

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CO'S AND PO'S MAPPING JNTUA-R15 REGULATION

INDEX

List of all courses offered by the institution for the regulation R15, JNTUA

S.No	Course Code	Course Name	Year & Sem
1	15A52101	Functional English	
2	15A54101	Mathematics – I	
3	15A05101	Computer Programming	
4	15A51101	Engineering Chemistry	LICom
5	15A01101	Environmental Studies	I-I Sem
6	15A52102	English Language Communication Skills	
7	15A51102	Engineering Chemistry Lab	
8	15A05102	Computer Programming Lab	
9	15A54201	Mathematics – II	
10	15A52201	English for Professional Communication	
11	15A04201	Network Analysis	
12	15A56101	Engineering Physics	I II Com
13	15A03101	Engineering Drawing	I-II Sem
14	15A04202	Network Analysis Lab	
15	15A56102	Engineering Physics Lab	
16	15A99201	Engineering and IT Workshop	

I B.Tech, I Sem ECE Cos and pos mapping (R15-JNTUA)

			(App	roved by	AICTE	, Affiliat	ed to JN	ГUA. An	ISO 90	01: 2015	Certified	Institutio	n.	
AMIREDDY SUB	SARAMI REDDY	T									S.R. Nellon	re, A.P.) CIEN(CES	
Engineering	S COLLEGE Excellence											POs &		5
Through In	novation		SEM:	I-I			R	eg: R	15		AY:	2017-2	2018	
Course	Code:	Course	e Name	: FUN	CTI	ONAL		0			L	T	Р	(
15A5	52101	Prereq	uisite:l	NONE							3	1	-	
	-												1	
				COU	RSE C	OUTCO	OMES	(COs)						
CO No.	COURS	SE OUT	ГСОМ	E										
2101.1	Acquire and inte	-		-	-	-				-				8,
2101.2	Develop	oral co	mmun	icatio	n skill	s in E	nglish	to spe	ak flu	ently i	n varic	ous aca	demic	an
	social	situatior	ns. (BT	CL3)										
2101.3	Identify	deviant	use of	Engli	sh bot	h in sp	oken	and wi	itten	forms,	and im	prove a	aware	nes
	of its in	n scienc	e and t	echno	ology.	(BTL	2)							
2101.4	Understa	and the i	mport	ance c	of read	ling fo	r life,	and ca	reer a	nd the	reby de	evelop a	an inte	eres
2101.4		and the i t. (BTL2		ance c	of read	ling fo	r life, a	and ca	reer a	nd the	reby de	evelop a	an inte	eres
2101.4 2101.5		t. (BTL)	2)			0					•	evelop a	an inte	eres
2101.5	for i	t. (BTL)	2) ndame	ntal sl	cills re	equire	d for c	ritical	think	ing. (I	3TL2)			
2101.5 Mapping	for i	t. (BTL)	2) ndame	ntal sl	cills re	equire	d for c	ritical	think	ing. (I	3TL2)		s (PSC	
2101.5	for i	t. (BTL)	2) ndame	ntal sl	cills re	equire m Out	d for c	ritical	think	ing. (I	3TL2)		s (PSC	Ds) SO
2101.5 Mapping	for i Demons g of Course	t. (BTL: strate fun Outcome	2) ndame	ntal sl	kills re Progra	equire m Out PO	d for c	ritical (POs) d	think & Prog	ing. (H <mark>ram S</mark> J	3TL2)	Jutcome	s (PSC	Ds) SO
2101.5 Mapping COs 2101.1	for i Demons g of Course 1	t. (BTL: strate fun Outcome 2	2) ndame es (COs	ntal sl) with 2	cills re Progra	equired am Out PO 6	d for c	ritical (POs) &	think & Prog 9	ing. (F ram Sp 10	3TL2) pecific (11 2	Dutcome 12 3	s (PSC	Ds) SO
2101.5 Mapping COs 2101.1 2101.2	for i Demons g of Course 1 -	t. (BTL) strate fur Outcome 2 -	2) ndame es (COs 3 -	ntal sl) with 4 -	xills ro Progra 5 -	equired am Out PO 6 -	d for c comes 7 -	ritical (POs) d 8 -	think & Prog 9 3 2	ing. (F ram Sp 10 3 3	3TL2) pecific (11 2 2	12 3 3	s (PSC	Ds) SO
2101.5 Mapping COs	for i Demons of Course 1	t. (BTL) strate fun Outcome 2 - -	2) ndame es (COs 3 -	ntal sl) with 4	xills ro Progra 5 -	equire m Out PO 6 -	d for c comes 7 - -	ritical (POs) d 8 -	think k Prog 9 3 2 3	ing. (F ram Sp 10 3 3 3	3TL2) pecific (11 2 2 2	12 3 3 3	s (PSC	Ds) SO
2101.5 Mapping COs 2101.1 2101.2 2101.3	for i Demons of Course 1	t. (BTL) strate fun Outcome 2 - - -	2) ndame es (COs 3 - -	ntal sl) with 4	cills re Progra 5 - -	equired am Out PO 6 - -	d for c comes 7 - -	ritical (POs) d 8 - - -	think & Prog 9 3 2	ing. (F ram Sp 10 3 3	3TL2) pecific (11 2 2	12 3 3	s (PSC	Ds)

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			Ň	H-16, Ka	adanuth	ala, Bogo	ole Mand	lal, Kava	ali- 524 1	142, S.P.S	S.R. Nellor	e, A.P.)		
											ND SC s with F			•
RAMIREDDY SUE ENGINEERIN	BARAMI REDDY IG COLLEGE		JUKS		ICU.							2017-2		•
Engineering Through I	Excellence nnovation	S	EM:	I-I			R	eg: R	15		A1.	2017-2	2010	
Course	Code:	Course	Name:	Math	emati	ics – I					L	Т	Р	C
15A4	4101	Prerequ	uisite: 1	None							3	1	-	3
				COUI	RSE O	OUTCO	OMES	(COs))					
CO No.	COURS	E OUT	COM	E										
4101.1	Solve the	First, Sec	ond and	l Highe	r order	D.Es a	nd App	lication	ns of Fi	irst Ord	er D.E (H	BTL3)		
4101.2	Attain the deflection		-		tions o	f L.D.I	Es like	Mecha	nical &	k Electi	rical Osc	illatory	circuit	s an
4101.3	Familiari	ze with	functio	ons of	severa	l varia	ables w	which i	s usef	ùl in C	Optimiza	tions.	(BTLI	L6)
4101.4	Determine	e importa	nt tools	of calc	ulus in	Higher	Dimen	sions (I	Multip	e Integ	rals) (BTL	L5)		
4101.5	Become fa	imiliar wi	th the a	pplicat	ions of	vector	calculu	is to En	gineer	ing Prol	olems. (B	TL6)		
	of Course	Outcome	es (COs) with]	Progra	m Out	comes	(POs)	& Prog	gram S	pecific O	utcom	es (PSC)s)
Mapping	, or course					РО							PS	50
						10					г – т			
Mapping COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
		2 2	3 2	4	5			8	9	10 -	-	12 2	-	
COs	1		_	•	5 - -			8	9 - -	10 - -	11 - -		2	2
COs 4101.1	1 3	2	2	2	5 - -			-	-	-	11 - - -	2	2	2
COs 4101.1 4101.2	1 3 3	2	2	2	5 - - -			-	-	-	11 - - - -	2	2 2 2 2	2
COs 4101.1 4101.2 4101.3	1 3 3 2	2 2 3	2 2 3	2 2 2 2	-			-	-	-	11 - - - -	2 2 2	2	2 2 2 3 2 2 2 2 2

(are		R	AMIR	EDD	y suf	BBAR	AMI	REDD	Y EN	GINE	ERIN	e co	OLL	ÆG	E
	9							TUA. Ar dal, Kav						on)	
RAMIREDDY SUBB	ARAMI REDDY COLLEGE	D	EPAR	TME	NT OI	F CON	IPUT	ER SC	CIENC	CE AN	D EN	GIN	EE	RIN	IG
Engineering f Through Inc	xcellence		COU	RSE ()UTC	OMES	& M	APPIN	GOF	COs v	vith P	Os 8	e PS	SOs	
			SEM	: I –	Ι]	Reg: R	15		AY:	2017	7-20	18	
Course (Code:	Cou	rse Nan	ne: Co	mpute	r Prog	ramm	ing				L	Τ	Р	С
15A05	101	Prer	requisit	e:Nil								3	1	-	3
				CC	DURSE	C OUTO	COME	S (COs)						
CO No.	COU	RSE (DUTC	OME											
5101.1	Analyz	nalyze overview of computer programming (BTL4)													
5101.2	Unders	Analyze overview of computer programming (BTL4) Understand various statements in C and discuss the arrays, stings, functions (BTL2)													
5101.3	Illustra	te point	ters and	underst	anding t	he scope	e of fund	ctions. (I	BTL2)						
5101.4	Develo	p the co	ommand	l line arg	guments	and stru	uctures ((BTL 3)							
5101.5	Unders	stand the	e file ha	ndling f	unction	s and pre	e-proces	sor dire	ctives. (BTL2)					
Mapping of	Course	Outcor	mes (CC)s) with	Progra	um Outo	comes (I	POs) &	Progra	m Speci	fic Out	come	s (PS	5 O s)	
COs						Р	0							PS	50
COs	1	2	3	4	5	6	7	8	9	10	11	12	;	1	2
5101.1	3	2	2	2	-	-	-	-	-	-	-	2		2	3
5101.2	3	3	3	3	-	-	-	-	-	-	-	2		2	3
5101.3	3	3	2	3	-	-	-	-	-	-	-	3		2	2
5101.4	2	3	3	2	-	-	-	-	-	-	-	3		3	2
5101.5	2	3	3	2	-	-	-	-	-	-	-	3		2	2
AVG	3	3	3	2	-	-	-	-	-	-	-	3		2	2
3/2/1 Indicat	tes Streng	gth of C	Correlati	on. 3-Hi	gh, 3-M	ledium a	and 1-Lo	ow							

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100						E, Affilia hala, Bog						Institution e, A.P.)	•	
	N. Contraction											CIENC	CES	
RAMIREDDY SUBBAR	AMI REDDY	C	OUR	SE O	UTCO	OMES	& M.	APPIN	IG OF	COs	with l	POs &]	PSOs	
Engineering Exc Through Innov		S	EM:	I-I			R	leg: R	15		AY:	2017-2	2018	
Course	Code:	Course	Name	Engi	neeri	ng Che	emistr	у]	LT	Р	С
15A51	1101	Prerequ	iisite:]	None								3 1	-	3
			C	COUR	SE OI	JTCON	AES ((COs)						
CO No.	COURSE													
1101.1	Differentiat	te betwe	en ha	ird and	d soft	water.	(L3)							
1101.2	Discuss Bl	JNA-S a	and Bl	JNA-N	l Elas	tromer	s (L2)							
1101.3	Understan	d the ele	ectroc	hemic	al sou	irces of	fener	gy. (L3	8)					
1101.4	Discuss abo	ut solid,	liquid,	gaseo	us fue	ls (L2)								
1101.5	Understand	the prir	ciples	of lubr	ricants	and CN	ITs (L2)						
Mappin	g of Course O	utcomes	(COs)	with Pı	rogran	1 Outco	mes (P	Os) & I	Program	n Speci	fic Out	comes (P	'SOs)	
G						РО							PS	0
Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2
1101.1	3	3	3	2	2	2	-	-	2	-	-	2	3	-
1101.2	2	2	3	3	-	1	1	-	-	-	-	2	-	2
1101.3	3	2	3	2	-	-	3	-	1	-	-	-	3	-
1101.4	2	2	2	2	-	-	-	-	-	-	-	-	2	2
1101.5	2	1	1	2	-	1	-	-	-	-	-	-	2	-
AVG	2.4	2	2.4	2.2	2	1.33	2	-	1.5	-	-	2	2.5	2
3/2/1 Indicates	Strength of Cor	rrelation.	3-High	, 2-Mee	dium a	nd 1-Lov	N							

		F	AMI	REDI	DÝSI	UBBA	IRAN	li re	DDY	ENGI	NEER	NG CO	OLLEC	ìE	
6.9										D 9001: 20 24 142, S.J		ed Instituti lore, A.P.)	on.		
	No.		DE									CIEN	CES		
RAMIREDDY SUBBAR	AMI RED DY DLLEGE											POs &			
Engineering Ex Through Inno		S	EM:	I-I			R	leg: R	15		AY:	2017-20)18		
Course	Code:	Course	Name	: Envir	onmer	ntal Stu	udies				Ι	L T	Р	C	1
15A0110	1	Prerequ	uisite:]	None							3	3 1	-	3	1
				COL	JRSE	ουτο	COME	S (COs)						
CO No.	COURSE	OUTC	OME						<u> </u>						
1101.1	Understar	id the va	rious	natura	al resc	ources	(L2)								
1101.2	Discribe a	bout the	Biodi	versity	/ and I	Ecosys	tem (l	_2)							
1101.3	Discuss ab	out the	pollut	ion as	pects	(L3)									
1101.4	To know a	bout the	e socia	ıl issue	es rela	ted to	enviro	onmen	t and	thir pro	otectio	n acts (L	.1)		
1101.5	Discribe a	bout the	рори	lation	explo	sion a	nd we	lfare p	rograr	nme (L	2)				
Mappi	ing of Course	Outcomes	(COs)	with F	Program	m Outc	omes (l	POs) &	Progra	am Spec	ific Out	comes (P	SOs)		
						PO)							PSO	<u> </u>
Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1101.1	3	2	3	2	3	-	2	-	2	-	-	-	2	2	-
1101.2	2	2	3	2	-	2	3	-	-	-	-	-	3	-	2
1101.3	3	2	3	2	-	-	2	-	-	-	-	3	3	2	-
1101.4	2	2	3	2	-	-	2	2	-	-	-	-	-	3	-
1101.5	2	2	3	2	3	2	3	2	-	-	-	3	-	3	-
AVG	2.4	2	3	2	3	2	2.4	2	2	####	####	3	2.67	2.5	2
3/2/1 Indicates	Strength of Co	orrelation.	3-High	, 2-Me	dium ar	nd 1-Lo	W								

			(Аррг	coved by	AICTE.	Affiliat	ed to JN	ГUA. Ar		01: 2015	Certifie	l Institutio		
	ARAMI REDRY		N	H-16, Ka	adanutha	ala, Bogo	ole Mand	al, Kava	di- 524 1	42, S.P.S	.R. Nello	ore, A.P.)		
ENGINEERING	COLLEGE	-										CIEN POs &		
Through In			EM:	I-I				eg: R				: 2017-2		
Course	Code:	Course Skills	-		ish La	ingua		0		on			P	0
15A5	2102	Prerequ	uisite: 1	None									4	2
	GOUD				RSE O	UTC	DMES	(COs))					
CO No.	COURS													
2102.1	Distingui	sh the sp	beech s	ounds	and ad	cquire	better	pronu	nciatio	on				
2102.2	Develop	oral flue	ncy and	d neuti	ralize r	nothei	r tongu	ie influ	ience.					
2102.3	Take par Poster, P								kpertis	e in Pr	esenta	tion Skil	ls like (Ora
2102.4	Apply lai speaking			propria	ately a	nd effe	ectively	/ in int	erview	/s, grou	ıp disc	ussions	and p	ubli
2102.5	Take par	t in grou	p activi	tes wit	th mor	e conf	idence	there	by enh	ancing	the e	mployab	ility sk	ills
	g of Course	Outcome	s (COs) with l	Progra	m Out	comes	(POs)	& Prog	gram Sj	pecific	Outcome	es (PSC)s)
Mapping						РО							PS	50
						6	7	8	9	10	11	12	1	2
Mapping COs	1	2	3	4	5	U	-							
	1	2	3	4	5	-	-	1	3	3	3	2	-	-
COs					5 - -	-		1	3	3	3 2	2 1	-	-
COs 2102.1	-	-	-	-	-	-	-							-
COs 2102.1 2102.2	-	-	-	-	-	-	-	1	3	3	2	1	-	-
COs 2102.1 2102.2 2102.3	-	-	-	-	-	-	-	1	3	3	2 3	1 2	-	

