26	36	28	20	20	74	72	92	93	69	100	21
18	18F61A0419	10	10	10	10	10	10	2	5		2	6			4	4			10	10	10	10	10	10			4	4	8						2	22	33	36	28	22	20	71	92	92	93	76	100	33
19	18F61A0420	10	10	10	10	10	10	0	0		0	0							9	9	9	10	10	10	4	4										20	20	28	19	19	19	65	56	72	63	66	95	43
20	18F61A0421	10	10	10	10	10	10	0	5				1	0	4	2			10	10	10	10	10	10	4	2	0	0	2	2						20	26	32	24	20	20	65	72	82	80	69	100	49
21	18F61A0422	10	10	10	9	9	9	4	6				1	1					10	10	10	10	10	10	4	4			8							23	27	27	28	20	20	74	75	69	93	69	100	44
22	18F61A0423	10	10	10	10	10	10	3	6										10	10	10	10	10	10	4	4								4		23	26	28	20	24	20	74	72	72	67	83	100	55
23	18F61A0424	10	10	10	10	10	10			9	1				4	3			10	10	10	10	10	10	4	4				4	4	2				29	21	35	28	22	20	94	58	90	93	76	100	44
24	18F61A0425	10	10	10	10	10	10	3	6		4	6			4	4			10	10	10	10	10	10	4	4			8					2	2	23	36	36	28	24	20	74	100	92	93	83	100	50
25	18F61A0426	10	10	10	10	10	10	3	4		1	6			2	4			10	10	10	10	10	10	4	4			8			4	4			23	31	34	28	28	20	74	86	87	93	97	100	51
26	18F61A0427	10	10	10	10	10	10	3	6		3	6					2	1	9	9	9	10	10	10	4	4			4			2				23	35	31	23	21	19	74	97	79	77	72	95	48
27	18F61A0428	10	10	10	10	10	10	0	5	4	3	6			1	3			10	10	10	10	10	10	4	4				4	4					24	34	32	28	20	20	77	94	82	93	69	100	39
28	18F61A0429	10	10	10	10	10	10	3	6		3	6			3	3			10	10	10	10	10	10	4	4			9					2		23	35	34	29	22	20	74	97	87	97	76	100	40
29	18F61A0430	10	10	10	10	10	10	3			2	6	3	2					10	10	10	10	10	10					8					4		23	33	20	28	24	20	74	92	51	93	83	100	52
30	18F61A0431	10	10	10	10	10	10	2	6		3	6			1	0			10	10	10	10	10	10	4	4	4	2								22	35	35	20	20	20	71	97	90	67	69	100	37
31	18F61A0432	10	10	10	10	10	10	2	5		2	6			3	4			10	10	10	10	10	10	4	4			8					4	4	22	33	35	28	28	20	71	92	90	93	97	100	34
32	18F61A0433	10	10	10	10	10	10	0				0					0	2	10	10	10	10	10	10					2			4	4			20	20	22	22	28	20	65	56	56	73	97	100	53
33	18F61A0434	10	10	10	10	10	10	3	6										ab	ab	ab	10	10	10			4	4	2							23	26	28	12	10	10	74	72	72	40	34	50	50
34	18F61A0435	9	9	9	10	10	10	3	6		3	6							10	10	10	10	10	10												22	34	19	20	20	20	71	94	49	67	69	100	32
35	18F61A0436	10	10	10	10	10	10	1	6		0	5						2	10	10	10	10	10	10	4	4			8			2	2			21	31	30	28	24	20	68	86	77	93	83	100	44

Total students		104	106	106	105	105	105	103
Students above Target		100	96	94	98	96	97	92
CO Assesment (%)		96	91	89	93	91	92	89
CO Attainment Level		3	3	3	3	3	3	3
CO Attainment Status		A	A	A	A	A	A	A
	CO Attainment	CO1	CO2	CO3	CO4	CO5	CO6	
	40% of IA Attainment	1.2	1.2	1.2	1.2	1.2	1.2	
	60% of SEE Attainment	1.8	1.8	1.8	1.8	1.8	1.8	
	Total CO Attainment	3	3	3	3	3	3	3

A-Attained

Attainment levels Vs Targets				
Attainment level 1				
Attainment level 2				
Attainment level 3				



CO - PO - PSO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1		3										1	2		
CO2					3									2	
CO3					2							2			2
CO4	2												1	2	
CO5			3		2									2	
CO6	2		2	2	1									2	3
AVG	2	3	3	2	2	######	#####	#####	#####	#####	#####	2	2	2	3

CO - PO-PSO Attainment

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1		96										96			
CO2					91									91	
CO3					89							89			89
CO4	93													93	
CO5			91		91									91	
CO6	92		92	92	92									92	92
AVG	93	96	92	92	91	######	#####	#####		#####		92		92	91

Faculty

HOD/ECE

HEAD
Dept. of Electronics & Communication Engg.
Siddharth Institute of Engg. & Tech.
Narayanavanam Road, Puttur-517 583.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY::PUTTUR
(AUTONOMOUS)
(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)
(Accredited by NBA for Civil, EEE, Mech., ECE &CSE)
(Accredited by NAAC with 'A' Grade)
Puttur-517583, Chittoor District, A.P. (India)

Department of Electronics and Communication Engineering

Name of the faculty: P.PavanKumar

Course name: Embedded Systems(C412)

Year of Study: 2020-21(IV /I Sem)

Course Outcomes:

C412.1	Enumerate and describe the components of an embedded system.
C412.2	Understand the technology and standards relating to IoTs.
C412.3	Understand where the IoT applications and Networking in IoT.
C412.4	Learn the language and Identify the components and develop an IoT Applications.
C412.5	Understand Sensors, Actuators, Configuration of Raspberry Pi and develop python code on Raspberry Pi for IoT application.
C412.6	Apply the knowledge and skills acquired during the course to design, build and test a complete, working IoT system involving prototyping, programming and data analysis for IoT Application.