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												l Institution ore, A.P.)	n.			
RAMIREDDY SUBBI	ARAMI REDDY	Ι		/		8		/		/		CIEN	CE			
Engineering E Through Inn		CC	OURS	E OU	TCO	MES	& MA	PPIN	IG OI	F COs	with	POs &	PSOs			
		S	EM:	I-I			R	eg: R	15		AY	: 2017-2	2018			
Course	Code:	Course	Name:	Engi	neerii	ng Ch	emist	ry Lal	b		Ι	T	Р	С		
15A5	1102	Prerequ	isite: 1	None							-		4	2		
				COLI	DEE O	UTCO	MES	$(\mathbf{CO}_{\mathbf{c}})$								
CO No.	COURS	E OUT			VSE O		JNIES	(COS)								
1102.1	Develop s	skills in d	eterm	ining t	he effe	ects of	hard w	vater i	n wate	r						
1102.2	Distingui	istinguish different types of titrations in the volumetric analysis														
110212									,	,						
1102.3	Apply Co	onductor	netrv	instru	menta	l met	hod i	n vol	umetri	c ana	lvsis t	o deter	mine	the		
110210	concentra										•					
1102.4	Correlate	the puri	ty of w	ater s	ample	s by dc	oing D.	O, Acio	lity an	d alkal	inity es	stimatior	าร			
1102.5	Analyze t	he effect	of ter	nperat	ure or	i viscos	sity by	using l	Redwo	od vis	comete	er				
	1												1			
COs						PO		-			-		PS	0		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2		
1102.1	3	3	-	-	-	-	3	1	1	1	-	-	-	-		
1102.2	3	3	-	-	-	-	2	1	1	1	-	-	-	-		
1102.3	3	3	1	_	-	-	1	1	1	1	-	-	-	-		
1102.4	3	3	2	-	-	-	3	1	1	1	-	-	-	-		
1102.5	3	3	2	-	-	-	1	1	1	1	-	-	-	-		
AVG	3	3	2	-	-	-	2	1	1	1	-	-	-	-		
3/2/1 Indicat	tes Strength	of Correl	ation. 3	-High,	2-Med	ium and	d 1-Lov	V								

(atte		R	AMI	(EDD)	y suf	BBAR	AMI	REDD	Y EN	GINE	ERIN	g C	OLI	ÆG	E
								TUA. Ar dal, Kav						on)	
RAMIREDDY SUBB	ARAMI REDDY	D	EPAR	TME	NT OI	F CON	APUT	ER SC	CIENC	CE AN	D EN	GIN	IEE	RIN	IG
Engineering I Through Inr			COU	RSE (OUTC	OMES	5 & M.	APPIN	G OF	COs v	with P	Os &	& PS	SOs	
			SEM	[: I –	I]	Reg: R	15		AY:	201'	7-20	18	
Course (Code:	Cou	rse Nar	ne: Co	mpute	r Prog	ramm	ing La	b	ł		L	Т	Р	С
15A05	201	Prer	requisit	e: Prog	rammir	ng in C						-	-	4	2
				CC	DURSE	E OUT	COME	S (COs)						
CO No.			DUTC	-											
5201.1		stand an hm. (B7		the exec	cution of	f progra	ms writt	ten in C	languag	ge and V	Vrite the	e C co	ode fo	orag	given
5201.2	Constr	uct prog	grams th	at perfo	rm conc	litional,	selectio	n statem	ents. (B	TL3)					
5201.3	Design	Progra	ms with	arrays	and fund	ctions, s	trings (E	BTL6)							
5201.4	Design	the pro	ograms v	with poi	nters, st	ructures	. (BTL6)							
5201.5	Apply	file ope	erations	to create	e several	l progra	ms. (BT	L3)							
Mapping of	Course	Outcon	mes (CC	Os) with	Progra	am Outo	comes (I	POs) &	Progra	m Speci	ific Out	tcome	es (P	SOs)	
COs						Р	0							PS	60
COS	1	2	3	4	5	6	7	8	9	10	11	12	2	1	2
5201.1	3	2	2	2	-	-	-	-	2	-	-	2		3	2
5201.2	3	3	3	3	-	-	-	-	3	-	-	2		2	3
5201.3	3	3	2	3	-	-	-	-	3	-	-	3		2	2
5201.4	2	3	3	2	-	-	-	-	2	-	-	3		3	2
5201.5	2	3	3	2	-	-	-	-	2	-	-	2		2	2
AVG	3	3	3	2	-	-	-	-	2	-	-	2		2	2
3/2/1 Indicat	tes Streng	gth of C	Correlati	on. 3-H	igh, 3-N	fedium a	and 1-Lo	ow		•					

I B.Tech, 1I Sem ECE Cos and pos mapping (R15-JNTUA)

(and	8		· • •	•		/						d Institutio ore, A.P.)	on.	
	\geq	Ι)EPA	RTN	/IEN'	T OF	F HU	MAN	IITI	ES Al	ND S	CIEN	CES	
RAMIREDDY SUB ENGINEERIN	BARAMI REDDY IG COLLEGE	C	OURS	SE OU	TCO	MES	& M A	APPIN		F CO	s with	POs &	: PSOs	8
Engineering Through I		S	EM:	I-II			R	eg: R	15		AY	: 2017-	2018	
Course	Code:	Course	Name	: Math	nemati	ics – I	Ι					L T	Р	0
15A5	4201	Prerequ	uisite:	None								3 1	-	3
				COU	RSE O	DUTC	OMES	(COs)					
CO No.	COURS	SE OUT	COM					(000	,					
4201.1	Understa				ce Trai	nsform	ns. (BT	L2)						
4201.2	Evaluate	the Four	ier Ser	ies exp	oansior	n of pe	riodic	functio	ons. (B	TL5)				
4201.3	Understa	nd the us	sage of	Fourie	er Tran	sform	s. (BTI	L2)						
4201.4	Formulat Dimensio			•				-		nd also	o find	the solu	itions of	of 1
4201.5	Understa	and the us	sage of	Z-Tra	nsform	ns. (BT	TL2)							
Mapping	of Course	e Outcon	nes (C	Os) wi	th Pro	gram (PSO		mes (l	POs) &	& Prog	gram S	pecific	Outcor	nes
<u>CO</u> r						PO	-						PS	50
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4201.1	3	2	2	2	-	-	-	-	-	-	-	1	2	3
4201.2	2	3	2	2	-	_	_	_	_	_	-	1		
4201.3	3	2	2	2	_				_			1	2	2
4201.3						-	-	-	-	-	-	-	2	2
100:1	3	2	2	2	-	-	-	-	-	-	-		3	2
4201.4		2	2	2	-	_	_	-	-	-	_	1		
4201.4 4201.5	3	2											2	2

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RAMIREDDY SUBB	ARAMI REDBY	Γ										CIEN	CES	
Engineering I Through Inr	xcellence	C	OURS	E OU	TCO	MES	& M A	PPIN	IG OI	F COs	with	POs &	PSOs	3
Through the		S	SEM:	I-II			R	eg: R	15		AY	: 2017-	2018	
Course	Code:	Course COMN				FOR I	PROF	ESSIO	NAL		Ι		Р	C
15A5	2201	Prereq	uisite:l	NONE							(°,	3 1	-	3
											-			
				COU	RSE C	OUTCO	OMES	(COs))					
CO No.	COURS	SE OUT	COM	IE										
2201 1	Particip	ate effe	ctivel	y in de	ebates	s on m	oderi	ı corp	oratis	m and	d lister	n, and s	speak	well
2201.1	in Engli	sh in gr	oup d	iscuss	ions.	(BTL	3)							
2201.2	Recall t	he alter	nativ	e soui	ces o	of ene	rgy by	v liste	ning,	summ	narizir	ig and	rewri	ting
	report	s. (BTL	1)											
2201.3	Develop	report	writi	ng ski	lls. (B	BTL3)								
2201.4	Interpre	t charts	s and	tables	. (BTI	L2)								
2201.5	Commu					,	ews	hv de	eveloi	ning	requir	ed co	mnete	ence
2201.5	thereby			-				-	-	51116	requi	cu co	mpeu	Jiee
Mapping	of Course	Outcome	s (COs) with]	Progra	ım Out	comes	(POs) a	& Prog	ram Sj	pecific	Outcom	es (PSC)s)
00						РО)						PS	50
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
2201.1	-	-	-	-	-	-	-	-	3	3	2	2	-	-
2201.2	-	-	-	-	-	-	-	-	2	3	-	2	-	-
2201.3	-	_	-	_	-	-	_	_	3	3	2	3	_	-
2201.4	-	_	-	_	_	-	_	_	3	3				+
				1						5	3	3	1	1

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2201.5

AVG

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3/2/1 Indicates Strength of Correlation. 3-High, 2-Medium and 1-Low

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RAMIREDDY SUBBARAMI REDDY ENGINEERING COLLEGE

(Approved by AICTE, Affiliated to JNTUA. An ISO 9001: 2015 Certified Institution. NH-16, Kadanuthala, Bogole Mandal, Kavali- 524 142, S.P.S.R. Nellore, A.P.)

IAMIREDDY SUBBARAMI REDDY ENGINEERING COLLEGE Engineering Excellence Through Innovation

DEPARTMENT OF HUMANITIES AND SCIENCE COURSE OUTCOMES & MAPPING OF COs with POs & PSOs

Intough Innovation						
	SEM: I-II	Reg: R15	AY: 2	2017-2	.018	
Course Code:	Course Name: NETWO	RK ANALYSIS	L	Т	Р	С
15A04201	Prerequisite: None		3	1	-	3

	COURSE OUTCOMES (COs)
CO No.	COURSE OUTCOME
4201.1	Determine the equivalent impedance of given network by using network reduction techniques and determine the current, voltage and power in any element(BTL3)
4201.2	Compare behaviour of circuit elements during switching, Analyze transient response of RL RC RLC circuits for DC excitation(BTL2)
4201.3	To understand voltage, current and power relationships in 1- ϕ AC circuits with basic elements R,L,C and determine the real power, reactive power, power factor etc,. For a Given a circuit and the excitation (BTL3)
4201.4	interprete Resonance phenominon in Electrical circuits, Determine Self, Mutual Inductances and Coefficient of Coupling of magnetic coil(BTL2)
4201.5	Determine two port network parameters, understand the concept of transferfunction and pole zeros of network function, Study the Filters concept (BTL3)

Mapping of Course Outcomes (COs) with Program Outcomes (POs) & Program Specific Outcomes (PSOs)

CO .						PO							PS	PSO	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
4201.1	2	3	2	1	-	-	-	-	-	-	-	2	2	2	
4201.2	2	3	3	2	-	-	-	-	-	-	-	2	2	2	
4201.3	3	3	2	2	-	-	-	-	-	-	-	2	2	2	
4201.4	3	2	2	2	-	-	-	-	-	-	-	1	2	2	
4201.5	3	3	2	2	-	-	-	-	-	-	-	2	2	2	
AVG	3	3	3	3	-	-	-	-	-	-	-	2	2	2	

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RAMIREDDY SUBBARAMI REDDY ENGINEERING COLLEGE Engineering Excellence

DEPARTMENT OF HUMANITIES AND SCIENCES COURSE OUTCOMES & MAPPING OF COs with POS & PSOS

Through Innovation									
	SEM: I-II	SEM: I-II Reg: R15 AY: 2017-2							
Course Code:	Course Name: Enginee	L	Т	Р	С				
15A56101	Prerequisite:NONE			3	1	-	3		

COURSE OUTCOMES (COs)

CO No.	COURSE OUTCOME
6101.1	Articulate interference, diffraction (BTL3), Analyze (BTL4). Device laser (BTL4), Develop optic fiber (BTL6)
6101.2	Interpret crystallography (BTL2), Use ultrasonics (BTL3).
6101.3	Illustrate quantum mechanics (BTL1) and solve electron theory(BTL3).
6101.4	Categorize semiconductors and magnetic materials (BTL4).
6101.5	Explain superconductivity (BTL1) and Connect nanomaterials (BTL4)

Mapping of Course Outcomes (COs) with Program Outcomes (POs) & Program Specific Outcomes (PSOs)

COr						РО)						PS	PSO	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
6101.1	2	3	2	2	3	1	_	_		_	—	1	2	3	
6101.2	3	2	3	2	2	3	-	_	-	_	—	1	3	3	
6101.3	2	3	2	1	2	2	-	_		_	—	2	3	3	
6101.4	3	3	3	1	3	1	-	—	_	—	_	1	2	2	
6101.5	3	2	2	2	2	2	_	_		_	_	3	2	2	
AVG	3	3	3	2	3	3	-	-	-	-	-	2	3	3	



Engineering Excellence

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DEPARTMENT OF H&S

COURSE OUTCOMES & MAPPING OF COs with POs & PSOs

Through Innovation						
	SEM: I-II	Reg: R15	AY: 2	017-2	2018	
Course Code:	Course Name: <u>ENGINE</u>	ERING DRAWING	L	Т	Р	С
15A03101	Prerequisite: None		0	-	-	3

COURSE OUTCOMES (COs)

CO No.	COURSE OUTCOME
3101T.1	Draw various curves applied in engineering.
3101T.2	Show projections of points, lines, planes and solids graphically.
3101T.3	Draw the development of surfaces of solids.
3101T.4	Use computers as a drafting tool.
3101T.5	Draw isometric and orthographic drawings using CAD packages.