Course name: Embedded Systems (C412) Year of Study: 2020-21 (IV / I Sem)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C412.1		3										1	**2**		
C412.2					3									**2**	
C412.3					2							2			**2**
C412.4	2												**1**	**2**	
C412.5			3		2									**2**	
C412.6	2		2	2	1									**2**	**3**
C412	**2**	**3**	**3**	**2**	**2**							**2**	**2**	**2**	**3**

Signature of the faculty

Signature of the HOD
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Puttur-517583, Chittoor District, A.P. (India)

Department of Electronics and Communication Engineering

Academic Year:**2020-21**

Subject:**Embedded Systems(C412)** Year/Sem**: IV/I**

COs	Internal	External	Average
CO-1	95	94	94.5
CO-2	95	94	94.5
CO-3	67	94	80.5
CO-4	56	94	75
CO-5	76	94	85
CO-6	94	94	94
Average	80.5	94	87.3
Attainment Level	3	3	3

OVERALL ATTAINMENT LEVEL=40% OF
Attainment Level

INTERNAL+60%OF EXTERNAL

1	>50%
2	>60%
3	>70%

OVERALL ATTAINMENT	3

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Department of Electronics and Communication Engineering

Academic year**:2020-21**

Subject:**Embedded Systems (C412)** Year/Sem:**IV/I**

CO-PO-PSO ATTAINMENT

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C412.1	-	95	-	-	-	-	-	-	-	-	-	95	-	-	-
C412.2	-	-	-	-	95	-	-	-	-	-	-	-	-	95	-
C412.3	-	-	-	-	67	-	-	-	-	-	-	67	-	-	67
C412.4	56	-	-	-		-	-	-	-	-	-	-	-	56	-
C412.5	-	-	76	-	76	-	-	-	-	-	-	-	-	76	-
C412.6	94	-	94	94	94	-	-	-	-	-	-	-	-	94	94
Avg	**75**	**95**	**85**	**94**	**83**	-	-	-	-	-	-	**81**	-	**80**	**81**
C412	3	3	3	3	3	-	-	-	-	-	-	3	-	3	3

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Siddharth Institute of Engg. & Tech.
Narayanavanam Road, Puttur-517 583.

SIDDHARTH INSTITUTE OF ENGIEERING & TECHNOLOGY :: PUTTUR

(Autonomous)

Course Assessment & Attainment Work Sheet

Course Name :**EMBEDDED SYSTEMS**
Year: 2020-21
Batch: 2017-2021

Course Code : 16EC429
Department : **ECE**
Faculty : P Pavan Kumar, Dr R Prem Kumar