Mapping of Course Outcomes (COs) with Program Outcomes (POs) & Program Specific Outcomes (PSOs)

~~~		РО												PSO	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
3101T.1	3	1	1	-	-	-	-	-	-	3	-	-	3	1	
3101T.2	3	3	2	-	-		-	-	-	3	-	-	3	1	
3101T.3	3	1	1	-	-		-	-	-	3	-	-	3	1	
3101T.4	3	3	3	-	-	-	-	-	1	3	-	-	3	1	
3101T.5	3	2	3	1	-	-	-	-	2	3	-	-	3	1	
	3	2	2	-	-	-	-	-	1	3	-	-	3	1	

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RAMIREDDY SUBB	ARAMI REDDY	I										SCIEN	CE	
ENGINEERING Engineering E	COLLEGE											POs &		
Through Inn	ovation	SI	EM:	I-II			R	eg: R	15		AY	: 2017-2	2018	
Course	Code:	Course	Name:	Netw	ork A	nalys		0			]	L T	Р	С
15A04	4202	Prerequ				·							4	2
				COUF	SE O		OMES	(COs)						
CO No.	COURS	E OUT						(003)						
4202.1	Analyze t				neoren	ns								
4202.2	Evaluate	the frequ	uency	respon	se of s	eries a	and pai	rallel r	esonar	nce ciro	cuits			
4202.3	Analyze t	he Trans	ient re	sponse	e of se	ries D(	C Circu	its						
4202.4	Design th	e freque	ncy re	sponse	e of vai	rious fi	lters							
	1													
COs						РО							PS	0
COS	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4202.1	3	3	1	-	-	-	-	1	1	1	-	-	2	2
4202.2	3	3	2	2	-	-	-	1	1	1	-	-	2	2
4202.3	3	3	1	-	-	-	-	1	1	1	-	-	2	2
4202.4	3	3	2	2	-	-	-	1	1	1	-	_	2	2
AVG	3	3	2	2	-	_	-	1	1	1	_	-	2	2
3/2/1 Indicat	tes Strength	of Correl	ation. 3	-High,	2-Med	ium an	d 1-Lov	v						

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RAMIREDDY SUBB/	RAMI REDDY	J										SCIEN	CE	
Engineering E												POs &		
Through Inn	noitevo	S	EM:	I-II			R	eg: R	15		AY	: 2017-2	2018	
Course	Code:	Course	Name:	Engi	neerir	ıg Phy	ysics I	Lab			]	T	Р	С
15A5(	6102	Prerequ	uisite: 1	None									4	2
				COLU										
	COURS	EOUT			RSE O	UICO	JMES	(COs)						
CO No.					rforor		Viffract	ion of	light					
6102.1	Analyze t	ne impo	rtance	orme	enerer		лпасі	.1011 01	iignt					
6102.2	Apply Las	ers & Fil	per opt	ics to	measu	re vari	ous pa	iramet	ers					
6102.3	Calculate	the Ene	rgy gap	o of Se	micon	ductor	laser o	diode						
6102.4	Apply the	applica	tions o	f magr	netic m	nateria	ls in da	ay-to-d	ay scie	ence				
60						РО							PS	0
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
6102.1	3	3	-	-	-	-	-	1	1	1	-	-	-	-
6102.2	3	2	-	-	-	-	-	1	1	1	-	-	-	-
6102.3	3	2	-	-	-	-	-	1	1	1	-	-	-	-
6102.4	3	2	-	-	-	-	-	1	1	1	-	-	-	-
AVG	3	2	-	-	-	-	-	1	1	1	-	-	-	-
3/2/1 Indicat	tes Strength	of Correl	ation 2	High	2 Mad	ium an	d 1 L or							

3/2/1 Indicates Strength of Correlation. 3-High, 2-Medium and 1-Low

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( And )								TUA. An dal, Kava						on)	
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RAMIREDDY SUBBA ENGINEERING	RAMI REDDY		COU	RSE C	OUTC	OMES	<b>&amp; M</b> A	APPIN	GOF	COs v	vith P	Os 8	e PS	SOs	
Engineering E Through Inn	xcellence		SEM	: I-	II		]	Reg: R	.15		AY:	2017	7-20	18	
Course C	Code:	Cou	rse Nan	ne: En	gineeri	ng & I	T Wor	kshop				L	Т	ГР	
15A992	201	Prer	equisite	e:								-	-	4	2
				CC	DURSE	C OUTO	COME	S (COs	)						
CO No.			OUTC												
9201.1	Unders (BTL2)		isassem	ble and	Asseml	ole a Pe	rsonal (	Compute	er and p	prepare (	he com	puter	read	ly to	use.
9201.2	Design	Design the Documents using Word processors. (BTL6)													
9201.3	Design	Design Slide presentations using the presentation tool. (BTL6)													
9201.4					of two c r. (BTL		compute	ers for in	formati	on shari	ng and i	nstall	sing	gle or	dual
9201.5	Illustra	te the A	Access fr	om Inte	rnet and	Browse	e it to ol	otain the	require	d inform	nation. (	BTL2	2)		
Mapping of	Course	Outcor	nes (CC	)s) with	Progra	um Outo	comes (I	POs) &	Progra	m Speci	fic Out	come	s (P	SOs)	
COs						Р	0							PS	<b>O</b>
cos	1	2	3	4	5	6	7	8	9	10	11	12	2	1	2
9201.1	3	2	3	2	-	-	-	-	3	-	-	3		2	3
9201.2	2	3	2	3	-	-	-	-	3	-	-	2		3	2
9201.3	3	2	2	2	-	-	-	-	3	-	-	2		2	3
9201.4	2	3	2	2	-	-	-	-	3	-	-	2		2	3
9201.5	2	3	3	2	-	-	-	-	3	-	-	2		3	2
AVG	2	3	2	2	-	-	-	-	3	-	-	2		3	3
3/2/1 Indicat	es Streng	gth of C	orrelati	on. 3-Hi	igh, 3-M	ledium a	ind 1-Lo	ow							



## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

## **CO'S AND PO'S MAPPING**

## **JNTUA-R15 REGULATION**

# INDEX

## List of all courses offered by the institution for the regulation R15, JNTUA

S.No	Course Code	Course Name	Year & Sem
1	15A54301	Mathematics –III	
2	15A04301	Electronic Devices and Circuits	
3	15A04302	Switching Theory and Logic Design	
4	15A04303	Signals and Systems	
5	15A04304	Probability Theory and Stochastic Processes	II-I Sem
6	15A02306	Electrical Technology	
7	15A04305	Electronic Devices and Circuits Laboratory	
8	15A02307	Electrical Technology and Basic Simulation Laboratory	
		Laboratory	
10	15A54402	Mathematics – IV	
10	15A04401	Electronic Circuit Analysis	
12	15A04402	Analog Communication Systems	-
13	15A04403	Electromagnetic Theory and Transmission Lines	-
14	15A05201	Data Structures	II-II Sem
15	15A02303	Control Systems Engineering	
16	15A04404	Electronic Circuit Analysis Laboratory	
17	15A04405	Analog Communication Systems Laboratory	
18	15A04406	Comprehensive Online Examination – I	

No.         Solv           54301.1         Solv           54301.2         Inter           54301.3         Appl           54301.4         Appl           54301.4         Com	Cours	NH-1 EM: COURS EM: COURS EM: COURS EM: COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURCOURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURO	6, Kada DEP / CON SE O II-I e: M/ : None DURS DURS DURS DURS DURS DURS DURS DURS	muthala ART IMU UTC ATHI e SE O inear ods fution, 1	a, Bogol ME JNIC OME EMA EMA UTC y appl equat	d to JNT <u>e Mand</u> NT ( CAT] CAT] S & I I R TICS OME ying t tions v arious	al, Kava DF E ION MAP PSOs aeg: R -III S (CC the cc with a	ISO 90 LEC ENC PINC 215 Ds) oncept hema	t of m	AY	ING with P 7: 2019 2 T 3 1 	Os & 0-2020 P 0	C 3
Engineering Excellen Through Innovation         Course Code:         15A54301         CO         Solv         Solv	Course Course Prere URSE OU e enginee pret and y numer polation, y curve-	NH-1 EM: COURS EM: COURS EM: COURS EM: COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURCOURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURS COURO	6, Kada DEP / CON SE O II-I e: M/ : None DURS DURS DURS DURS DURS DURS DURS DURS	muthala ART IMU UTC ATHI e SE O inear ods fution, 1	a, Bogol ME JNIC OME EMA EMA UTC y appl equat	e Mand NT ( CATI S & I I R TICS OME ying T tions T	al, Kava DF E ION MAP PSOs aeg: R -III S (CC the cc with a	ui- 524 LEC ENC PING (15 (15) (15) (15) (15) (15) (15) (15)	t of m	AY	ellore, A.F         CS&         ING         with P         7: 2019         2       T         3       1         s(L3)         (L2)	Os & 0-2020 P 0	C 3
Course Code:         ISA54301         CO         ISA54301         CO         No.       CO         54301.1       Solv         54301.2       Inter         54301.3       Apple         54301.4       Apple         54301.5       Com	Cours Prere JRSE OU e enginee pret and y numer polation, y curve-	OURS EM: se Nam quisite: CC JTCO rring p solve r cical 1 Differ fitting	CON SE O II-I e: MA : None OURS OME roble: non- 1 methor rentiat	IMU UTCO ATHI e SE O inear ods fo tion, 1	JNIC OMF EMA UTC y appl equat or va Integr	CATI S & I I R TICS OME ying t tions v	ION MAP PSOs eg: R -III S (CC the cc with a	ENC PING a15 oncept a sing hema	GINE OF	AY	ING with P 7: 2019 2 T 3 1 	P-2020	C 3
Course Code:         15A54301         CO         15A54301         CO         54301.1         54301.2         54301.3         54301.4         600         54301.4         601         54301.5	Cours Prere JRSE OU e enginee pret and y numer polation, y curve-	OURS EM: se Nam quisite: CC JTCO ring p solve r -ical 1 Differ fitting	II-I e: MA : None DURS DURS DOME roble: non- 1 methor rentiat	UTC ATHI e SE O inear ods f tion, 1	OME EMA UTCO y appl equat for va Integr	S & I I R TICS OME ying t tions	MAP PSOs leg: R -III S (CC the co with a	PING 15 Ds) oncept t sing hema	t of m	AY AY 3 atrice	with P 7: 2019 2 T 3 1 	P-2020	C 3
Course Code:         15A54301         CO         15A54301         CO         54301.1         54301.2         54301.3         54301.4         600         54301.4         601         54301.5	Cours Prere JRSE OU e enginee pret and y numer polation, y curve-	EM: we Nam quisite: CC JTCO wring p solve r biffer fitting	II-I e: MA : None DURS DURS DME roble: non- 1 methor rentiat	ATHI e SE O ms by inear ods fe tion, 1	EMA UTC y appl equat or va Integr	I R TICS OME ying tions	PSOs eeg: R -III S (CC the cc with a	215 Ds) oncept a sing hema	t of m le var	AY I 3 atrice iable.	7:2019 L T 3 1 (L2)	P-2020	C 3
CO         CO           15A54301         Inter           54301.1         Solv           54301.2         Inter           54301.3         App           54301.4         App           54301.5         Com	Course Prere URSE OU e enginee pret and y numer polation, y curve-	e Nam quisite: CC JTCO ring p solve r -ical t Differ fitting	e: MA : None DURS DURS DME roble: non- 1 methor rentiat	<b>SE O</b> ms by inear ods f	UTC y appl equat for va Integr	TICS OME ying t tions y	<b>S</b> (CC) the co with a	Ds) oncept a sing hema	le var	I 3 atrice	L T B 1 	P 0	C 3
ISA54301         CO       CO         No.       Solv         54301.1       Solv         54301.2       Inter         54301.3       Appl         54301.4       Appl         54301.4       Com         54301.5       Com	Prere JRSE OU e enginee pret and y numer polation, y curve-	quisite: CC JTCO ring p solve r cical 1 Differ fitting	: None DURS DME roble: non- 1 metho rentiat	e SE O ms by inear ods f	UTC y appl equat for va Integr	OME ying t tions v	S (CC) the co with a	oncept a sing hema	le var	atrice iable.	8 1 s(L3) (L2)	0	3
CO No.COU54301.1Solv54301.2Inter54301.3Appl54301.4Appl54301.4Com54301.5Com	JRSE OU e enginee pret and y numer polation, y curve-	CC JTCO ring p solve r rical 1 Differ fitting	DURS DME roble: non- 1 metho rentiat	ms by inear	y appl equat or va Integr	ying tions v	the co with a	oncept a sing hema	le var	atrice	s(L3) (L2)		
CO No.COU54301.1Solv54301.2Inter54301.3Appl54301.4Appl54301.4Com54301.5Com	e enginee pret and y nume polation, y curve-	J <b>TCO</b> ring p solve r cical 1 Differ fitting	oME robles non- 1 metho rentiat	ms by inear ods fr tion, 1	y appl equat or va Integr	ying tions v	the co with a	oncept a sing hema	le var	iable.	(L2)	such	as
No.         Corr           54301.1         Solv           54301.2         Inter           54301.3         Appl           54301.4         Appl           54301.4         Corr           54301.5         Corr	e enginee pret and y nume polation, y curve-	J <b>TCO</b> ring p solve r cical 1 Differ fitting	oME robles non- 1 metho rentiat	ms by inear ods fr tion, 1	y appl equat or va Integr	ying tions v	the co with a	oncept a sing hema	le var	iable.	(L2)	such	as
54301.1       Solv         54301.2       Inter         54301.3       Appl         54301.4       Appl         54301.4       Com         54301.5       Com	pret and y numer polation, y curve-	solve r rical 1 Differ fitting	non- 1 metho centiat	inear ods fe	equat for va	tions	with a	n sing hema	le var	iable.	(L2)	such	as
54301.2       Appl         54301.3       Inter         54301.4       Appl         54301.4       Com         54301.5       Com	y numer polation, ly curve-	rical 1 Differ	metho centiat	ods fottion, 1	or va Integr	arious	mat	hema				such	as
54301.3Inter54301.4Appl engin54301.4Com meth	polation, y curve-	Differ fitting	rentiat	tion, I	Integr				tical	opera	ations	such	as
54301.4         engin           54301.5         Com           54301.5         meth	•	U		nique									
54301.5 meth			s. (L3	-	es for	data	repre	esenta	tions	and	compu	tation	in
Mapping of	pare num						•	liffere	ential	equa	tions	with	the
	Course (								omes	(POs)	) & Pr	ograr	n
			Speci	ific ()			PSOs	)					
Cos			1	1	PO	)		1	1			PS	0
1	2	3	4	5	6	7	8	9	10	11	12	1	2
54301.1 2	2	3	1	_	- 1	-	-	_	_	_	-	2	-
54301.2 ₂	3	2	1	1	-	-	-	-	-	-	1	2	-
54301.3 2	2	1	1	1	-	-	-	-	-	-	-	2	-
54301.4 2	2	2	2	2	-	_	-	-	-	-	2	3	-
54301.5 2	2	2	2	2	-	-	-	-	-	-	2	3	-
AVG 2 3/2/1 Indicates		2	1	2						. Т		2	

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RAMIREDDY SUBB/ ENGINEERING	ARAMI REDDY COLLEGE						ENG	INEEF	ING					
Engineering E Through Inn					OUTCO	OMES				COs		Os & P		
		SEM: Course			FCTD			eg: R			AY:	2019-	2020	1
Course	Code:	Cours		e: ELI		ONIC	C DE	VICE	) AN	J	L	, T	Р	C
15A0	4301	Prereq	uisite: 1	None							3	1	0	3
				COUF	RSE O	UTCO	DMES	(COs)						
CO No.	COURS													
4301.1	Construe	ct electr	onic ci	rcuits	using	vario	us dio	des. (l	_2)					
4301.2	Develop regulato		(Linea	ar Moo	de Pov	ver Su	ipply)	units	using	rectifi	ers, fil	ters &		
4301.3	Demons in variou			ructio	n, woi	rking a	and ch	aracte	ristics	of BJ	T, JFE	ET and	MOSI	FET
4301.3 4301.4		is mode	s(L2)			_					T, JFE	ET and	MOSI	FET
	in variou	is mode DC bia	s(L2) s circu	its for	BJT	and FI	ET Ar	nplifie	rs. (L	4)	T, JFE	ET and	MOSI	FET
4301.4 4301.5	in variou Analyse	is mode DC bia transist	s(L2) s circu or amp	its for olifier	BJT :	and FI ts usir	ET An ng BJT	nplifie Г & FI	rs. (L ET(L4	4)				
4301.4 4301.5 Mapping o (PSOs)	in variou Analyse Analyse	is mode DC bia transist	s(L2) s circu or amp	its for olifier	BJT :	and FI ts usir	ET Ar ng BJT utcom	nplifie Г & FI	rs. (L ET(L4	4)			itcome	
4301.4 4301.5 Mapping o	in variou Analyse Analyse	is mode DC bia transist	s(L2) s circu or amp	its for olifier	BJT :	and FI ts usir <b>am O</b>	ET Ar ng BJT utcom	nplifie Г & FI	rs. (L ET(L4	4)			itcome	28
4301.4 4301.5 Mapping o (PSOs)	in variou Analyse Analyse of Course O	us mode DC bia transist utcome	s(L2) s circu or amp s (COs	its for plifier ) with	BJT :	and FF ts usir am Ou PO	ET Ar	nplifie Г & FI es (PO	rs. (L ET(L4 s) & I	4) ) Progra	m Spec	cific Ou	itcome PS	es SO
4301.4 4301.5 Mapping o (PSOs) Cos	in variou Analyse Analyse of Course O	us mode DC bia transist <b>Dutcome</b> 2	s(L2) s circu or amp s (COs 3	its for plifier ) with	BJT :	and FF ts usir am Ou PO	ET Ar	nplifie Г & FI es (PO	rs. (L ET(L4 s) & I	4) ) Progra	m Spec	cific Ou	itcome PS 1	es 50 2 1
4301.4 4301.5 Mapping o (PSOs) Cos 4301.1	in variou Analyse Analyse f Course O 1 3	IS mode DC bia transist Dutcome 2 2 2	s(L2) s circu or amp s (COs 3 1	its for plifier ) with	BJT : circui Progr 5 -	and FI ts usir ram Ou PO 6 -	ET Ar ng BJT utcom 7 -	nplifie F & FI es (PO 8 -	rs. (L ET(L4 s) & I 9 -	4) ) Progra 10 -	m Spec 11 -	cific Ou 12 -	PS 1 3	<b>SO</b>
4301.4 4301.5 Mapping o (PSOs) Cos 4301.1 4301.2	in variou Analyse Analyse f Course O 1 3 3	IS mode DC bia transist Dutcome 2 2 2 2	s(L2) s circu or amp s (COs 3 1 1	its for plifier ) with	BJT : circui Progr 5 -	and FF ts usir am O PO 6 -	ET Ar ng BJT utcom 7 -	nplifie	rs. (L ET(L4 s) & I 9 -	4) ) Progra 10 -	m Spec	cific Ou 12 -	<b>PS</b> <b>1</b> 3 3	<b>SO</b> 2 1
4301.4 4301.5 Mapping o (PSOs) Cos 4301.1 4301.2 4301.3	in variou Analyse Analyse of Course O 1 3 3 3	IS mode DC bia transist Dutcome 2 2 2 3	s(L2) s circu or amp s (COs 3 1 1 2	its for plifier ) with	BJT : circui Progr 5 -	and FF ts usir am Or PO 6 - -	ET Ar ng BJT utcom 7 - -	nplifie	rs. (L ET(L4 s) & I 9 -	4) ) Progra 10 - -	m Spec	cific Ou 12 - -	<b>PS</b> <b>1</b> 3 3 3	<b>SO 2 1 1 1</b>

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											NICS			
	COLLEGE	C	DURS								ERIN with	G POs &	PSOs	
Engineering Through In														
		Course	EM:	II-I				leg: R				2019-2	2020	<u> </u>
Course	Code:	DESI		2111	CHI	NG II	HEUI	XY AI	ND LV	JGIC	L	T	Р	C
15A0	4302	Pre-rec	uisite:	EMTI							3	1	0	3
			C	COUR	SE O	UTC	OME	<b>S</b> (CO	s)					
CO No.	COURS	SE OUT	COM	Έ										
4302.1		and Boo cuits. (L		algebra	a, Nui	mber s	systen	ns and	logic	gates	in the	e develo	opmer	nt of
4302.2	Apply k	K-Map &	: Tabu	lar Me	ethods	s to mi	inimiz	e logi	e func	tions.	(L3)			
4302.3	Design	different	comb	oinatio	nal Lo	ogic ci	rcuits	. (L6)						
4302.4	Design	different	Seque	ential	Logic	circui	ts and	their	applic	ations	. (L6)			
4302.4 4302.5		different different	-		0						. (L6)			
4302.5		different	comb	oinatio	nal log s) with	gic cir h <b>Pro</b> ş	cuits t gram	using 1 Outco	PLDs.	(L6)		gram \$	Specif	ic
4302.5 <b>Mappi</b>	Design	different	comb	oinatio	nal log s) with	gic cir	cuits gram (PSO)	using 1 Outco	PLDs.	(L6)		gram (	Specif PS	
4302.5	Design	different	comb	oinatio	nal log s) with	gic cir h Proş omes	cuits gram (PSO)	using 1 Outco	PLDs.	(L6)		gram S	-	
4302.5 <b>Mappi</b>	Design of Cou	different	comes	oinatio	nal log s) with Outco	gic cir h Prog omes PO	cuits gram (PSO)	using D Outco s)	PLDs.	(L6) (POs)	& Pro		PS	<b>50</b>
4302.5 Mappin	Design of Cou	different trse Out	comb comes	inatio (CO:	nal log s) with Outco	gic cir h Prog omes PO	cuits gram (PSO)	using D Outco s)	PLDs.	(L6) (POs)	& Pro	12	PS	SO 2
4302.5 Mappin Cos 4302.1	Design of Cou	different <b>Irse Out</b> 2 3	comes 3	inatio (CO: 4 2	nal log s) with Outco	gic cir h Prog omes PO	cuits gram (PSO)	using D Outco s)	PLDs.	(L6) (POs)	& Pro	<b>12</b> 2	PS 1	50 2 2 2
4302.5 Mappin Cos 4302.1 4302.2	Design of Cou	different urse Out 2 3 3	comes 3 1	inatio (CO: 4 2 1	nal log s) with Outco	gic cir h Prog omes PO	cuits o gram (PSO)	using D Outco s)	PLDs.	(L6) (POs)	& Pro	<b>12</b> 2 2	<b>P</b> S <b>1</b> 1 1	50 2 2 2 2 2
4302.5 Mappin Cos 4302.1 4302.2 4302.3	Design of Cou	different <b>Irse Out</b> 2 3 3 3	a         a           a         1           1         2	inatio (CO: 4 2 1 2	nal log s) with Outco	gic cir h Prog omes PO	cuits o gram (PSO)	using D Outco s)	PLDs.	(L6) (POs)	& Pro	12 2 2 1	<b>P</b> S <b>1</b> 1 1 1	<b>50</b> 2 2

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AMIREDDY SUBB ENGINEERING	ARAMI RED DY COLLEGE										ERIN			
Engineering I Through Inr		C	DURS	E OU	TCO	MES	<b>&amp; M</b> A	PPIN	IG OI	F COs	with	POs &	: PSOs	5
		S	EM:	II-I			R	eg: R	15		AY	: 2019-	2020	
Course	Code:	Course	Name	SIGN	ALS A	AND S	SYST	EMS			Ι	T	Р	С
15A0	4303	Prerequ	uisite: l	None							3	3 1	0	3
				COUI	RSE O	UTCO	OMES	(COs)						
CO No.	COURS	SE OUT	COM	E										
4303.1	Apply F	ourier s	eries to	o anal	yse pe	riodic	signa	ls and	their	spectr	a.(L3)			
				•	1	· .	7	trong	form	$(\mathbf{I} \mathbf{A})$				
4303.2	Analyse	continu	ous tir	me sig	nals u	sing F	ourie	uans	101111.	(L4)				
4303.2 4303.3	Analyse Examine					Ũ				(L4)				
		e signal	transm	nissior	n throu	ıgh lin	iear sy	vstems	(L4)		orm(L	.4)		
4303.3	Examine	e signal s discret	transm e time	nissior e signa	n throu Ils usin	igh lin ng dise	iear sy crete t	vstems ime Fo	(L4) ourier	transf			s(L3)	
4303.3 4303.4 4303.5	Examine	e signal s discret aplace a	transm te time	nissior signa ransfo	n throu Ils usin rm to s) with	ng dise analys	crete t se con	vstems ime Fo tinuou <b>Outco</b>	(L4) ourier is & d	transf	e time	system		ïc
4303.3 4303.4 4303.5 <b>Mappin</b>	Examine Analyse Apply L	e signal s discret aplace a	transm te time	nissior signa ransfo	n throu Ils usin rm to	ng dise analys	crete t se con gram	vstems ime Fo tinuou <b>Outco</b>	(L4) ourier is & d	transf	e time	system	Specif	ic SO
4303.3 4303.4 4303.5	Examine Analyse Apply L	e signal s discret aplace a	transm te time	nissior signa ransfo	n throu Ils usin rm to s) with	igh lin ng dise analys n Prog	crete t se con gram	vstems ime Fo tinuou <b>Outco</b>	(L4) ourier is & d	transf	e time	system	Specif	
4303.3 4303.4 4303.5 <b>Mappin</b>	Examine Analyse Apply L ng of Cou	e signal s discret aplace a rse Out	transm te time and z tr comes	nissior e signa ransfo	n throu Ils usin rm to s) with Outco	igh lin ng dise analys n Prog omes PO	crete t se con gram (PSOs	vstems ime Fo tinuou Outco	(L4) ourier is & d mes (	transf iscrete POs)	e time & Pro	system gram	Specif PS	50
4303.3 4303.4 4303.5 Mappin	Examine Analyse Apply L ng of Cou	e signal s discret aplace a rse Out	transme time and z tr comes	nissior e signa ransfo	n throu Ils usin rm to s) with Outco	igh lin ng dise analys n Prog omes PO	crete t se con gram (PSOs	vstems ime Fo tinuou Outco	(L4) ourier is & d mes (	transf iscrete POs)	e time & Pro	system gram	Specif PS 1	50 2
4303.3 4303.4 4303.5 Mappin COs 4303.1	Examine Analyse Apply L ng of Cou	e signal s discret aplace a rse Out 2 3	transme time and z transme comes 3	nissior e signa ransfo	n throu Ils usin rm to s) with Outco	igh lin ng dise analys n Prog omes PO	crete t se con gram (PSOs	vstems ime Fo tinuou Outco	(L4) ourier is & d mes (	transf iscrete POs)	e time & Pro	system ogram	Specif PS 1	50 2 1
4303.3 4303.4 4303.5 <b>Mappin</b> <b>cos</b> 4303.1 4303.2	Examine Analyse Apply L ng of Cou 1 1 2	e signal s discret aplace a rse Out 2 3 2	transme te time and z tr comes 3 1 2	nissior e signa ransfo	n throu Ils usin rm to s) with Outco	igh lin ng dise analys <b>n Prog</b> <b>pmes</b> <b>PO</b> 6 - -	rear sy crete t se con gram (PSOs 7 -	vstems ime Fo tinuou Outco s) 8 -	(L4) ourier is & d mes ( 9 -	transf iscrete POs) 10 -	e time & Pro 11 -	system ogram 12 - -	Specif PS 1 1 2	SO 2 1 1
4303.3 4303.4 4303.5 <b>Mappin</b> <b>COs</b> 4303.1 4303.2 4303.3	Examine Analyse Apply L ng of Cou 1 1 2 3	e signal s discret aplace a rse Out 2 3 2 3	transme time and z transme comes 3 1 2 2	nissior e signa ransfo	n throu Ils usin rm to s) with Outco	igh lin ng dise analys <b>n Prog</b> omes PO 6 - - -	rear sy crete t se con gram (PSOs 7 - -	vstems ime Fo tinuou Outco s) 8 - - -	(L4) ourier is & d mes ( 9 - -	transf iscrete POs) 10 -	e time & Pro 11 - -	system ogram 12 - - -	Specif PS 1 1 2 2	50 2 1 1 1

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1				roved by H-16, Ka										•	
	$\geq$			DEF	PAR	ГМЕ	NT (	<b>)F E</b>	LEC	TRO	NIC	5&	,		
RAMIREDDY SUBB ENGINEERING	ARAMI REDDY COLLEGE												0 1		
Engineering I Through Inr			DURS	EOU	ICO	MES	& MA	<b>IPPIN</b>	IG OI						
			EM:	II-I				eg: R			AY	: 201	19-2	020	1
Course	Code:	Course STOC						ORY	AND		]	L	Т	Р	C
15A0	4304	Pre-req	uisite:	Digita	al Syst	em D	esign					3	1	0	3
		1	C	COUR	SE O	UTC	OMES	<b>5</b> (CO	s)						
CO No.	COURS	E OUT	COM	E											
4304.1	Analyse	various	proba	bility	densit	y func	ctions	of ran	dom v	variabl	es. (L	4)			
4304.2	Apply th	ne conce	pts of	Multi	ple rai	ndom	variab	oles in	comn	nunica	tion s	yster	ns. (	L3)	
4304.3	Solve th	e engine	ering	proble	ems in	volvir	ng rano	dom p	rocess	ses. (L	6)				
4304.4	Analyse	the spec	ctral cl	haract	eristic	s of ra	Indom	proce	ess. (L	4)					
4304.5	Analyse spectral	-			•		with r	andon	n inpu	ts and	also	com	pare	diffe	rent
Mappir	ng of Cou	rse Out	comes			-	gram ( (PSOs		omes (	POs)	& Pro	ogra	m S	pecifi	ic
Car						РО								PS	0
Cos	1	2	3	4	5	6	7	8	9	10	11	1	2	1	2
4304.1	3	3	1	1	1	1	-	-	-	1	-	1		2	1
-50-1.1	-	5	1	1	1	1				1				_	-
4304.1	3	3	1	1	1	1	-	-	-	1	-	1		2	-
							-	-	-		-	1			-
4304.2	3	3	1	1	1	1	-	-	-	1	-			2	-
4304.2 4304.3	3 3	3 3	1	1	1	1		- - -		1		1		2	-

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AMIREDDY SUBB ENGINEERING	ARAMI REDDY COLLEGE										ERIN		0.1		
Engineering I Through Inr		C	JURS	EOU	TCO	MES	& MA	PPIN	IG OI	COs	with	POs	8 & I	PSOs	
		S	EM:	II-I			R	eg: R	15		AY	: 201	19-2	020	
Course	Code:	Course	Name:	ELE	CTRI	CAL	TECI	HNOI	LOGY	7	Ι		Т	Р	(
15A0	2306	Pre-req	uisite:	None								3	1	-	3
				COUI	RSE O	UTCO	OMES	(COs)							
CO No.	COURS	SE OUT	COM	Έ											
2306.1	Explain	the oper	ation	and co	onstrue	ction o	of DC	gener	ators ı	ising l	EMF e	equat	ion.	(L2)	
2306.2	Explain	the open	ation	and co	onstrue	ction of	of DC	motor	using	torqu	e equa	ation	. (Ľ	2)	
2306.3	Analyse	the Ope	rating	Princ	iple a	nd des	ign as	pects	of Sin	gle-pl	nase tr	ansfo	orm	ers. (l	L4)
2306.3 2306.4	Analyse Analyse (L4)	1	0		•		0	•		0 1					
	Analyse	the Ope	erating	Princ	iple a	nd des	sign as	pects	of Th	ree ph	ase inc	ducti	on r	notor	s.
2306.4 2306.5	Analyse (L4)	the Ope	erating	Princ const	iple an ructio	nd des	atures	pects of dif	of Th	ree ph	ase ind ronou	ducti s ma	on r	notor nes. (l	rs. [_4]
2306.4 2306.5 <b>Mappin</b>	Analyse (L4) Interpre	the Ope	erating	Princ const	iple an ructio	nd des nal fea h <b>Prog</b>	ign as atures gram ( (PSOs	pects of dif	of Th	ree ph	ase ind ronou	ducti s ma	on r	notor nes. (l	s. L4) ic
2306.4 2306.5	Analyse (L4) Interpre	the Ope	erating	Princ const	iple an ructio	nd des nal fea h <b>Prog</b> omes (	ign as atures gram ( (PSOs	pects of dif	of Th	ree ph	ase ind	ducti s ma	on r achir m S	notor nes. (1 <b>pecif</b>	s. [4] ic
2306.4 2306.5 <b>Mappin</b>	Analyse (L4) Interpre	the Ope	erating nciple, comes	; Princ const	iple an ructio s) with Outco	nd des nal fea h Prog omes PO	ign as atures gram ( PSOs	of dif	of Thi	ree ph synch POs)	ase ind ronou & Pro	ducti s ma	on r nchir m S 2	notor nes. (1 <b>pecif</b> PS	s. L4) ic
2306.4 2306.5 <b>Mappin</b> Cos	Analyse (L4) Interpre ng of Cou	the Ope t the prin rse Out	erating nciple, comes	Princ const const const	iple an ructio s) with Outco	nd des nal fea h Prog omes PO	ign as atures gram ( PSOs	of dif	of Thi	ree ph synch POs)	ase ind ronou & Pro	ducti s ma ogran	on r achir m S 2	notor nes. (1 pecif PS 1	s. L4) ic
2306.4 2306.5 <b>Mappin</b> Cos 2306.1	Analyse (L4) Interpre ng of Cou 1 2	the Ope t the prin rse Out	prating nciple, comes 3 2	Princ const s (COs 4 2	iple an ructio s) with Outco	nd des nal fea h Prog omes PO	ign as atures gram ( PSOs	of dif	of Thi ferent omes ( 9 -	ree ph synch POs)	ase ind ronou & Pro	lucti s ma ogran	on r achir m S 2 2	notor nes. (1 pecif PS 1 2	s. [4] <b>ic</b>
2306.4 2306.5 <b>Mappin</b> Cos 2306.1 2306.2	Analyse (L4) Interpre ng of Cou 1 2 3	the Ope t the prin rse Out	comes	Princ const const const const 2 2	iple an ructio s) with Outco	nd des nal fea h Prog omes PO	ign as atures gram ( PSOs	of dif	of Thi ferent omes ( 9 -	ree ph synch POs)	ase ind ronou & Pro 11 - -	ducti s ma ogran	on r achir m S 2 2	notor nes. (1 pecif PS 1 2 2	s. [4] ic