S.No.	Question	Test Marks																																		CO Total Marks (from all Tests & Assignments)						CO IN %						SEE
		Obj1			ASS1			1 a	1 b	2 a	2 b	3 a	4 a	4 b	5 a	5 b	6 a	6 b	Obj2			ASS2			1 a	1 b	2 a	3 a	4 a	5 a	5 b	6 a																		
	Blooms Level							L2	L2	L2	L2	L1	L2	L1	L2	L2	L1	L3							L2	L1	L2	L2	L2	L2	L2	L1																			
	CO	CO1	CO2	CO3	CO1	CO2	CO3	CO1	CO1	CO1	CO1	CO2	CO2	CO2	CO3	CO3	CO3	CO3	CO4	CO5	CO6	CO4	CO5	CO6	CO3	CO3	CO3	CO4	CO4	CO4	CO4	CO5	CO1	CO2	CO3	CO4	CO5	CO6	CO1	CO2	CO3	CO4	CO5	CO6	CO2 CO3
	Max Marks	10	10	10	10	10	10	5	5	5	5	10	5	5	7	3	2	8	10	10	10	10	10	10	8	2	10	10	10	7	3	10	40	40	60	47	30	20	30	30	49	37	30	20	Target
1	17F61A0401	10	10	10	10	10	10	5	3			6			7	3			8	8	8	10	10	10	3	2			4			5	28	26	35	22	23	18	93	87	71	59	77	90	54
2	17F61A0402	10	10	10	10	10	10	3	2			4			0	0			8	8	8	10	10	10	5				7	7	3	5	25	24	25	32	23	18	83	80	51	86	77	90	48
3	17F61A0403	10	10	10	10	10	10	3	1				1	1	7	3			7	7	7	10	10	10	8	2		4				6	24	22	40	21	23	17	80	73	82	57	77	85	46
4	17F61A0404	10	10	10	10	10	10			2	2	1					1	1	5	5	5	10	10	10								2	24	21	22	15	17	15	80	70	45	41	57	75	30
5	17F61A0405	10	10	10	10	10	10												3	3	3	10	10	10		2							20	20	22	13	13	13	67	67	45	35	43	65	40
6	17F61A0407	10	10	10	10	10	10	3	1							2			5	5	5	10	10	10		1				2	0		24	20	23	17	15	15	80	67	47	46	50	75	48
7	17F61A0408	10	10	10	10	10	10	5									2	8	8	8	8	10	10	10	2				6	7	1		25	20	32	31	18	18	83	67	65	84	60	90	51
8	17F61A0409	10	10	10	10	10	10	5				1			5	3			5	5	5	10	10	10			0					2	25	21	28	15	17	15	83	70	57	41	57	75	45
9	17F61A0410	10	10	10	10	10	10	5	4			9					2	8	7	7	7	10	10	10			5	10		7	3		29	29	35	34	17	17	97	97	71	92	57	85	53
10	17F61A0411	10	10	10	10	10	10	3				9					2	6	5	5	5	10	10	10	2						0	1	23	29	30	15	16	15	77	97	61	41	53	75	48
11	17F61A0412	10	10	10	10	10	10	3											6	6	6	10	10	10	3		1				0		23	20	24	16	16	16	77	67	49	43	53	80	37
12	17F61A0413	10	10	10	10	10	10	5	2			9			5	3			7	7	7	10	10	10			6	5				10	27	29	34	22	27	17	90	97	69	59	90	85	47
13	17F61A0414	10	10	10	10	10	10	2	1	1	1	0			7	3			7	7	7	10	10	10			10	10				10	25	20	40	27	27	17	83	67	82	73	90	85	48
14	17F61A0415	10	10	10	10	10	10	5	4			10			7	3			7	7	7	10	10	10	2				10			10	29	30	32	27	27	17	97	100	65	73	90	85	52
15	17F61A0416	10	10	10	10	10	10	5	5			9							7	7	7	10	10	10			10		7			9	30	29	30	24	26	17	100	97	61	65	87	85	50
16	17F61A0417	10	10	10	10	10	10	3							4	2			4	4	4	10	10	10			10						23	20	36	14	14	14	77	67	73	38	47	70	44
17	17F61A0418	10	10	10	10	10	10	2				4				5	2		6	6	6	10	10	10			10						22	24	37	16	16	16	73	80	76	43	53	80	49
18	17F61A0419	10	10	10	10	10	10												6	6	6	10	10	10	7	2	10	5		4	0		20	20	39	25	16	16	67	67	80	68	53	80	46
19	17F61A0420	10	10	10	10	10	10	5	4			10			7	3			6	6	6	10	10	10	8	2			7			7	29	30	40	23	23	16	97	100	82	62	77	80	46
20	17F61A0421	10	10	10	10	10	10	5				10			7	3			6	6	6	10	10	10	8	2			10			3	25	30	40	26	19	16	83	100	82	70	63	80	47
21	17F61A0422	10	10	10	10	10	10	5	5			10			6	3			9	9	9	10	10	10	8	2			10	7	3		30	30	39	36	19	19	100	100	80	97	63	95	49
22	17F61A0423	10	10	10	10	10	10												10	10	10	10	10	10	8	2			8			9	20	20	30	28	29	20	67	67	61	76	97	100	46
23	17F61A0424	10	10	10	10	10	10	4				7			6				8	8	8	10	10	10			4	6		3	0		24	27	30	27	18	18	80	90	61	73	60	90	44
24	17F61A0425	10	10	10	10	10	10			5	5	7			7	3			8	8	8	10	10	10	8	2	9					6	30	27	49	18	24	18	100	90	100	49	80	90	53
25	17F61A0426	10	10	10	10	10	10	5	5				1		7	3			10	10	10	10	10	10			10			7	3		30	21	40	27	20	20	100	70	82	73	67	100	51
26	17F61A0427	10	10	10	10	10	10	5	5				5	5	7	3			10	10	10	10	10	10			10		10	7	3		30	30	40	37	20	20	100	100	82	100	67	100	51
27	17F61A0428	10	10	10	10	10	10												9	9	9	10	10	10	3	2			8			10	20	20	25	27	29	19	67	67	51	73	97	95	35
28	17F61A0429	10	10	10	10	10	10			5	5		5	5	7	3			9	9	9	10	10	10									30	30	30	19	19	19	100	100	61	51	63	95	55
29	17F61A0430	10	10	10	10	10	10	5	2										9	9	9	10	10	10			9						27	20	29	19	19	19	90	67	59	51	63	95	13
30	17F61A0431	10	10	10	10	10	10	3				3			7	3			9	9	9	10	10	10			10	7		7	3		23	23	40	33	19	19	77	77	82	89	63	95	46
31	17F61A0432	10	10	10	10	10	10	0	0			2					0	0	10	10	10	10	10	10			2	6		3	1		20	22	22	29	20	20	67	73	45	78	67	100	45
32	17F61A0433	10	10	10	10	10	10	2	2			4					1		10	10	10	10	10	10				6		5	3		24	24	21	31	20	20	80	80	43	84	67	100	46
33	17F61A0434	10	10	10	10	10	10	4	2				1		3	2			10	10	10	10	10	10		2		6				8	26	21	27	26	28	20	87	70	55	70	93	100	49
34	17F61A0435	10	10	10	10	10	10	5	4			5			7	3			7	7	7	10	10	10	8	2			6			0	29	25	40	23	17	17	97	83	82	62	57	85	51
35	17F61A0436	10	10	10	10	10	10	3				2			7	3			9	9	9	10	10	10			10	9				3	23	22	40	28	22	19	77	73	82	76	73	95	51

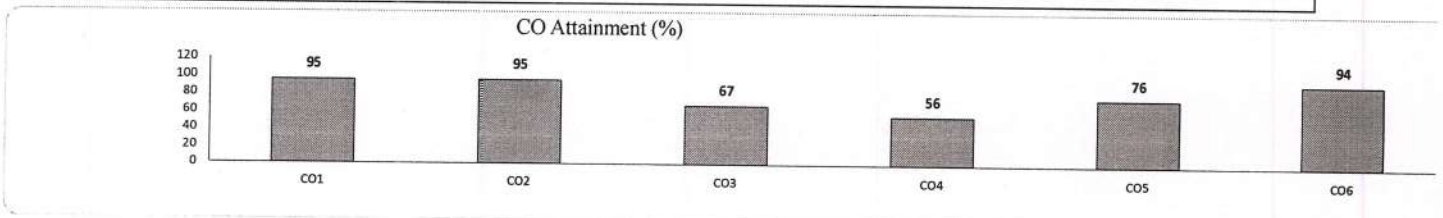
	Total students	106	106	106	106	106	106	106
	Students above Target	101	101	71	59	81	100	100
	CO Assesment (%)	95	95	67	56	76	94	94
	CO Attainment Level	3	3	2	1	3	3	3
	CO Attainment Status	A	A	A	A	A	A	A

A-Attained

CO Attainment	CO1	CO2	CO3	CO4	CO5	CO6
40% of IA Attainment	1.2	1.2	0.8	0.4	1.2	1.2
60% of SEE Attainment	1.8	1.8	1.8	1.8	1.8	1.8
Total CO Attainment	3	3	2.6	2.2	3	3