2306.4 2306.5 <b>Mappin</b> Cos 2306.1 2306.2 2306.3	Analyse (L4) Interpre ng of Cou 1 2 3 3 3	the Ope t the prin rse Out 2 3 3 3	aciple, comes 3 2 2 2 2	Princ const (COs 4 2 2 2	iple an ructio s) with Outco	nd des nal fea h Prog omes PO	ign as atures gram ( PSOs	of dif	of Thi ferent omes ( 9 -	ree ph synch POs)	ase ind ronou & Pro 11 - - -	lucti s ma ogran 11 2 2 2	on r achir m S 2 2 2	notor nes. (1 pecif PS 1 2 2 2	s. [4] ic

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Course 15A	Code: 04305	Course CIRC						ICES	AND	-	]	LT	Р	C
						UTC		5 (CO	s)				1	
CO No.	COURS	SE OUT							,					
4305.1	Understa	and the	parame	eters c	of Dio	des an	d tran	sistors	s from	the cl	naract	eristics.	(12)	
4305.2	Demons	trate the	rectif	ier and	d volta	age re	gulato	r circu	iits us	ing di	odes.	(L2)		
4305.3	Construe	ct variou	ıs amp	lifiers	using	g BJTs	and F	ETs.	(L6)					
4305.4	analyze	the char	acteris	stics of	f SCR	and U	JJT. (I	()						
Mappii	ng of Cou	rse Out	comes	-	-	h Prog omes (	-		omes (	POs)	& Pro	ogram S	Specif	ic
Car						РО							PS	50
Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4305.1	3	2	1	1	-	-	-	-	1	1	2	1	3	1
		2	1	1	-	-	-	-	1	1	2	1	3	1
4305.2	3	2	1											
4305.2 4305.3	3	2	1	1	-	-	-	-	1	1	2	1	3	1
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Course	code:	Course BASI								ANI	)	LT	Р	C
15A	02307	Prereq	uisite:	None									4	2
			(	COUR	SE O	UTC	OMES	<b>S</b> (CO	s)					1
CO No.	COUR	SE OUI	COM	<b>IE</b>										
2307.1	Explain field res	-	-			eristic	s of D	C ger	erator	: & mo	otor ar	nd find o	critical	1
2307.2	Demons	strate the	e OC &	& SC t	est of	single	-phase	e trans	sforme	er & fi	nd the	efficie	ncy. (I	L2)
2307.3	Apply t	he vario	us ope	ration	s on C	Continu	lous a	nd Di	screte	time s	signals	s. (L3)		
2307.4	analyze	the LTI	syster	ns usi	ng tra	nsforn	ns. (L4	4)						
Mapping Outcome		e Outco	mes (	COs)	with I	Progra	am Ou	utcom	es (P	<b>Os) &amp;</b>	Prog	ram Sp	ecific	
Car						РО	)						PS	50
Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2
2307.1	3	2	1	1	-	-	-	1	1	1	3	1	2	2
2307.2	3	2	1	1	-	-	-	1	1	1	3	1	2	2
	3	2	1	1	-	-	-	1	1	1	3	1	2	1
2307.3						1	1	1	1 .	1	1	1	-	
2307.3 2307.4	3	3	2	1	-	-	-	1	1	1	3	1	2	1

## II B.Tech, II Sem ECE Cos and pos mapping (R15-JNTUA)

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ENGINEERING		C	NIDS										z PSOs	•
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Course	Code:	Course			THEN	IATI	CS-IV						P	C
15A5	4402	Pre-req	uisite:	None							3	1	0	3
			C	COUR	SE O	UTC	OMES	5 (CO	s)					
CO No.	COURS	SE OUT	COM	Έ										
	Apply th	e Frobe	nius n	nethod	l to ob	tain a	series	soluti	on for	the g	iven lir	near se	cond o	rdei
4402.1	Ordinary	y Differe	ential e	equati	ons. (I	(_3)								
	Solve th	e engin	eerina	nroh	leme 1	ising	Besse	l func	tions	and I	egendr	e's nc	lynom	iale
4402.2	(L3)	ic engin	cering	, proo		ising	Desse	i iune	tions		egenar	c s pc	Jiynom	1415
4402.3	Analysa	41	1 (											
4402.3	Anaryse	the con	plex i	unctio	ons wi	th refe	erence	to the	eir ana	lyticit	y. (L4)	)		
4402.3	Apply T		-							•		)		
		aylor's	& Lau	rent's	series	to so	lve co	mplex	funct	•		)		
4402.4 4402.5	Apply T	aylor's on a second sec	& Lau integra	rent's als by	series using s) with	to so residu n <b>Pro</b> g	lve co ie met	mplex hod. ( <mark>Outco</mark>	funct L3)	ions.(	L3)		Specif	ïc
4402.4 4402.5 <b>Mappin</b>	Apply T Solve in	aylor's on a second sec	& Lau integra	rent's als by	series using s) with	to so residu n <b>Pro</b> g	lve co ie met gram (PSOs	mplex hod. ( <mark>Outco</mark>	funct L3)	ions.(	L3)		Specif PS	
4402.4 4402.5	Apply T Solve in	aylor's on a second sec	& Lau integra	rent's als by	series using s) with	to so residu <b>n Prog</b>	lve co ie met gram (PSOs	mplex hod. ( <mark>Outco</mark>	funct L3)	ions.(	L3)			
4402.4 4402.5 <b>Mappin</b>	Apply T Solve in ng of Cou	aylor's on proper states of the second secon	& Lau integra	rent's als by	series using s) with Outco	to so residu <b>Prog</b> <b>PO</b>	lve co ue met gram (PSOs	mplex hod. ( Outco	L3)	ions.(	L3) & Pro	gram	PS	<b>50</b>
4402.4 4402.5 <b>Mappin</b> Cos	Apply T Solve in ng of Cou	aylor's on proper second terms of the second terms of	& Lau integra comes	rent's als by s (COs	series using s) with Outco	to so residu <b>Prog</b> <b>PO</b>	lve co ue met gram (PSOs	mplex hod. ( Outco	L3)	ions.(	L3) & Pro	gram	PS	<b>50</b>
4402.4 4402.5 <b>Mappin</b> Cos 4402.1	Apply T Solve in ng of Cou	aylor's on a proper rise Out 2	& Lau integra comes	rent's als by s (COs 4	series using s) with Outco	to so residu <b>Prog</b> <b>PO</b>	lve co ue met gram (PSOs	mplex hod. ( Outco	L3)	ions.(	L3) & Pro	gram	PS 1 2	50
4402.4 4402.5 <b>Mappin</b> Cos 4402.1 4402.2	Apply T Solve in ng of Cou 1 2 2	aylor's on proper se Out	& Lau integra comes 3 1 1	rent's als by s (COs 4 2 2	series using s) with Outco 5 -	to so residu <b>Prog</b> <b>PO</b>	lve co ie met gram (PSOs 7 - -	mplex hod. ( Outco ;) 8 -	s funct L3) <b>omes (</b> <u>9</u> -	ions.( POs) 10 -	L3) & Pro 11	gram 12 -	PS 1 2 2	50
4402.4 4402.5 <b>Mappin</b> Cos 4402.1 4402.2 4402.3	Apply T Solve in ng of Cou 1 2 2 3	aylor's on a proper se Out contract of the second s	& Lau integra comes 3 1 1 2	rent's als by s (COs 4 2 2 3	series using s) with Outco 5 - - 1	to so residu <b>Prog</b> <b>PO</b>	lve co ne met (PSOs 7 - -	mplex hod. ( Outco s) 8 - - -	s funct L3) mes ( 9 - - -	ions.( POs) 10 - -	L3) & Pro 11	gram 12 - 1	PS 1 2 2 2 2	SO 2 - -

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Course	Code:	Course	Name:	ELE	CTRO	ONIC	CIRC	CUIT	ANA	LYSIS	5 1		Т	Р	C
15A0	4401	Pre-req	uisite:	NONE	Ŧ						-		-	4	2
				COUR	SE O		OMES		2)						
CO No.	COURS								3)						
CO NO.					1 4	1.0	0.0	•11	(7						
4401.1	Analyze	the vari	ous fe	edbac	k Amj	plifter	s & O	scillat	ors.(L	4)					
	Analyze	the S	mall	signal	l higł	n free	quency	y tran	sistor	Amp	olifier	m	odel	for	CE
4401.2	Configu	ration.(I	.4)												
	Apply th	e conce	pts of	h-para	ameter	: & an	alyze	the Mu	ulti sta	ige am	plifie	rs ar	nd di	ffere	ntia
4401.3	amplifie	rs.(L3)													
4401.4	Examine	the des	ign as	pects	of diff	erent	power	ampl	ifiers.	(L4)					
4401.5	Examine	the des	ign as	pects	of diff	erent	tuned	ampli	fiers.(	L4)					
Mappi	ng of Cou	rse Out	comes		1 - C		gram ( (PSOs		mes (	POs)	& Pro	gra	m S	pecif	ic
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			-		5 - -	6 - -	7	8 - -	9 - -	10 - -	11 - -	]			1
4401.1	3 3 3	3	2	1	-	-	-	-	-	-	-	1	1	3	1
4401.1 4401.2 4401.3 4401.4	3 3 3 3	3 3 2 2	2 2 1 1	1 1 1 1	-	-	-	-	•	-	-	1	1 1 1 1	3 3 2 2	1 1 1
4401.1 4401.2 4401.3	3 3 3	3 3 2	2 2 1	1 1 1	-	-	-	-	-	-	-	1	1	3 3 2	2 1 1 1 1 1 1 1 1

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Course	Code:	Course SYST		ANA	LOG	COM	IMUN	ICA	FION		L	T	Р	C
15A0	4402	Pre-req	uisite:	NONI	Ŧ						-	-	4	2
			C	COUR	SE O	UTC	OMES	6 (CO:	s)					
CO No.	COURS	E OUT	COM	E										
4402.1	Analyze domains		nplitu	de mo	odulati	ion &	demo	odulat	ion sy	/stems	s in tii	ne &	freque	ency
	Analyza	tha A			lation	0	1 1	-1-41-					C	
4402.2	domains		ngle	modu	lation	æ c	lemod	ulatio	n sys	tems	in tim	ne &	freque	ency
4402.2 4402.3	•	.(L4)	U						·				1	J
	domains	.(L4) the perf	formar	nce of	anaolg	g com	munic	ations	system	n in the	e prese	nce of	1	J
4402.3	domains Analyze	.(L4) the perf differen sic coor	Formar nt discu	nce of rete m ation p	anaolg odula	g com tion & ms &	munic z demc calcul	ation s odulati	systen	n in the chniqu	e prese es.(L4	nce of	noise.	(L4)
4402.3 4402.4 4402.5	domains Analyze Analyze Solve ba	.(L4) the perf differer sic coor te comr	Formar nt discr munica nunica	nce of rete m ation p ation c	anaolş odula proble: hanne	g com tion & ms & d.(L3)	munic c demo calcul gram (	ation s odulati ate inf	system on tec	n in the Chniqu	e prese es.(L4 te and	nce of ) channe	noise.	(L4)
4402.3 4402.4 4402.5 <b>Mappin</b>	domains Analyze Analyze Solve ba of discre	.(L4) the perf differer sic coor te comr	Formar nt discr munica nunica	nce of rete m ation p ation c	anaolş odula proble: hanne	g com tion & ms & d.(L3)	munica c demo calcul gram ( (PSOs	ation s odulati ate inf	system on tec	n in the Chniqu	e prese es.(L4 te and	nce of ) channe	noise.	(L4) acity
4402.3 4402.4 4402.5	domains Analyze Analyze Solve ba of discre	.(L4) the perf differer sic coor te comr	Formar nt discr munica nunica	nce of rete m ation p ation c	anaolş odula proble: hanne	g com tion & ms & d.(L3) h Prog	munica c demo calcul gram ( (PSOs	ation s odulati ate inf	system on tec	n in the Chniqu	e prese es.(L4 te and	nce of ) channe	noise.	(L4) acity
4402.3 4402.4 4402.5 <b>Mappin</b>	domains Analyze Analyze Solve ba of discre ng of Cour	.(L4) the perf differen sic coon te comm rse Out	formar nt discr nunica nunica	nce of rete m ation p ation c	anaolş odula proble: hanne s) with Outco	g com tion & ms & d.(L3) h Prog omes PO	munica c demo calcul gram ( (PSOs	ation s odulati ate inf Outco	systen ion tec format	n in the chniqu ion ra POs)	e prese es.(L4 te and & Pro	nce of ) channe gram \$	noise.	(L4) acity
4402.3 4402.4 4402.5 <b>Mappin</b> Cos	domains Analyze Analyze Solve ba of discre ng of Cour 1	.(L4) the perf differen sic coon te comment rse Out	formar nt discr nunica nunica	nce of rete m ation p ation c	anaolş odula proble: hanne s) with Outco	g com tion & ms & d.(L3) h Prog omes PO	munica c demo calcul gram ( (PSOs	ation s odulati ate inf Outco	systen ion tec format	n in the chniqu ion ra POs)	e prese es.(L4 te and & Pro	nce of ) channe gram \$	noise. el capa Specif PS 1	(L4 acity <b>ic</b> <b>50</b> 2 2
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4402.3 4402.4 4402.5 <b>Mappin</b> Cos 4402.1 4402.2	domains Analyze Analyze Solve ba of discre ng of Coun 1 2 3	(L4) the perf differen sic coon te comr rse Out	Formar nt discr nunica comes	nce of rete m ation p ation c	anaolş odula proble: hanne s) with Outco	g com tion & ms & d.(L3) h Prog omes PO	munica c demo calcul gram ( (PSOs 7 -	ation s odulati ate inf Outco s) 8 -	systen ion tec format	in the chnique ion ration rati	e prese es.(L4 te and & Pro 11 -	nce of ) channe gram { 12	noise. el capa Specif PS 1 2 3	(L4) acity acity 50 2 2 2 1
4402.3 4402.4 4402.5 <b>Mappin</b> Cos 4402.1 4402.2 4402.3	domains Analyze Analyze Solve ba of discre ng of Coun 1 2 3 3 3	(L4) the perf differen sic coon te comr <b>rse Out</b> 2 1 2 1	Formar nt discr nunica comes	nce of rete m ation p ation c	anaolş odula proble: hanne s) with Outco	g com tion & ms & d.(L3) h Prog omes PO	munica calcul gram ( (PSOs 7 - -	ation s odulati ate inf Outco :) 8 - - -	systen ion tec format	in the chnique ion ration rati	e prese es.(L4 te and & Pro, 11 - -	nce of ) channe gram ( 12 - - -	noise. el capa Specif PS 1 2 3 1	(L4) acity ic

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RAMIREDDY SUBB/ ENGINEERING	ARAMI REDDY COLLEGE										ERIN		DCO		
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Course	Code:	Course AND '						TIC T	HEOT	ГҮ	L	T	Р	C	
15A04	4403	Pre-rec	uisite:								-	-	24	12	
			C	COUR	SE O	UTC	OMES	<b>5</b> (CO	s)						
CO No.	COURS	SE OUT	COM	Έ											
4403.1	Analyze space.(L	halyze and solve the problems of electric and magnetic fields that vary with time and													
4403.2	Apply M	ply Maxwell's equations in solving electromagnetic field equations.(L3)													
4403.3	Analyze	electro	magne	tic wa	ive pro	opagat	ion in	differ	ent m	edia.(1	L4)				
4403.4	Explain	the cond	cept of	f trans	missic	on line	s and	their a	pplica	ations.	(L2)				
4403.5	Analyze	and des	ign va	rious	imped	lance	match	ing teo	chniqu	ies.(L4	4)				
Mappin	ng of Cou	rse Out	comes				gram (PSOs		omes (	POs)	& Pro	gram (	Specif	ic	
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Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
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4403.2	3	3	1	1	-	-	-	-	_	2	-	2	2	-	
4403.3	3	3	3	1	-	-	-	-	-	1	-	2	1	-	
4403.4	3	3	3	1	-	-	-	-	-	1	-	2	2	-	
4403.5	3	3	3	1	-	-	-	-	-	2	-	2	1	-	
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Course	Code:	Course	Name:	DAT	A ST	RUC	TURE	S			Ι	T	Р	C		
15A0	5201	Pre-req	uisite:								•		24	12		
			(	COUR	SE O	UTC	OMES	<b>S</b> (CO	s)			•		•		
CO No.	COURS	E OUT	СОМ	Έ												
5201.1	Apply th			arrays	with a	asymp	totic r	notatic	ons in	buildi	ng line	ear and	l non li	near		
5201.1	data stru	ctures. (	L3)													
5201.2	Analyze	stacks.	anene	s and	linked	l list n	sing d	vnami	ic mer	norv a	llocat	ion (L	4)			
5401.4	5	~~~~,	queue			i inst u		5			nocut	1011.(L-	.,			
5201.2	Develop		-					-					.,			
		e algorit	thms f	or tree	es and	graph	us.(L3)	)		-			.,			
5201.3	Develop	e algorit e and im	thms f	for tree	es and ferent	graph sortin	g tech	) inique	s.(L5)				· ,			
5201.3 5201.4 5201.5	Develop Compare	e algorit e and im	thms f	For tree	es and ferent chniqu s) with	graph sortin es and	g tech l hash	ing me	s.(L5) ethods	s.(L3)				ic		
5201.3 5201.4 5201.5 <b>Mappin</b>	Develop Compare Build dit	e algorit e and im	thms f	For tree	es and ferent chniqu s) with	graph sortin es and	g tech l hash gram (PSOs	ing me	s.(L5) ethods	s.(L3)			Specif	fic SO		
5201.3 5201.4 5201.5	Develop Compare Build dit	e algorit e and im	thms f	For tree	es and ferent chniqu s) with	graph sortin es and h Prog	g tech l hash gram (PSOs	ing me	s.(L5) ethods	s.(L3)			Specif			
5201.3 5201.4 5201.5 <b>Mappin</b>	Develop Compare Build dif	e algorit e and im fferent s rse Out	hms f pleme earchi	or tree ent dif ng tec	es and ferent chniqu s) with Outco	graph sortin es and h Prog omes ( PO	g tech l hash gram (PSOs	ing ma Outco	s.(L5) ethods	.(L3) (POs)	& Pro	ogram	Specif	50		
5201.3 5201.4 5201.5 Mappin	Develop Compare Build dif ng of Cour 1	e algorit e and im fferent s rse Out	thms f pleme earchi comes	or tree ent dif ng tec s (CO:	es and ferent chniqu s) with Outco	graph sortin es and h Prog omes ( PO	g tech l hash gram (PSOs	ing ma Outco	s.(L5) ethods	.(L3) (POs)	& Pro	ogram	Specif PS 1	50 2		
5201.3 5201.4 5201.5 <b>Mappin</b> <b>Cos</b> 5201.1	Develop Compare Build dif ng of Cour 1 3	e algorit e and im fferent s rse Out	thms f pleme earchi comes 3 2	ent dif ng tec s (COs 4 2	es and ferent chniqu s) with Outco	graph sortin es and h Prog omes ( PO	g tech l hash gram (PSOs	ing ma Outco	s.(L5) ethods	E.(L3) POs)	& Pro 11	<b>bgram</b> 12 2	Specif PS 1 2	<b>SO</b> 2 3 3		
5201.3 5201.4 5201.5 <b>Mappin</b> <b>Cos</b> 5201.1 5201.2	Develop Compare Build dif ng of Cour 1 3 3	e algorit e and im fferent s rse Out 2 2 3	thms f pleme earchi comes 3 2 3	or tree ent diffing tec s (COs 4 2 3	es and ferent chniqu s) with Outco	graph sortin es and h Prog omes ( PO	g tech l hash gram (PSOs	ing ma Outco	s.(L5) ethods	E.(L3) POs)	& Pro 11 - -	<b>bgram</b> 12 2 2	<b>Specif</b> <b>P</b> <b>1</b> 2 2	<b>50 2</b> 3		
5201.3 5201.4 5201.5 <b>Mappin</b> <b>Cos</b> 5201.1 5201.2 5201.3	Develop Compare Build dif ng of Cour 1 3 3 3	e algorit e and im fferent s rse Out 2 2 3 3	thms f pleme earchi comes 3 2 3 2	ent different di	es and ferent chniqu s) with Outco	graph sortin es and h Prog omes ( PO	g tech l hash gram (PSOs	ing ma Outco	s.(L5) ethods	5.(L3) (POs) 10 - -	& Pro 11	<b>bgram</b> <b>12</b> 2 2 3	<b>Special</b> <b>P</b> <b>1</b> 2 2 2 2	<b>SO</b> 2 3 3 2 2		

	( )	<b>RAMIREDDY SUBBARAMI REDDY ENGINEERING COLLEGE</b> (Approved by AICTE, Affiliated to JNTUA. An ISO 9001: 2015 Certified Institution. NH-16, Kadanuthala, Bogole Mandal, Kavali- 524 142, S.P.S.R. Nellore, A.P.)													
	×										NICS				
RAMIREDDY SUBE ENGINEERING	SARAMI REDDY S COLLEGE										ERIN				
Engineering Through In		C	DURS	E OU	TCO	MES	<b>&amp; M</b> A	PPIN	IG OI	F COs	with	POs &	z PSOs	8	
		S	EM: I	II-II			R	eg: R	15		AY	: 2019	-2020		
Course	Code:	Course ENGI			TRO	L SYS	STEM	IS			Ι	. <b>T</b>	Р	C	
15A0	2303	Pre-req	uisite:								-	-	24	12	
			C	COUR	SE O	UTC	OME	<b>5</b> (CO	s)						
CO No.	COURS	SE OUT	COM	Έ											
	Apply r	nathema	tical 1	model	s, sig	nal flo	ow gr	aph 8	z Bloo	ek dia	gram	repres	entatio	n to	
2303.1	determin	ne transf	er fun	ction of	of con	trol sy	stems	.(L3)							
2303.2	Analyse	ermine transfer function of control systems .(L3) lyse the time domain responses of first and second-order systems. (L4)													
		e control systems by applying Routh-Hurwitz and root-locus techniques.(L4)													
2303.3	Analyse	control	systen	ns by	applyi	ing Ro	outh-H	lurwit	z and	root-l	ocus te	echniq	ues.(L4	4)	
2303.3 2303.4	Analyse Apply B frequence	ode plot	t, Pola	r & N										4)	
	Apply B	ode plot cy doma	t, Pola in.(L3	r & N )	yquist	plot c	concep	ots to a	analyz	e the o	control	l syster	ns in		
2303.4 2303.5	Apply B frequence	ode plot cy doma tate spac	t, Pola in.(L3 e mod	r & N ) lel for	yquist a give s) witl	plot c en phy h <b>Prog</b>	concep vsical s gram	ots to a system Outco	analyz	e the o	control	l syster	ns in tions.	(L3)	
2303.4 2303.5	Apply B frequence Apply st	ode plot cy doma tate spac	t, Pola in.(L3 e mod	r & N ) lel for	yquist a give s) witl	plot c en phy h <b>Prog</b>	concep rsical s gram (PSOs	ots to a system Outco	analyz	e the o	control	l syster	ns in tions. <b>Specif</b>	(L3) ic	
2303.4 2303.5	Apply B frequence Apply st ng of Cou	ode plot cy doma tate spac rse Out	t, Pola in.(L3) re mod	r & N ) lel for	yquist a give s) with Outco	plot c en phy h Prog omes ( PO	concep vsical s gram (PSOs	ots to a system Outco	nalyz a and s omes (	e the o solve t POs)	control he stat & Pro	e equa	ns in tions. ( <b>Specif</b> PS	(L3) ic 50	
2303.4 2303.5 <b>Mappi</b> Cos	Apply B frequence Apply st ng of Cou	ode plot cy doma tate spac rse Out	t, Pola in.(L3) te mod comes	r & N ) lel for s (COs	yquist a give s) witl	plot c en phy h <b>Prog</b>	concep rsical s gram (PSOs	ots to a system Outco	analyz	e the o	control	e equa	ns in tions. ( Specif PS 1	(L3) ic	
2303.4 2303.5 <b>Mappi</b>	Apply B frequence Apply st ng of Cou 1 3	ode plot cy doma tate spac rse Out	t, Pola in.(L3) te mod comes 3 3	r & N ) lel for	yquist a give s) with Outco	plot c en phy h Prog omes ( PO	concep vsical s gram (PSOs	ots to a system Outco	nalyz a and s omes (	e the o solve t POs)	control he stat & Pro	e equa	ns in tions. ( <b>Specif</b> PS	(L3) ic 50	
2303.4 2303.5 <b>Mappi</b> Cos	Apply B frequence Apply st ng of Cou	ode plot cy doma tate spac rse Out	t, Pola in.(L3) te mod comes	r & N ) lel for s (COs	yquist a give s) with Outco	en phy n Prog omes PO	concep rsical s gram (PSOs	ots to a system Outco	nalyz a and s omes (	e the o solve t POs)	control he stat & Pro	e equa	ns in tions. ( Specif PS 1	(L3) ic 50 2	
2303.4 2303.5 <b>Mappi</b> Cos 2303.1	Apply B frequence Apply st ng of Cou 1 3	code plot ey doma tate spac rse Out 2 3	t, Pola in.(L3) te mod comes 3 3	r & N ) lel for ; (CO: 4 2	yquist a give s) with Outco	en phy h Prog omes PO 6 -	rsical s gram (PSOs 7 -	ots to a system Outco ) 8 -	analyz a and s omes ( 9 -	e the observe the	control he stat & Pro 11 -	e equa	ns in tions. ( Specif PS 1 3	(L3) ic SO 2 2 2	
2303.4 2303.5 <b>Mappi</b> <b>Cos</b> 2303.1 2303.2	Apply B frequence Apply st ng of Cou 1 3 3	cy doma tate space rse Out	t, Pola in.(L3) re mod comes 3 3 2	r & N ) lel for s (COs 4 2	yquist a give s) with Outco	en phy h Prog omes PO 6 -	rsical s gram (PSOs 7 -	ots to a system Outco ) 8 -	analyz a and s omes ( 9 -	e the observe the	control he stat & Pro 11 -	e equa	ns in tions. ( Specif PS 1 3 3	(L3) ic 50 2 2 2 2	
2303.4 2303.5 <b>Mappi</b> <b>Cos</b> 2303.1 2303.2 2303.3	Apply B frequence Apply st ng of Cou 1 3 3 3	Zero       Zero       3       3	t, Pola in.(L3) te mod comes 3 3 2 3	r & N ) lel for s (COs 4 2 2 2	yquist a give s) with Outco	en phy h Prog omes PO 6 -	rsical s gram (PSOs 7 -	ots to a system Outco s) - - -	analyz a and s omes ( 9 -	e the observe the	control he stat <b>&amp; Pro 11</b>	system are equa ogram 12 2 2 1	ns in tions. ( Specif 1 3 3 3 3	(L3) ic SO 2 2 2	

(13)		RA	MIRI	EDDY	SUE	BAR	<b>¦AM</b> I	RED	DY E	NGI	VEER	ING C	olg	E	
												l Institutio ore, A.P.)	n.		
	×	NH-16, Kadanuthala, Bogole Mandal, Kavali- 524 142, S.P.S.R. Nellore, A.P.) DEPARTMENT OF ELECTRONICS &													
RAMIREDDY SUBB. ENGINEERING	ARAMI REDDY COLLEGE										ERIN				
Engineering E Through Inc		CC	OURS	E OU	TCO	MES	& MA	PPIN	IG OI	F COs	with	POs &	PSOs		
		SEM: II-II Reg: R15 A											2020	0	
Course	Code:	Course LABO			CTRO	DNIC	CIRC	CUIT	ANA	LYSIS	5 I	L T	Р	С	
15A	04404	Pre-req	uisite:								-	-	24	12	
			0	COUR	SE O	UTC	OMES	<b>5</b> (CO	s)						
CO No.	COURS	E OUT	COM	E											
4404.1	Analyze simulatio				0	-	lifiers	at lo	w, mio	d and	high 1	frequen	cies u	sing	
4404.2	Analyze	the tran	sistor	oscilla	ators u	ising s	imula	tion so	oftwar	e and	Hardv	vare.(L4	4)		
4404.3	Determin	ne the ef	ficien	cies o	f pow	er amp	olifiers	s using	g simu	lation	softw	are.(L5	)		
4404.4	Analyze ware.(L4	-	ncy re	espons	se of	tuned	ampli	ifiers	using	hardv	vare a	nd mul	tisim	soft	
Mappir	ng of Cou	rse Out	comes				gram ( PSOs		omes (	POs)	& Pro	gram S	Specif	ic	
Cos						PO							PS	<b>60</b>	
005	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
4404.1	3	3	2	1	2	-	-	1	1	1	3	1	2	1	
4404.2	3	3	2	1	2	-	-	1	1	1	3	1	3	1	
4404.3	3	2	1	1	1	-	-	1	1	1	3	1	2	1	
4404.4	3	3	2	1	2	-	-	1	1	1	3	1	3	1	
Avg	3	3	2	1	2	-	-	1	1	1	3	1	3	1	
3/2/1 India	cates Stren	gth of C	Correla	ation. (	3-Hig	h, 2-M	Iediun	n and	1-Lov	7					

	2	RAN	IIREI	DDYS	SUBE	BARA	FWI <del>L</del>	REDD	YEN	igin <del>i</del>	EERI	NG CO	LLEC	ìE		
		(Approved by AICTE, Affiliated to JNTUA. An ISO 9001: 2015 Certified Institution. NH-16, Kadanuthala, Bogole Mandal, Kavali- 524 142, S.P.S.R. Nellore, A.P.)														
	2			DEF	PAR	<b>FME</b>	NT (	<b>)F E</b>	LEC	TRO	NICS	5&				
ENGINEERING		<u> </u>	NIDC								ERIN	IG POs &	DCO			
Engineering I Through Inr						VIES					with	PUS &	PSUS			
			EM: I					eg: R			AY	: 2019-2	2020	020		
Course	Code:	Course SYSTI						<b>ICAT</b>	ION		I	L T	Р	C		
154	<b>A04405</b>	Pre-req	uisite:								-	-	24	12		
			C	COUR	SE O	UTC	OMES	5 (CO	s)							
CO No.	COURS	E OUT	СОМ	E												
4405.1	Analyze	behavio	our of a	analog	g mod	ulatio	ns syst	tems i	n the t	ime d	omain	.(L4)				
4405.2	Analyze	behavio	our of	pulse	modul	lations	s syste	ms in	the tir	ne do	main.(	L4)				
4405.3	Illustrate	e the cha	racter	istics	of rad	io rece	eiver a	ind an	tenna	measu	iremer	nts(L2)				
Mappii	ng of Cou	rse Out	comes			h Prog omes (	-		omes (	POs)	& Pro	gram (	Specif	ic		
Cos						РО							PS	50		
COS	1	2	3	4	5	6	7	8	9	10	11	12	1	2		
4405.1	3	3	1	1				1	1	1	3	1	1	1		
4405.2	3	3	1	1				1	1	1	3	1	1	1		
4405.3	3	2	1	1				1	1	1	3	1	1	1		
Avg	3	3	1	1				1	1	1	3	1	1	1		
3/2/1 Indi	cates Strer	ngth of C	Correla	tion.	3-Hig	h, 2-M	Iediun	n and	1-Low	7						

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and the second second	ARAMI REDDY										ERIN			
Engineering		C	OURS								with ]		<b>PSO</b> s	
Through In	novation	S	EM:	II-II			R	eg: R	15		AY:	2019-2	2020	
Course	Code:	Course	Name:	Com	prehe	ensive	Onlin	e Exa	mina	tion-I	L	Т	Р	C
15	A04406	Pre-rec	uisite:								-	-	24	12
			C	COUR	SE O	UTC	OMES	<b>S</b> (CO	s)					
CO No.	COURS	SE OUT	COM	E										
4406.1	Acquire	fundam	ental e	engine	ering	know	ledge(	L1).						
4406.2	Demons	strate the	abilit	y to na	avigat	e skill	s and	online	learn	ing(L2	2).			
4406.3	Apply th	ne conce	pt of p	oroble	m-solv	ving a	bility	in con	npetiti	ive exa	ums(L3	).		
Mappi	ng of Cou	rse Out	comes		s) with Outco		-		omes (	(POs)	& Pro	gram S	Specif	ic
						PO							PS	50
Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2
Cos			-	-	-	-	-	1	-	-	-	-	-	-
<b>Cos</b> 4406.1	2	1								-		-	-	
	-	1	-	-	-	-	-	1	-	-	-	-	-	-
4406.1	2	-	-	-	-	-	-	1	-	-	-	-	-	-



## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

# **CO'S AND PO'S MAPPING**

## **JNTUA-R15 REGULATION**

# INDEX

### List of all courses offered by the institution for the regulation R15, JNTUA

S.No	Course Code	Course Name	Year & Sem
1	15A04511	Computer Organization	
2	15A04501	Antennas and Wave Propagation	
3	15A04502	Digital Communication Systems	
4	15A04503	Linear Integrated Circuits and Applications	
5	15A04504	Digital System Design	III-I Sem
6	15A04505	Linux Programming & Scripting (MOOCS-I)	
7	15A04507	IC Applications Laboratory	
8	15A04508	Digital Communication Systems Laboratory	
9	15A99501	Audit course – Social Values & Ethics	
10	15A52301	Managerial Economics and Financial Analysis	
11	15A04601	Microprocessors & Microcontrollers	
12	15A04602	Electronic Measurements and Instrumentation	
13	15A04603	Digital Signal Processing	
14	15A04604	VLSI Design	
15	15A04605	MATLAB Programming. (CBCC-I)	III-II Sem
16	15A04607	Microprocessors & Microcontrollers Laboratory	III-II Sem
17	15A04608	Digital Signal Processing Laboratory	
18	15A52602	Advanced English Language Communication	
		Skills (AELCS) Laboratory	
19	15A02608	Comprehensive Online Examination - II	
20	15A52301	Managerial Economics and Financial Analysis	

### III B.Tech, I Sem ECE Cos and pos mapping (R15-JNTUA)

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1							d to JN	TUA. A	n ISO 90			ed Institut		
	×										<u>.S.R. Nel</u> DNIC	lore, A.P.)	)	
RAMIREDDY SUBE	SARAMI REDDY								-		<b>ERI</b>			
Engineering	Excellence	COI	IRSE									POs d	e PS(	)s
Through In	novation					ILD								
Course	Cadar	SE Course	M:	III-I	putor	Orgo		eg: R	15			<u>: 2020</u> 7 T	-2021 P	C
					puter	Olga	mzati				3		г 0	3
15A04	4511	Prerequ									•		U	5
GON	GOVE				SE O	UTC	OME	<b>S</b> (CC	<b>)</b> s)					
CO No.	COURS					•								
4511 1	Analyze		ent f	unctio	onal	units,	bus	struc	ture	and	addres	ssing r	nodes	in
4511.1	compute	er(L4).												
	Explain	the fun	ctions	lunit	s of tl	he nro	Cesso	r such	) as re	nister	file a	nd AI I	$I(\mathbf{I} 2)$	
4511.2	Елріаш	the full	ction	li uiiit	5 01 11		100350	1 Suci	1 45 10	gister	me a		J(L2)	•
	Differen	tiate th	e use	of m	ain m	emor	y, cac	he me	emory	and	virtua	l memo	ory in	the