2.8

Attainment levels Vs Targets				
Attainment level 1				
Attainment level 2				
Attainment level 3				



CO - PO - PSO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1		3										1	2		
CO2					3									2	
CO3					2							2			2
CO4	2												1	2	
CO5			3		2									2	
CO6	2		2	2	1									2	3
AVG	2	3	3	2	2	#####	####	####	####	#####	####	2	2	2	3

CO - PO-PSO Attainment

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1		95										95			
CO2					95									95	
CO3					67							67			67
CO4	56													56	
CO5			76		76									76	
CO6	94		94	94	94									94	94
AVG	75	95	85	94	83	#####	####	####		####		81		80	81

Faculty

(P Pavan Kumar - Asst Prof / ECE)

HOD/ECE

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Dept. of Electronics & Communication Engg.
Siddharth Institute of Engg. & Tech.
Narayanavanam Road, Puttur-517 583.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY::PUTTUR
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(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)
(Accredited by NBA for Civil, EEE, Mech., ECE &CSE)
(Accredited by NAAC with 'A' Grade)
Puttur-517583, Chittoor District, A.P. (India)

Department of Electronics and Communication Engineering

Name of the faculty: J.Jhansi

Course name: WirelessCommunication& Networks(C423)

Year of Study: 2020-21(IV /II Sem)

Course Outcomes:

C423.1	Understand basics of Wireless Communications and its evolution process.
C423.2	Know about the mechanism of radio mobile propagation and its effects.
C423.3	Apply various types of diversity and equalization techniques to counter balance the effects of Wireless Channel.
C423.4	Recognize the importance of Wireless Networking and multiple access techniques in the presentday mobile communications.
C423.5	Analyze and design mobile systems using OFDM technology for mitigating the ISI effects at higher data rates.

Course name: WirelessCommunication& Networks (C423)
Year of Study: 2020-21 (IV / II Sem)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C423.1	3	3	3	1	1						2				
C423.2	3		3	3	2					2					
C423.3	3	3	2	3	2						1				
C423.4		2		2	3							2			
C423.5	3	3	3		3						2				
C423	**3**	**3**	**3**	**2**	**2**					**2**	**2**	**2**			

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Puttur-517583, Chittoor District, A.P. (India)

Department of Electronics and Communication Engineering

Academic Year:**2020-21**

Subject:**Wireless Communication and Networks (C423)** YEAR/SEM**: IV/II**

COs	Internal	External	Average
CO-1	65	95	80
CO-2	58	95	76.5
CO-3	60	95	77.5
CO-4	89	95	92
CO-5	80	95	87.5
Average	72.5	95	83.8
Attainment Level	3	3	3

OVERALL ATTAINMENT LEVEL=40% OF Attainment Level

INTERNAL+60%OF EXTERNAL

1	>50%
2	>60%
3	>70%

OVERALL ATTAINMENT	3

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Department of Electronics and Communication Engineering

Academic Year:**2020-21**

Subject:**Wireless Communication and Networks (C423)** Year/Sem:**IV/II**

CO-PO-PSO ATTAINMENT

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C423.1	65	65	65	65	65	-	-	-	-	-	65	-	-	-	-
C423.2	58	-	58	58	58	-	-	-	-	58	-	-	-	-	-
C423.3	60	60	60	60	60	-	-	-	-	-	60	-	-	-	-
C423.4	-	89	-	89	89	-	-	-	-	-	-	89	-	-	-
C423.5	80	80	80		80	-	-	-	-	-	80		-	-	-
Avg	**69**	**75**	**69**	**71**	**72**	-	-	-	-	**58**	**72**	**86**	-	-	-
C423	2	3	2	3	3	-	-	-	-	1	3	3	-	-	-

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(Autonomous)

Course Assessment & Attainment Work Sheet

Course Name :wcn
Year: 2019-20
Batch: 2016-2020

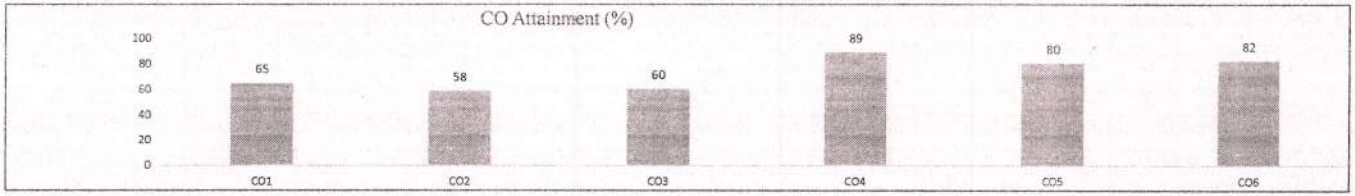
Course Code : 16EC441
Department : **ECE**
Faculty : J JHANSI