4511.3	compute	er systei	m(L2)	).		-			-				-	
	-	-												
4511.4	Explain	the inpu	ut/out	put in	terfac	es &	memo	ory or	ganiz	ation(	L2).			
	Apply	the c	oncer	ots o	of th	ne p	ipelin	ing	and	basic	c ch	aracteri	stics	of
4511.5	multipro		-			1	1	U						
			()											
Map	oing of Co	ourse C	<b>Jutco</b>				<u> </u>			mes (	POs)	& Pro	gram	
	1			Spec	ific <b>C</b>	<b>Jutco</b>		PSOs	)				r .	
Cos			-			PO	r			1.0			PS	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4511.1	3	3	1	1	-	-	-	-	-	-	-	1	1	1
4511.2	3	3	1	1	-	-	-	-	-	-	-	1	1	1
4511.3	3	3	1	1	-	-	-	-	-	-	-	1	1	1
4511.4 4511.5	3	3	1	1	-	-	-	-	-	-	-	1	1	1
AVG	3	3	1	1	-	-	-	-	-	-	-	1 1	1	1
3/2/1 Indi	_	-		latio		ligh 3	- 3 Mod	- lium (	- nd 1		-	1	1	
<i>3/2/</i> 1 mai	cales Sire	ingui OI	COIF		1. <b>3</b> -E	ngn, s	o-iviec	iiuiii č	ulu I-	LOW				

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RAMIREDOY SUBBAI	RAMI REDDY		DEPA	ARTM	ENT (	OF EL		RONIC INEEF		D COI	MMUN	VICATI	ON	
Engineering Ex Through Inno	cellence		COU	RSE (	OUTC	OMES				COs	with P	Os & PS	Os	
Through Third		YEAR	&SEN	/:III-I			R	eg: R1	5		AY:	2020-20	021	
Course	Code:	Course	Name	e: Ante	ennas	and W	ave P	ropaga	ation		]	T	Р	С
15A04	4501	Prerequ	isite: N	None								3 1	0	3
				COUI	RSE O	UTCC	<b>MES</b>	(COs)						
CO No.	COURS	E OUTC	OME											
4501.1	Explain	the basic	es of a	ntenna	a parar	neters	& rad	iation	patter	rn(L2)	•			
4501.2	Design	VHF, UI	IF and	l Micro	owave	anten	nas(L	6).						
4501.3	Analyze antennas		structio	on of 1	nicro	strip, 1	flat she	eets, c	orner	and pa	raboli	c reflect	tor	
4501.4	Design t perform			ays &	Make	use of	f anter	ina me	easure	ments	to ass	ess ante	nna's	
4501.5	Explain atmosph				-				space	& me	chanis	m of the	e	
Mapping of (PSOs)	f Course O	utcomes	(COs)	with l	Progra	m Ou	tcomes	s (POs	) <b>&amp; P</b> r	ogran	ı Speci	fic Outo	comes	
						РО							P	~ ~
Car														<b>SO</b>
Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2
<b>Cos</b> 4501.1	<b>1</b> 3	<b>2</b> 3	<b>3</b> 3	<b>4</b> 2	5			8	9	<b>10</b> 2	11	12 -		
				-	<b>5</b> - 2			8 - -	9 - -		11 - -	12 - -		
4501.1	3	3	3	2	-			8 - - -	9 - - -	2	11 - -	12 - -		
4501.1 4501.2	3	3	3	2	- 2			8 - - -	9 - - -	2	11 - - -	12 - - -		
4501.1 4501.2 4501.3	3 3 3	3 3 3	3 2 3	2 2 2	- 2 2			8 - - - -	9 - - - -	2 2 2	11 - - - -	12 - - - - -		
4501.1 4501.2 4501.3 4501.4	3 3 3 3	3 3 3 3	3 2 3 3	2 2 2 2 2	- 2 2			8 - - - - -	9 - - - - -	2 2 2 2 2	11 - - - -	12 - - - - -		

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Engineering Through In		C	OURS	SE OU	JTCO	MES	<b>&amp; M</b> A	APPIN	IG OI	F COs	with ]	POs &	PSOs	
		YEA	R &SI	E <b>M:II</b>	[-I		F	Reg: R	15		AY:	2020-20	21	
Course	Code:	Course	Name:	Digita	l Com	munic	ation	Syster	ns		Ι	J T	Р	C
15A0	4502	Pre-rec	uisite:	EMTL	<u>_</u>						3	3 1	0	3
			(	COUR	RSE O	UTC	OMES	<b>5</b> (CO	s)					
CO No.		SE OUT												
4502.1		he funda tion tech			-					ong w	ith dif	ferent c	oding	anc
4502.2	Differen	ntiate th s(L2)	e bas	ic pr	inciple	es of	basel	band	and	passba	nd di	gital n	nodula	tio
4502.3	Employ	the Geo	metric	Repre	esenta	tion of	Signa	als in S	Signal	Space	(L2).			
4502.4		e the diff obability				k dem	odulat	ion fo	r band	l pass (	data tra	ansmiss	ion an	d
4502.5	Apply d	ifferent	channe	el enco	oding t	echnie	ques fo	or erro	r dete	ction a	and con	rection	(L3)	
Марр	ing of Co	urse Ou	tcome	s (CO		h Prog omes			mes (	POs)	& Pro	gram S	pecifi	с
						РО	1						PS	50
Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2
	3	3	1	1	1	1	-	-	-	1	-	-	-	1
4502.1			1	1	1	1	-	-	-	1	-	-	-	1
4502.1 4502.2	3	3				<u> </u>	-	-	-	1	-	-	-	1
	3	3	1	1	1	1			1	Î.				
4502.2			1 1	1 1	1	1	-	-	-	1	-	-	-	1
4502.2 4502.3	3	3					-	-	-	1	-	-	-	1

RAMIREDDY SUBBARAMI REDDY

ENGINEERING COLLEGE

Engineering Excellence

### RAMIREDDY SUBBARAMI REDDY ENGINEERING COLLEGE

(Approved by AICTE, Affiliated to JNTUA. An ISO 9001: 2015 Certified Institution. NH-16, Kadanuthala, Bogole Mandal, Kavali- 524 142, S.P.S.R. Nellore, A.P.)

### DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

**COURSE OUTCOMES & MAPPING OF COs with POs & PSOs** 

Through Innovation						
	YEAR &SEM:III-I	Reg: R15	<b>AY:</b> 2	020-20	)21	
Course Code:	Course Name: Linear Integra Applications	ted Circuits and	L	Т	Р	С
15A04503	Prerequisite: None		3	1	0	3
	COURSE OUT	COMES (COs)				

CO No.	COURSE OUTCOME
4503.1	Explain the construction and characteristics of the operational-amplifiers(L2).
4503.2	Analyze the feedback and its effect on the performance of op-amp(L4).
4503.3	Develop knowledge on some linear applications of Op-amp and on the design of active filters using Op-amps(L6).
4503.4	Design various waveform generators using Op-amp, 555 Timer and PLL(L6).

4503.5 Analyze data converter (ADC and DAC) Circuits using Op amps()
----------------------------------------------------------------------

#### Mapping of Course Outcomes (COs) with Program Outcomes (POs) & Program Specific Outcomes (PSOs)

60						PO							PS	0
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4503.1	3	2	2	-	2	-	-	-	-	3	2	2	3	-
4503.2	3	2	2	-	2	-	-	-	-	3	2	2	3	-
4503.3	3	2	2	-	2	-	-	-	-	3	2	2	3	-
ECEDEPT 4503.4	3	2	2	-	2	-	-	-	-	3	2	2	3	-
4503.5	3	2	2	-	2	-	-	-	-	3	2	2	3	-
AVG	3	2	2	-	2	-	-	-	-	3	2	2	3	-

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Engineering Through In		C	OURS	SE OU	JTCO	MES	<b>&amp; M</b> A	<b>APPIN</b>	IG OI	F COs	with l	POs &	<b>PSOs</b>	
Through the		YEA	R &SF	EM:III	[ <b>-I</b>		R	leg: R	15		AY:	2020-20	021	
Course	Code:	Course	Name:	Digita	al Syst	tem D	esign			1	Ι	, T	Р	C
15A0	4504	Pre-req	uisite:	None							3	1	0	3
			(	COUR	SE O	UTC	OMES	G (CO	s)					
CO No.	COURS	E OUT	COM	E										
4504.1	Construc	t the log	gic circ	cuits u	sing d	ifferei	nt type	s of lo	ogic fa	milies	(L6).			
4504.2	Develop	VHDI	nrogra	ms fo	r digit	al circ	nits(I	6)						
4304.2	-		1 0		Ŭ									
1 = 0 : -		1 •	1					1	wite .		· •	$\sim$		
4504.3	Design	-	lemen	it vari	lous c	ombir	ationa	u circ	uns u	sing	Dasic I	C stru	ctures	an
4504.3	Design VHDL(I	-	lemen	it vari	ious c	ombir	ationa		uns u	Ising	Dasic I	C stru	ctures	and
4504.3	-	L6).												
	VHDL(I	.6). Ind impl												
4504.4	VHDL(I Design a VHDL(I	_6). Ind impl _6).	ement	variou	us sequ	uentia	l circu	its usi	ng usi	ng bas	sic IC s	tructur	es and	
	VHDL(I Design a	L6). Ind impl L6). VHDL	ement progr	variou	us sequ	uentia	l circu	its usi	ng usi	ng bas	sic IC s	tructur	es and	
4504.4	VHDL(I Design a VHDL(I Develop	L6). Ind impl L6). VHDL HDL(L6	ement progr ).	variou rams f	us sequ for van	uentia rious h <b>Pro</b> g	l circu comple	its usi ex cor Outco	ng usi mbina	ng bas tional	sic IC s	tructur equent	es and	cuit
4504.4 4504.5 <b>Mapp</b>	VHDL(I Design a VHDL(I Develop using VH	L6). Ind impl L6). VHDL HDL(L6	ement progr ).	variou rams f	us sequ for van	uentia rious h <b>Pro</b> g	l circu comple gram ( (PSOs	its usi ex cor Outco	ng usi mbina	ng bas tional	sic IC s	tructur equent	res and ial cir	cuit
4504.4 4504.5	VHDL(I Design a VHDL(I Develop using VH	L6). Ind impl L6). VHDL HDL(L6	ement progr ).	variou rams f	us sequ for van	uentia rious h Prog omes	l circu comple gram ( (PSOs	its usi ex cor Outco	ng usi mbina	ng bas tional	sic IC s	tructur equent	res and ial cir	cuit
4504.4 4504.5 <b>Mapp</b>	VHDL(I Design a VHDL(I Develop using VH ing of Cou	L6). Ind impl L6). VHDL HDL(L6 UTSE Out	ement progr ).	variou rams f	us sequiritaria se	uentia rious h Prog omes PO	l circu comple gram ( (PSOs	its usi ex cor Outco	ng usi mbina mes (	ng bas tional POs)	and S	tructur equent gram S	res and ial cirt	cuit
4504.4 4504.5 <b>Mapp</b> Cos	VHDL(I Design a VHDL(I Develop using VI ing of Cou	L6). Ind impl L6). VHDL HDL(L6 Irse Out	ement progr ). Comes	variou rams f s (CO) 4	us sequ for var s) with Outco 5	uentia rious h Prog omes PO	l circu comple gram ( (PSOs	its usi ex cor Outco	ng usi mbina mes ( 9	ng bas tional POs)	sic IC s and S & Prog 11	tructur equent gram S	res and ial cirt	cuit
4504.4 4504.5 <b>Mapp</b> Cos 4504.1	VHDL(I Design a VHDL(I Develop using VH ing of Cou 1 1 1	26). Ind impl 26). VHDL IDL(L6 Irse Out 2 - -	ement progr ). COME: 3	variou rams f s (CO) 4 -	is sequences of the seq	uentia rious h Prog omes PO	l circu comple gram ( (PSOs	its usi ex cor Outco	ng usi mbina mes ( 9 1	ng bas tional POs)	and S <b>&amp; Prog 11</b> 2 2	tructur equent gram § 12 - -	res and ial cirt	cuit c SO 2 3
4504.4 4504.5 <b>Mapp</b> Cos 4504.1 4504.2 4504.3	VHDL(I Design a VHDL(I Develop using VH ing of Cou 1 1 1 1 1	26). Ind impl 26). VHDL HDL(L6 Irse Out 2 - 2 2	ement progr ). Comes 3 - 2	variou rams f s (CO) 4 - -	is sequences of the seq	uentia rious h Prog omes PO	l circu comple gram ( (PSOs	its usi ex cor Outco	ng usi mbina mes ( 9 1 1	ng bas tional POs)	sic IC s and S & Prog 11 2 2 2	tructur equent gram S 12 - - 2	res and ial cirt Specifi P: 1 -	cuit c SO 3 3 3 3
4504.4 4504.5 <b>Mapp</b> Cos 4504.1 4504.2	VHDL(I Design a VHDL(I Develop using VH ing of Cou 1 1 1	26). Ind impl 26). VHDL IDL(L6 Irse Out 2 - -	ement progr ). COME: 3	variou rams f s (CO) 4 - 2	is sequences of the seq	uentia rious h Prog omes PO	l circu comple gram ( (PSOs	its usi ex con Outco :) 8 - - -	ng usi mbina mes ( 9 1 1 1	ng bas tional POs) 10 - -	and S <b>&amp; Prog 11</b> 2 2	tructur equent gram § 12 - -	res and ial cirt Specifi PS 1 - 1	cuit c SO 2 3 3

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15A0		Pre-rec			X I I U	grann	inng	a su	Ihrm	5			-	
			•	COU	RSE O	UTCO	OMES	(COs)						
CO No.	COUR	SE OUT												
4505.1								•1 • • • •						
	Underst	and basic	Linux	comma	ands a	nd usa	ge of f	lle ope	eration	s.				
4505.2	Explain	_inux net	workin	g servi	ces.									
4505.3	Use bas	c Perl scr	ipting.											
4505 4														
4505.4	Underst	and widg	et impl	ement	tation	using T	cl/Tk.							
4505.4		and widg						using P	ython					
4505.5		and contr	ol flow	/ and e	xcepti s) witl	on har h <b>Proş</b>	ndling ( gram	Outco			& Pro	ogram	Specif	ĩc
4505.5	Underst	and contr	ol flow	/ and e	xcepti s) witl	on har	ndling o gram (PSOs	Outco			& Pro	ogram		ic SO
4505.5	Underst	and contr	ol flow	/ and e	xcepti s) witl	on har h Prog omes (	ndling o gram (PSOs	Outco			& Pro	ogram 12		
4505.5 <b>Mappi</b>	Underst	and contr	ol flow	v and e	s) with Outco	on har h Prog omes ( PO	ndling ( gram ( PSOs	Outco s)	omes (	POs)			PS	<b>50</b>
4505.5 Mappin Cos 4505.1	Underst ng of Cou 1 3	and contr arse Out 2 3	comes 3 3	4 2	s) with Outco 5	on har h Prog omes ( PO	ndling ( gram ( PSOs	Outco s)	omes (	POs)		12	PS 1 2	<b>50</b>
4505.5 Mappin Cos 4505.1 4505.2	Underst ng of Cou 1 3 3	and contr and contr	comes 3 3 2	<b>4</b> 2 2	s) with Outco 5 2 2	on har h Prog omes ( PO	ndling ( gram ( PSOs	Outco s)	omes (	POs)		<b>12</b> 2 2	PS 1 2 2	<b>50</b>
4505.5 Mappin Cos 4505.1	Underst ng of Cou 1 3	and contr arse Out 2 3	comes 3 3	4 2	s) with Outco 5 2	on har h Prog omes ( PO	ndling ( gram ( PSOs	Outco s)	omes (	POs)		<b>12</b> 2	PS 1 2	<b>50</b>
4505.5 Mappin Cos 4505.1 4505.2	Underst ng of Cou 1 3 3	and contr and contr	comes 3 3 2	<b>4</b> 2 2	s) with Outco 5 2 2	on har h Prog omes ( PO	ndling ( gram ( PSOs	Outco s)	omes (	POs)		<b>12</b> 2 2	PS 1 2 2	<b>SO</b>
4505.5 Mappin Cos 4505.1 4505.2 4505.3	Underst ng of Cou 1 3 3 3	and contr and contr	comes 3 3 2 3	4 2 3	s) with Outco 5 2 2 3	on har h Prog omes PO 6	ram (PSOs 7 - -	8       -       -       -	9 - -	POs) 10		12 2 2 2	PS 1 2 2 2	50

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		YEA	R &SI	E <b>M:II</b>	[ <b>-I</b>		R	eg: R	15		AY	: 2020-2	2021	
Course 15A0		Course	Name:	IC A	pplica	ations	Labo	rator	y			LT	Р	C
			C	COUR	SE O	UTCO	OMES	6 (CO:	s)					
CO No.	COURS	SE OUT	COM	Έ										
4507.1	Design amp(L6)	U	re fee	dback	amp	lifiers	and	analyz	ze the	eir cha	aracte	ristics	using	Op-
4507.2	Design 1	nultivib	rator,	integra	ator, d	lifferei	ntiator	using	g Op-a	mp(L	6).			
4507.3	Design a	active fil	ters ai	nd fun	ction	genera	itors a	nd usi	ng Op	o-amp	(L6).			
4507.4	Design	VCO, A	GC, P	LL, A	VC ar	nd regi	ulators	s using	g linea	r ICs(	L6).			
4507.1	Design amp(L6)	U	e fee	dback	amp	lifiers	and	analyz	ze the	eir cha	aracte	ristics	using	Op
	- · · ·							Outco	omes (	POs)	& Pr	ogram	Speci	fic
Марріі	ng of Cou	rse Out	comes		-	h Prog omes (	-							
		rse Out	comes		-	-	(PSOs						P	SO
Mappin Cos		rse Out	comes 3		-	omes	(PSOs		9	10	11	12	P 1	SO 2
	ng of Cou				Outco	omes ( PO	(PSOs	;)	9	<b>10</b>	11 2	<b>12</b> 2		2
Cos	ng of Cou	2	3		Outco	PO 6	(PSOs	;)	9 - -					2
<b>Cos</b> 4507.1	ng of Cou	<b>2</b> 2	<b>3</b> 2	4	Outco	PO 6 -	( <b>PSO</b> s 7 -	s) 8 -	<b>9</b> - -	1	2	2	1	2 2 2
Cos 4507.1 4507.2	ng of Cou 1 3 3	<b>2</b> 2 2	<b>3</b> 2 2	4	<b>Outco</b> 5 2 2	PO 6 -	( <b>PSO</b> s 7 - -	;) 8 - -	-	1 3	2 2	2 2	-	2 2 2 3
Cos 4507.1 4507.2 4507.3	ng of Cou 1 3 3 3	2 2 2 2 2	3 2 2 2 2		<b>Outco 5</b> 2 2 2 2	PO 6 -	(PSOs 7 - -	;) 8 - - -	-	1 3 2	2 2 2	2 2 2 2	1 - - -	