Question	Test Marks																																				CO Total Marks (from all Tests & Assignments)						*CO IN %*						SEE
	Obj1			ASS1			1 a	1 b	2 a	2 b	3 a	3 b	4 a	4 b	5 a	5 b	6 a	6 b	Obj2			ASS2			1 a	1 b	2 a	2 b	3 a	3 b	4 a	4 b	5 a	5 b	6 a	6 b													
Blooms Level							L1		L3		L2	L3	L4		L2		L2								L2		L2	L1	L1	L2	L1	L1	L1	L1	L2														
CO	CO1	CO2	CO3	CO1	CO2	CO3	CO1		CO1		CO2	CO2	CO2	co2	CO3	co3	CO3	co3	CO4	CO5	CO6	CO4	CO5	CO6	CO4	CO4	CO4		CO5	CO5	CO5	CO6	CO6	CO6	CO6	CO1	CO2	CO3	CO4	CO5	CO6	CO1	CO2	CO3	CO4	CO5	CO6	CO2 CO3
Max Marks	10	10	10	10	10	10	10		10		5	5	5	5	5	5	5	5	10	10	10	10	10	10	5	5	10		5	5	5	5	5	5	5	40	35	30	40	40	40	36	31	28	28	31	27	Target
17F61A0401	8	8	8	10	10	10			10		5	5					5	2	9	9	9	9	9	9	5	4			5	4						28	28	23	27	27	18	78	90	82	96	87	67	43
17F61A0402	9	9	9	9	9	9			10		5	4					4	4	8	8	8	10	10	10	5	2			4	5				4	4	28	27	22	25	27	26	78	87	79	89	87	96	39
17F61A0403	9	9	9	10	10	10			10		4	4					4	4	8	8	8	9	9	9	5	5			5	5			5	4		29	27	23	27	27	26	81	87	82	96	87	96	32
17F61A0404	8	8	8	9	9	9			8				5	4					8	8	8	10	10	10			6				5		2	4		25	22	17	24	23	24	69	71	61	86	74	89	34
17F61A0405	9	9	9	10	10	10			10		4	4					4	4	8	8	8	9	9	9			9		5	5			4	4		29	27	23	26	27	25	81	87	82	93	87	93	31
17F61A0407	0	0	0	9	9	9													8	8	8	10	10	10	4				3	4						9	9	9	22	25	18	25	29	32	79	81	67	29
17F61A0408	9	9	9	10	10	10			10		5	5					3	5	9	9	9	10	10	10	4	4					9			4	4	29	29	22	27	28	27	81	94	79	96	90	100	46
17F61A0409	9	9	9	8	8	8			10		5	5					5	3	8	8	8	9	9	9	4	5			3	3			4			27	27	22	26	23	21	75	87	79	93	74	78	46
17F61A0410	9	9	9	10	10	10			10						4	5	5	2	7	7	7	10	10	10			4				4			5	4	29	19	28	21	21	26	81	61	100	75	68	96	34
17F61A0411	9	9	9	9	9	9			10		5	4					5	4	8	8	8	10	10	10			9		4	5			4			28	27	23	27	27	22	78	87	82	96	87	81	41
17F61A0412	9	9	9	10	10	10	10				4	5					5	5	8	8	8	9	9	9	5	4			5	5				5	4	29	28	24	26	27	26	81	90	86	93	87	96	36
17F61A0413	8	8	8	9	9	9			10		5						4	4	8	8	8	10	10	10	4	4			4	5						27	22	21	26	27	18	75	71	75	93	87	67	29
17F61A0414	8	8	8	10	10	10			10				4				5	5	7	7	7	10	10	10	5				4					5		28	22	23	22	21	22	78	71	82	79	68	81	24
17F61A0415	8	8	8	9	9	9			10		5	5			5				7	7	7	10	10	10			9		5	5				2		27	27	22	26	27	19	75	87	79	93	87	70	26
17F61A0416	9	9	9	10	10	10			10		5	5					5	5	8	8	8	9	9	9	5	4			4					5	2	29	29	24	26	21	24	81	94	86	93	68	89	35
17F61A0417	8	8	8	9	9	9			8										7	7	7	10	10	10			4		4					2		25	17	17	21	21	19	69	55	61	75	68	70	41
17F61A0418	8	8	8	10	10	10			8								3		7	7	7	9	9	9			5				4			5	4	26	18	21	21	20	25	72	58	75	75	65	93	37
17F61A0419	9	9	9	8	8	8	10				5	4					5	5	7	7	7	10	10	10	4	5			5				5			27	26	22	26	22	22	75	84	79	93	71	81	31
17F61A0420	9	9	9	10	10	10	10				4	4					5	5	8	8	8	9	9	9	4	4			5	5			4	4		29	27	24	25	27	25	81	87	86	89	87	93	34
17F61A0421	8	8	8	9	9	9	9				5	2			3	3			7	7	7	10	10	10	4	4			5	4				4	5	26	24	20	25	26	26	72	77	71	89	84	96	43
17F61A0422	8	8	8	10	10	10			10		4	5					5	5	7	7	7	10	10	10			9		5	5			3	4		28	27	23	26	27	24	78	87	82	93	87	89	44
17F61A0423	8	8	8	10	10	10			10		5						5	5	8	8	8	9	9	9			5		5	4			4	5		28	23	23	22	26	26	78	74	82	79	84	96	44
17F61A0424	9	9	9	10	10	10			10		5						5	5	7	7	7	10	10	10			9		4	5				5	5	29	24	24	26	26	27	81	77	86	93	84	100	41
17F61A0425	5	5	5	9	9	9			10				5	4			5	5	8	8	8	10	10	10			8		4	4				4		24	19	19	26	26	22	67	61	68	93	84	81	29
17F61A0426	6	6	6	10	10	10			10		5	4					5	5	7	7	7	10	10	10	4	5			5	5				5	4	26	25	21	26	27	26	72	81	75	93	87	96	41
17F61A0427	3	3	3	10	10	10			10		5	5					5	5	7	7	7	9	9	9	4	5			5				2			23	23	18	25	21	18	64	74	64	89	68	67	24
17F61A0428	3	3	3	9	9	9	8		8		4	4	4				4		7	7	7	10	10	10			8		4	4						28	24	16	25	25	17	78	77	57	89	81	63	39
17F61A0429	5	5	5	10	10	10			5		5	5	5	4	5	5	5	5	8	8	8	9	9	9			7		4	4				5	2	20	30	25	24	25	24	56	97	89	86	81	89	36
17F61A0430	6	6	6	8	8	8	8		10		4	5					4	3	7	7	7	10	10	10			7				4	4		4		32	23	18	24	25	21	89	74	64	86	81	78	10
17F61A0431	2	2	2	10	10	10	8				4						5		8	8	8	9	9	9	4				4	4						20	16	17	21	25	17	56	52	61	75	81	63	27
17F61A0432	5	5	5	9	9	9	10						5	5				5	7	7	7	10	10	10			8		5	4				2	5	24	19	14	25	26	24	67	61	50	89	84	89	43
17F61A0433	4	4	4	10	10	10	6		10		4	4					5	5	7	7	7	10	10	10	5	2			4	4		4	4	4		30	22	19	24	29	25	83	71	68	86	94	93	44
17F61A0434	4	4	4	10	10	10			4								3		7	7	7	9	9	9	5	3										18	14	17	24	16	16	50	45	61	86	52	59	36
17F61A0435	5	5	5	9	9	9			10		5	4					4	4	7	7	7	10	10	10			6				4			4	4	24	23	18	23	21	25	67	74	64	82	68	93	35
17F61A0436	5	5	5	10	10	10	6		6				2					2	7	7	7	10	10	10			7										27	17	15	24	17	17	75	55	54	86	55	63	34
17F61A0437	6	6	6	10	10	10	10				5	4			5	5			7	7	7	9	9	9			7				5	4		4	5	26	25	21	23	25	25	72	81	75	82	81	93	39
17F61A0438	6	6	6	9	9	9	10				4	5			5	5			7	7	7	10	10	10	4	4			5	5		3	3			25	24	20	25	30	20	69	77	71	89	97	74	39
17F61A0439	5	5	5	10	10	10	10				5	5					5	5	6	6	6	9	9	9	5	4			4	4				5	5	25	25	20	24	23	25	69	81	71	86	74	93	44
17F61A0440	5	5	5	10	10	10	8												6	6	6	10	10	10			4				2			2		23	15	15	20	18	18	64	48	54	71	58	67	32

Total students	243	243	243	243	243	243	243
Students above Target	157	142	146	216	195	200	231
CO Assesment (%)	65	58	60	89	80	82	95
CO Attainment Level	2	1	2	3	3	3	3
CO Attainment Status	A	A	A	A	A	A	A

CO Attainment	CO1	CO2	CO3	CO4	CO5	CO6	
40% of IA Attainment	0.8	0.4	0.8	1.2	1.2	1.2	
60% of SEE Attainment	1.8	1.8	1.8	1.8	1.8	1.8	
Total CO Attainment	2.6	2.2	2.6	3	3	3	2.73333

Attainment levels Vs Targets			
Attainment level 1			>50% of students scoring more than target percentage (60% of highest mark).
Attainment level 2			>60% of students scoring more than target percentage (60% of highest mark).
Attainment level 3			>70% of students scoring more than target percentage (60% of highest mark).



CO - PO - PSO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	3	1	1						2				
CO2	3		3	3	2					2					
CO3	3	3	2	3	2						1				
CO4		2		2	3							2			
CO5	3	3	3		3						2				
AVG	3	3	3	2	2	######	#####	#####	#####	2	2	2	###	######	#######

CO - PO-PSO Attainment

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	65	65	65	65	65						65				
CO2	58		58	58	58					58					
CO3	60	60	60	60	60						60				
CO4		89		89	89							89			
CO5	80	80	80		80						80				
AVG	66	73	66	68	70	######	#####	#####	#####	58	68	89	###	######	#######

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Department of Electronics and Communication Engineering

2.6.2 Attainment of program outcomes, program specific outcomes and course outcomes are evaluated in ACY:2020-21

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C111	1	3	3	2	1										
C112	2	3	3	2	1										
C113	3	3	2	2	2										
C114	2		2	3	1										
C115	1	2	1	2											
C116	3	1	2	3	3										
C117	3	3	3	2	2					2	2	2			
C118	2		2	3	1	3									
C121															
C122															
C123															
C124															
C125															
C126															
C127															
C128															
C211	3	3	3	2	2					2	2	2			
C212	3	3	3	2	2					2	2	2			
C213	3	3	3	2	2					2	2	2			
C214	3	3	3	2	2					2	2	2			
C215	2	3	2	1	2					1	2	1			
C216	1	2	2	2											
C217	3	3	3	3											
C218	3	3	3	3											
C221	2	2	3	2	3								1		1
C222	3	3	2	3	2								2	1	2
C223	2	3	1	2	3								1		
C224	3	1	2	3	3								2		1
C225	1	2	2	2	3									2	1
C226	2	3	3	2	3								2	1	
C227	1	2	2	3	2									3	
C228	1	2	2	3	3									1	
C229	2	3	3	3	2								1	2	
C311	3	3	2	2	2					2	2	2			
C312	3	3	3	2	2					2	2	2			
C313	3	3	3	2	2					2	2	2			
C314	3	3	3	2	2					2	2	2			
C315	3	3	3	2	2					2	2	2			
C316	2	2	3												
C317	3	3	3	3	3										

C318	3	3	3	3											
C321	2	3	3	3	3							3		3	3
C322	3	2	1	3	2								2	2	1
C323	2	3	1	3	2								1	2	1
C324	2	3	2	2	3								2	1	2
C325	3	2	3	2	1								2	1	1
C326	2	3	1	2	2								1		1
C327	3	3	3	1	2								2	1	1
C328	2	2	1	2	3								2	3	2
C411			3	3						3					
C412	3	3	3	3	3							3		3	3
C413	3	3	3	2	2					2	2	2			
C414	3	3	3	2	2					2	2	2			
C415	3	3	3	2	2				1	1	1		3	2	2
C416A	3	3	3	2	2					2	2	2			
C416B	3	3	3	2	2				2	2	2	2			
C416C	3	3	3	2	2				1	1	1				
C416D	3	2	2	3											
C417	2	2	1	3	3										
C418	2	3	1	2	2										
C421	2	3	3	2									1	2	2
C422	3	1	2	3	2								2	1	2
C423	3	3	2	2	3								1	1	2
C424	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
C425	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Direct Attainment	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3
Indirect Attainment	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2	2.8	2.8	2.8	2.8

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Department of Electronics and Communication Engineering

2.6.2 Attainment of program outcomes, program specific outcomes and course outcomes are
ACY:2019-20

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C111	2	2	2		2		1								
C112	3	3	3	2	2					2	2	2			
C113	3	3		3	3										
C114	2	2	3	1	2					1	2	2			
C115	3	3	3		3										
C116	3	3	3												
C117	3	3	3		2										
C121	3	3	3	2	2					2	2	2			
C122	3	3	3	2	2					2	2	2			
C123	3	3	3	2	2					2	2	2			
C124	2	3	2	1	2					2	1	2			
C125	1	2	2	2											
C126									3	3					
C127	3	3	3		3										
C211	3	3	3	2	2					2	2	2			
C212	3	3	3	2	2					2	2	2			
C213	3	3	3	2	2					2	2	2			
C214	3	3	3	2	2					2	2	2			
C215	3	3	3	2	2					2	2	2			
C216	3	3	3	3											
C217	1	2	2	2											
C218	3	3	3	3											
C221	3	3	3	2	2					2	2	2			
C222	**2**	**2**	**1**									**1**	**1**	**1**	**1**
C223	3	3	2	2	2					2	2	2	3	2	2
C224											2				
C225	3	3	3	2	2					2	2	2			
C226	3	2	3	3	2										
C227	3	3	3	3	3										
C311	**2**	**2**	**1**									**1**	**1**	**1**	**1**
C312	3	3	3	2	2					2	2	2			
C313	3	3	3	2	2					2	2	2			
C314	3	3	3	2	2					2	2	2			
C315	3	3	2	2	2					2	2	2			
C316											2				
C317	3	3	3	3	3										
C318	3		3	3	3										

C321	3	3	3	2	2					2	2	2			
C322	1	2	2	1								2	1		1
C323	3	3	3	2	2					2	2	2			
C324	3	3	3	2	2					2	2	2			
C325									3	3					
C326	3	3	3	3											
C327	1	2	2	2											
C411			3	3						3					
C412	3	3	3	2	2					2	2	2			
C413	3	3	3	2	2					2	2	2			
C414	3	3	3	2	2					2	2	2			
C415	3	3	3	2	2										
C416	3	3	3	2	2					2		2			
C417	3	3	3	3											
C418				3	3										
C421	3	3	3	2	2					2	2	2			
C422	**2**	**2**	**1**									**1**	**1**	**1**	**2**
C423	3	3	3	2	2					2	2	2			
C424	3	3						3		3					
C425	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Direct Attainment	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2
Indirect Attainment	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2	2	2

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Department of Electronics and Communication Engineering

2.6.2 Attainment of program outcomes, program specific outcomes and course outcomes are evaluated in the institution.

ACY:2018-19

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C101							2		2	3		2			
C102	2	2		2		1	1								
C103	2	2	2	1	2	1	1		2	2	1	2			
C104	1	2	2	2	2										
C105	2	2	2		2		1								
C106	3	1			1	2	2	1	2	2		2			
C107	3	2	2	2								2			
C108	2	2	2	1	1	2	1		1	1	1	2			
C109	3	3		3	3	3	3					3			
C1010	3	3	3		3				3			3			
C1011		1			1		2		1	3		2			
C211	3			3											
C212	3	3	3	3	3	3	3				3	3	3		
C213	3	3	3										3		
C214	3	3	3	3						2		3	3	2	2
C215	1	1	1	1	1			1		2			1		
C216	2	2	3	2	1	1									
C217	3	3	3	3	3	3	3				3	3	3		
C218	3	3	3	3	3	3									
C221							3	3	2		2				
C222					1	1									
C223	3	2	2										3		2
C224	3	3	3	3	2				2	3		2	2		
C225	3	2	3	2			2			2	2	1	2		
C226	3	2	2		2										
C227	2	2	2	1	2	2	1			2		1	2	1	1.5
C228	2	2	2		1	1				2			2		1
C229	3	3	3	3	3	3	3				3	3	3		
C311	3	2	3	2								1	3		2
C312	1	2	1		2	1	2	1			1	2			
C313	2	2	2	1	2	1	1	1	1	1	1	2	2	1	1
C314	1	2	2	1	2		1		1			1	2	1	2
C315	1	2	2	1	2		1		1			1	2	1	2
C316	1	2	3	2	2								2		3
C317	3	3	3	3								3	3		

C318	3	3	3										3		
C321	2	3	3												
C322	3	1	1	2	1	2	1		1	1	2	1	2	2	2
C323	3	1	2	2								1	2	2	2
C324	2	2		1		1					2		2		
C325	2	2	2	1	2	1	1	1	1	1	1	2	2	1	1
C326	3	3	3	3	3				3		3	3	3		
C327	3	3	3	3	3				3		3	3	3		
C328	3	3	3										3		
C411	3	3				3	3								
C412					2	2									
C413	3	2	3	1	1	2	1	1	1	1	2	2	2	2	2
C414	2	2	2	2		2						2	2	2	2
C415	3	1	3	2	3		2				1	2	3	1	3
C416	1	2	3	1	2				1			1	2	1	2
C417		3	3	3	3										
C418	3	3	3	3	3	3				3	3	3	3		
C[illegible]1	1	2	2	1	2		1		1			1	2	1	2
C422	2	2	2	2	1		1						1		
C423	1	1	2									2			
C424	3	1	2	2								1	2	2	2
C425	1	2	2									2			
C426	3		3	3					3	3	3	3	3	3	3
Direct Attainment	2	3	2	3	3	2	2	2	3	2	3	3	2	2	2
Indirect Attainment	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total	2	2.8	2	2.8	2.8	2	2	2	2.8	2	2.8	2.8	2	2	2

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Department of Electronics and Communication Engineering

2.6.2 Attainment of program outcomes, program specific outcomes and course outcomes are evaluated in the institution.

ACY:2017-18

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C101							2		2	3		2			
C102	2	2		2		1	1								
C103	2	2	2	1	2	1	1		2	2	1	2			
C104	1	2	2	2	2										
C105	2	2	2		2		1								
C106	3	1			1	2	2	1	2	2		2			
C107	3	2	2	2								2			
C108	2	2	2	1	1	2	1		1	1	1	2			
C109	3	3		3	3	3	3					3			
C1010	3	3	3		3				3			3			
C1011		1			1		2		1	3		2			
C211	3			3											
C212	3	3	3	3	3	3	3				3	3	3		
C213	3	3	3										3		
C214	3	3	3	3						2		3	3	2	2
C215	1	1	1	1	1			1		2			1		
C216	2	2	3	2	1	1									
C217	3	3	3	3	3	3	3				3	3	3		
C218	3	3	3	3	3	3									
C221							3	3	2		2				
C222					1	1									
C223	3	2	2										2		
C224	3	3	3	3	2				2	3		2	2		
C225	3	2	3	2			2			2	2	1	2		
C226	3	2	2		2										
C227	2	2	2	1	2	2	1			2		1	2	1	2
C228	2	2	2		1	1				2			2		1
C229	3	3	3	3	3	3	3				3	3	3		
C311	3	2	3	2								1	3		2
C312	1	2	1		2	1	2	1			1	2			
C313	2	2	2	1	2	1	1	1	1	1	1	2	2	1	1
C314	1	2	2	1	2		1		1			1	2	1	2
C315	1	2	2	1	2		1		1			1	2	1	2
C316	1	2	3	2	2								2		3
C317	3	3	3	3								3	3		

C318	3	3	3										3		
C321	2	3	3												
C322	3	1	1	2	1	2	1		1	1	2	1	2	2	2
C323	3	1	2	2								1	2	2	2
C324	2	2		1		1					2		2		
C325	2	2	2	1	2	1	1	1	1	1	1	2	2	1	1
C326	3	3	3	3	3				3		3	3	3		
C327	3	3	3	3	3				3		3	3	3		
C328	3	3	3										3		
C411	3	3				3	3								
C412					2	2									
C413	3	2	3	1	1	2	1	1	1	1	2	2	2	2	2
C414	2	2	2	2		2						2	2	2	2
C415	3	1	3	2	3		2				1	2	3	1	3
C416	1	2	3	1	2				1			1	2	1	2
C417		3	3	3	3										
C418	3	3	3	3	3	3				3	3	3	3		
421	1	2	2	1	2		1		1			1	2	1	2
C422	2	2	2	2	1		1						1		
C423	1	1	2									2			
C424	3	1	2	2								1	2	2	2
C425	1	2	2									2			
C426	3		3	3					3	3	3	3	3	3	3
Direct Attainment	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Indirect Attainment	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

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Department of Electronics and Communication Engineering

2.6.2 Attainment of program outcomes, program specific outcomes and course outcomes are evaluated in the institution.

ACY:2016-17

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C101	2	2		2		1	1								
C102	2	2	2	1	2	1	1		2	2	1	2			
C103	1	2	2	2	2										
C104	2	2	2		2		1								
C105	3	2	2		2										
C106	1	2	2	2					2		2			2	2
C107	2	2	2	1	1	2	1		1	1	1	2			
C108	3	3	3		3				3			3			
C109	3	3		3	3	3	3					3			
C1010		1			1		2		1	3		2			
C1011	3			3											
C211					1	1									
C212	3	3		3	3	2				2	3	3			
C213	1	1	1	1	1			1		2			1		
C214	3	3	3	3	3	3	3				3	3	3		
C215	3	3	3										3		
C216	3	3	3	3	3	3									
C217	3	3	3	3		3					3	3	3		
C218	2	3	3												
C221	2	2	2	2	2							2	3		2
C222	3	3	3	3	2				2	3		2	2		
C223	3	3	3										3		
C224	3	3	3	3						2		3	3	2	2
C225	3	2	3	2			2			2	2	1	2		
C226	2	2	2		1	1				2			2		1
C227	3	3	3	3	3	3	3				3	3	3		
C228	3	2	3	2								1	3		2
C311	1	2	2	1	2		1		1			1	2	1	2
C312	1	2	2	1	2		1		1			1	2	1	2
C313	2	2	2	1	2	1	1	1	1	1	1	2	2	1	1
C314	1	2	1		2	1	2	1			1	2			
C315	1	2	3	2	2								2		3
C316	3	3	3	3								3	3		
C317	3	3	3	3	3	3	3				3	3	3		
C318	1	2	2	1	2		1		1			1	2	1	2

C321	3	1	1	2	1	2	1		1	1	2	1	2	2	2
C322	3	1	2	2								1	2	2	2
C323	2	2	2	1	2	1	1	1	1	1	1	2	2	1	1
C324	3	2	3	1	1	2	1	1	1	1	2	2	2	2	2
C325	2	2		1		1					2		2		
C326	3	3	3										3		
C327	3	3				3	3								
C328					2	2									
C411	3	1	3	2	3		2				1	2	3	1	3
C412	2	2	2	2	1		1						1		
C413	2	2	2	2		2						2	2	2	2
C414	1	2	3	1	2				1			1	2	1	2
C415		3	3	3	3										
C416	3	3	3	3	3	3				3	3	3	3		
C417	3	3	3	3	3				3		3	3	3		
C418	1	2	2	1	2		1		1			1	2	1	2
C421	1	2	3	1	2				1			1	2	1	2
C422	1	1	2									2			
C423	2	2	2	2	2							2			
C424	1	2	2									2			
C425	3		3	3					3	3	3	3	3	3	3
C426	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2
Indirect Attainment	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total	2	2	2	2	2	2.8	2	2	2	2	2	2	2	2	2

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Department of Electronics and Communication Engineering

2.6.2 Attainment of program outcomes, program specific outcomes and course outcomes are evaluated in year wise

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
2016-17	2	2	2	2	2	2.8	2	2	2	2	2	2	2	2	2
2017-18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2018-19	2	2.8	2	2.8	2.8	2	2	2	2.8	2	2.8	2.8	2	2	2
2019-20	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2	2	2
2020-21	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2	2.8	2.8	2.8	2.8
AVG	2.32	2.48	2.32	2.48	2.48	2.48	2.32	2.32	2.48	2.32	2.32	2.48	2.16	2.16	2.16

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