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RAMIREDDY SUBE ENGINEERING	ARAMI REDDY	C	OURS	E OU	TCO	MES	<b>&amp; M</b> A	APPIN		F CO	s with	POs &	PSOs	5
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Course	Code:	Course Labor		: Digit	al Co	mmu	nicati	on Sy	stems		]	LT	Р	C
15A0	4508	Prereq	uisite:	None								-   -	4	2
			(	COUR	SE O	UTC	OME	<b>S</b> (CO	s)			•	•	
CO No.	COUR	SE OUI	COM	Έ										
4508.1	analyze	Time di	vision	multi	plexin	ig and	demu	ltiplex	king te	echniq	ues(L4	4).		
4508.2	Analyze	e the PC	M, DP	CM, I	DM, A	DCM	lusing	, hard	ware a	&softv	vare(L	<i>A</i> ).		
4508.3	Analyze	e the diff	erent	shift k	eying	techn	iques	using	hardw	are &	softwa	are(L4).		
4508.4	Analyze	e the QA	M usi	ng sig	nal sp	ace an	nalysis	(L4)						
Mapping Outcome		e Outco	mes (	COs)	with I	Progra	am O	utcom	es (P	Os) &	Prog	ram Sp	ecific	
						РО	)						PS	50
Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2
	2	1	2	1	-	-	-	-	2	2	-	-	1	
4508.1														
4508.1 4508.2	2	3	1	1	-	-	-	-	2	2	-	-	1	
	2	3	1	1 1	-	-	-	-	2 2 2	2 2 2	-	-	1	
4508.2					-	-	-	-			-	•		

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		YEA	R &SI	EM:II	[-I		R	eg: R	15		AY:	: 20	20-20	21	
Course	Code:	Course	Name	: Audi	it cou	rse – S	Social	Valu	es & 1	Ethics		Ĺ	Т	Р	0
15A9	9501	Pre-rec	uisite:	None							•	3	1	0	3
			C	COUR	SE O	UTC	OMES	<b>5</b> (CO	s)						
CO No.	COURS	E OUT	COM	E											
9501.1	Develop	the cap	abilit	y of s	haping	g then	nselve	s in tł	ne soc	iety &	z deve	elop	the	roles	an
	responsi	bility of	NSS	activi	ty(L6)	).									
9501.2	Explain	the feat	ures of	fcons	titutio	n of I	ndia(I	2)							
)301.2	Explain	the reat			inuno	11 01 1	nuna(L								
9501.3	Explain	the dam	1												
	Explain	the deve	elopm	ent of	the so	ociety	aroun	d then	n and	organi	izatioı	n th	ey w	ork.(I	_2)
9501.4	Develop		•							0			•	ork.(I	.2)
	Develop	themse	lves in	nto pro	ofessio	onals o	& follo	ow pro	ofessio	onal et	thics(l	L6)	•		
9501.4 9501.1	Develop Develop	themse the cap	lves in	nto pro	ofessio haping	onals of g then	& follo	ow pro	ofessio	onal et	thics(l	L6)	•		
	Develop	themse the cap	lves in	nto pro	ofessio haping	onals of g then	& follo	ow pro	ofessio	onal et	thics(l	L6)	•		
9501.1	Develop Develop	themse the cap bility of	lves in pabilit <u>;</u> NSS	nto pro y of si activit	ofessio haping ty(L6) s) witl	g then ).	& follonselve	ow pro s in th Outco	ofessione soc	onal et iety &	thics(I	L6) elop	b the	roles	an
9501.1	Develop Develop responsi	themse the cap bility of	lves in pabilit <u>;</u> NSS	nto pro y of si activit	ofessio haping ty(L6) s) witl	g then ). h Proj omes	& follo nselves gram ( (PSOs	ow pro s in th Outco	ofessione soc	onal et iety &	thics(I	L6) elop	b the	roles	and
9501.1	Develop Develop responsi ng of Cour	themse the cap bility of <b>se Out</b>	lves in pability NSS	nto pro y of si activit	ofession haping ty(L6) s) with Oute	g then ). h Prog omes PO	& follo nselves gram ( (PSOs	ow pro s in th Outcos	ofessione soc	iety &	thics(I z deve & Pr	L6) elop	the ram S	roles Specif PS	an fic
9501.1 Mappin Cos	Develop Develop responsi	themse the cap bility of	lves in pabilit <u>;</u> NSS	nto pro y of si activit	ofessio haping ty(L6) s) witl	g then ). h Proj omes	& follo nselves gram ( (PSOs	ow pro s in th Outco	ofessione soc	onal et iety &	thics(I	L6) elop	b the	roles Specif PS 1	an fic
9501.1 <b>Mappin</b>	Develop Develop responsi ng of Cour	themse the cap bility of <b>se Out</b>	lves in pability NSS	nto pro y of si activit	ofession haping ty(L6) s) with Outco	g then ). h Prog omes PO	& follo nselves gram ( (PSOs	ow pro s in th Outcos	ofessione soc	iety &	thics(I z deve & Pr	L6) elop	the ram S	roles Specif PS	an fic
9501.1 Mappin Cos	Develop Develop responsi ng of Cour	themse the cap bility of <b>se Out</b>	lves in pability NSS	nto pro y of si activit	ofession haping ty(L6) s) with Outco	onals of them on them on the them on the theorem of the theoremoon of the theorem of the theorem of the theorem of the theorem	& follo nselves gram (PSOs	ow prosent of the second secon	ofessione soc	iety &	thics(I z deve & Pr	L6) elop		roles Specif PS 1	an fic
9501.1 <b>Mappin</b> <b>Cos</b> 9501.1 9501.2	Develop Develop responsi ng of Cour 1 -	themse the cap bility of rse Oute	lves in pabilit; NSS comes 3 -	nto pro y of si activit s (CO:	ofession haping ty(L6) s) with Outco	ponals of them of the program of the	& follo nselve (PSOs 7 1 1	ow pros s in th Outcos s) 8 3 2	ofessione soc	iety & POs) 10 -	thics(I z deve & Pr 11 -	L6) elop	• the <b>cam § 12</b> 2 1	roles Specif PS 1 1 1	an fic
9501.1 Mappin Cos 9501.1 9501.2 9501.3	Develop Develop responsi ng of Cour 1 -	themse the cap bility of rse Outo 2 - -	lves in pabilit; NSS comes 3 -	nto pro y of si activit s (CO:	ofession haping ty(L6) s) with Outco	onals of them of the program of the	& follo nselves gram ( (PSOs 7 1	ow pro s in th Outco s) 8 3	ofessione soc	iety & POs) 10 -	thics(I z deve & Pr 11 -	L6) elop	. the <b>ram S</b> 12 2	roles Specif PS 1 1 1 1	an fic
9501.1 <b>Mappin</b> <b>Cos</b> 9501.1 9501.2	Develop Develop responsi ng of Cour 1 -	themse the cap bility of rse Outo 2 - -	lves in pabilit; NSS comes 3 -	nto pro y of si activit s (CO:	ofession haping ty(L6) s) with Outco	ponals of them of the program of the	& follo nselve (PSOs 7 1 1	ow pros s in th Outcos s) 8 3 2	ofessione soc	iety & POs) 10 -	thics(I z deve & Pr 11 -	L6) elop	• the <b>cam § 12</b> 2 1	roles Specif PS 1 1 1	an iic
9501.1 <b>Mappin</b> <b>Cos</b> 9501.1 9501.2 9501.3	Develop Develop responsi ng of Cour 1 -	themse the cap bility of rse Outo 2 - -	lves in pabilit; NSS comes 3 -	nto pro y of si activit s (CO:	ofession haping ty(L6) s) with Oute	ponals of them of the program of the	& follo nselves (PSOs 7 1 1 1 1	ow pro         s in th         Outcos         3         2         3         3         3         3	ofessione soc	iety & POs) 10 -	thics(I z deve & Pr 11 -	L6) elop	the the tam § 12 2 1 2 2 2	roles Specif PS 1 1 1 1	an fic
9501.1 Mappin Cos 9501.1 9501.2 9501.3 9501.4	Develop Develop responsi ng of Coun 1 - - -	themse the cap bility of rse Outo 2 - - - -	lves in pabilit NSS comes 3 - -	to provide the provide the provide the provident of the p	ofession haping ty(L6) s) with Outco 5 - - - -	ponals of them of the program of the	& follo nselves (PSOs 7 1 1 1	ow prosing the second s	ofessione soc pmes ( 9 - - -	ponal et iety & POs) 10 - - -	thics(I z deve & Pr 11 - - -	L6) elop	the the the the the the the the	roles Specif PS 1 1 1 1 1 1	an fic

III B.Tech, II Sem ECE Cos and pos mapping (R15-JNTUA)

		RA	MIRE	DDY	SUB	BAR	₩I <del>I</del>	REDD	YEN	GINE	ERIN	ie coi	TEG	E
1											Certified R. Nellor	Institution		
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RAMIREDDY SUBBA ENGINEERING	RAMI REDDY COLLEGE					E	NGI	NEE	RINC	r J				
Engineering E Through Inn		0	COUR	SE OI	UTCO	MES	<b>&amp; M</b> A	APPIN	IG OF	r COs	with I	POs & 1	PSOs	
		S	EM: I	II-II			R	eg: R	15		AY:	2020-2	2021	
Course	Code:	Course Analys		Mana	gerial	Econ	omics	and <b>F</b>	Financ	ial	]	T	Р	С
15A5	2301	Pre-req	uisite: ]	None								3 1	0	3
			(	COUR	RSE O	UTC	OMES	G (COs	;)		I			4
CO No.	COURS	E OUT							<u> </u>					
2301.1	Analyze	the cons	umer b	ehavio	or with	n regar	d to th	eir pro	duct c	or servi	ices an	d measu	ire den	nand
	of a parti	cular pro	oduct o	or serv	rices by	y apply	ying v	arious	metho	ods in g	given s	situatior	n(L4).	
2301.2	Compare	concept	t of pro	oductio	on & c	ost an	alysis(	L4).						
2301.3	Determin	e the pr	ice of a	a prod	uct or	servic	es in g	iven n	narket	condit	tion(L	5).		
2301.4	Interpret	the fina	ncial a	ccount	ting ar	nd the	financ	ial rati	os(L2)	).				
2301.5	Summari	ze Capit	al and	its typ	bes and	d budg	et tech	nnique	s(L2).					
Марр	oing of Co	urse Ou	tcome	s (CO		h Prog omes (			mes (l	POs) &	& Prog	gram Sj	pecific	
					Oute	PO		)					PS	50
Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2
2301.1	2	-	-	-	2	1	-	-	-	_	-	1	-	-
2301.2	3	-	1	-	-	2	-	-	-	-	-	2	2	2
2301.3	2	-	-	-	-	1	-	-	-	-	-	1	-	-
2301.4	2	-	-	-	2	1	-	2	-	-	-	1	-	-
2301.5	2	-	1	-	2	1	-	-	-	-	-	1	-	-
AVG	2	-	1	-	2	1	-	2	-	-	-	1	2	2
3/2/1 Indic	ates Streng	gth of Co	orrelati	ion. 3-	High,	2-Mec	lium a	nd 1-L	LOW					

(at)		F	AMI	REDD	ý su <del>i</del>	BBAR	AMI	REDD	Y EN	GINE	ERINO	e coli	LEGE	
			(								ertified In R. Nellore	nstitution.		
	×	D	EPAR									J <b>NICA</b>	TION	1
RAMIREDDY SUBBAI ENGINEERING C			~~~					NEE					~ ~ ~	
Engineering Ex Through Inno			COU	RSE (	DUTC	OMES	5 & M	APPIN	IG OF	'COs	with P	Os & P	SOs	
			EM: I					leg: R1			AY:	2020-20	-	
Course	Code:	Course 1	Name: I	Microp	orocess	sors &	Micro	ocontro	ollers		]	L T	P	C
15A0	4601	Pre-requ	isite: N	IONE									4	2
				COU	RSE C	OUTC	OMES	(COs)	)					
CO No.	COURSE	E OUTC	OME											
4601.1	Explain th	ne concej	ots of I	ntel x8	6 serie	es of pr	ocesso	rs(L2)						
4601.2	Apply the the 8086	-			g mode	es, inst	ructior	set an	d asse	mbler	directiv	ves for p	orogram	ming
4601.3	Explain th	ne concej	ots of N	ASP 43	30 low	power	micro	contro	ller(L2	)				
4601.4	Analyze t	he conce	pts of i	interru	pts, lov	v powe	er mod	es and	RTC o	of MSP	2430(L	<i>A</i> ).		
4601.5	Apply the	differen	t interf	acing p	protoco	ols to in	mplem	ent rea	l time	applica	tions u	using MS	SP430(1	_3).
Mappin	ng of Course	e Outcor	nes (C	Os) wi	ith Pro	ogram (PSO)		mes (I	POs) &	z Prog	ram Sj	pecific (	Dutcom	ies
~						PO							PS	50
Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4601.1	2	3	1	2	1	1	-	-	-	1	-	1	2	1
4601.2	2	3	1	2	1	1	-	-	-	1	-	1	2	1
4601.3	2	3	1	2	1	1	-	-	-	1	-	1	2	1
4601.4	2	3	1	2	1	1	-	-	-	1	-	1	2	1
4601.5	2	3	1	2	1	1	-	-	-	1	-	1	2	1
AVG	2	3	1	2	1	1	-	-	-	1	-	1	2	1
3/2/1 Indica	ates Strengt	h of Cor	elatior	n. 3-Hig	gh, 2-N	Aediun	n and 1	-Low						

		RA	MIRE	LDDY	SUB	BAR	<b>₹</b> MI ł	REDD	YEN	GINE	ÆRIN	<b>G CO</b>	LLEG	E
											Certified R. Nellor	Institution	1.	
RAMIREDDY SUBBA	RAMI REDDY College	DEP		/		F EL	ЕСТ		ICS	& CC		UNIC	ATI(	)N
Engineering En Through Inne		C	COUR	SE OU	UTCO	MES	<b>&amp; M</b> A	APPIN	IG OI	F COs	with <b>F</b>	Os &	PSOs	
		S	EM: I	II-II			R	leg: R	15		AY:	2020-2	2021	
Course	Code:	Course Instru			ronic ]	Measu	ireme	nts an	d		Ι	T	Р	С
15A04	4602	Pre-req	uisite:	NONE	,						-	-	4	2
				COUR	RSE O	UTC	OMES	6 (COs	;)					
CO No.	COURS													
4602.1	Explain t	he perfo	ormanc	e char	acteria	stics o	f AC a	& Dc r	neters	used i	n instr	umenta	tion(L	2).
4602.2	Explain measurer			ion, p	rincipl	le and	worl	king o	of CR	O and	l time	period	l &vo	ltage
4602.3	Explain f	function	genera	ators,	wave a	analyz	ers, lo	gic ana	alyzer	s and s	pectru	m anal	yzers(I	
4602.4	Analyze Q meter,					s for tl	heir ap	plicati	ion in	measu	rement	and al	so exp	lain
4602.5	Explain t	he princ	iples i	nvolve	ed in s	ensors	s & tra	nsduce	ers(L2	).				
Марр	ing of Cou	ırse Ou	tcome	s (CO		h Prog omes (			mes (l	POs) &	& Prog	ram S	pecific	
Cos						PO	)						PS	50
COS	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4602.1	3	2	1	-	-	-	-	-	-	1	-	2	3	2
4602.2	3	1	2	-	-	-	-	-	-	1	-	2	3	1
4602.3	2	1	2	-	-	-	-	-	-	1	-	1	2	1
4602.4	2	3	2	-	-	-	-	-	-	1	-	1	2	3
AVG	3	1	2	-	-	-	-	-	-	1	-	2	3	1
3/2/1 Indic	ates Streng	gth of C	orrelat	ion. 3-	-High,	2-Me	dium a	and 1-l	Low					

		RAJ	MIRE	DDY	SUBI	BAR	₹MI <del>I</del>	REDD	Y EN	GIN	ZERIN	<b>G CO</b>	LLEG	Æ
											Certified .R. Nellor		1.	
	2	DEP				<i>(</i> 0				,	DMM	<i>.</i>	ATI	ON
RAMIREDDY SUBB/ ENGINEERING	ARAMI REDDY COLLEGE					Ε	NGI	NEE	RIN(	J				
Engineering E Through Inn		C	OURS	SE OU	JTCO	MES	<b>&amp; M</b> A	PPIN	IG OI	F COs	with <b>F</b>	Os &	PSOs	
		S	EM: I	II-II			R	eg: R	15		AY:	2020-2	2021	
Course	Code:	Course	Name:	Digit	al Sig	nal Pr	ocessi	ng		1	L	Т	Р	С
15A04	4603	Pre-req	uisite:								-	-	24	12
	1000		(	COUR	SE O	UTC	OMES	G (CO	s)					
CO No.	COURS	E OUT							,					
4603.1	Analyze	discrete	time s	signals	s and s	system	is in ti	me do	main a	and fre	equency	/ doma	in(L4)	
4603.2	Calculat techniqu		er tran	sform	for d	liscrete	e time	signa	ıls by	using	variou	s trans	sforma	tion
4603.3	Develop	structur	res for	realiza	ation o	of disc	rete ti	me FI	R and	IIR sy	vstems(	L6).		
4603.4	Design of	of linear	phase	FIR a	nd IIR	filter	s by va	arious	techn	iques(	L6).			
4603.5	Explain	basic co	ncepts	of int	erpola	tion a	nd dec	imatio	on(L2)	).				
Маррі	ing of Cou	irse Out	tcome	s (CO	-	h Prog omes (	-		omes (	POs)	& Prog	gram S	pecifi	с
~						PO		/					PS	50
Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4603.1	1	2	2	2	-	-	-	-	-	-	-	1	2	1
4603.2	1	1	1	1	-	-	-	-	-	-	-	1	2	1
4603.3	2	2	2	2	-	-	-	-	-	-	-	1	1	2
4603.4	1	1	2	2	-	-	-	-	-	-	-	1	2	2
4603.5	2	1	2	2	-	-	-	-	-	-	-	1	1	1
AVG	1	1	2	2	-	- 1, 2-Me	-	-	-	-	-	1	2	1

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and a	2									01: 2015 42, S.P.S					
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RAMIREDDY SUBB. ENGINEERING	ARAMI RED DY COLLEGE	(	COUR	SE O	UTCC						with ]	POs	& P	SOs	
Engineering f Through Inc		S	EM: I	II-II			R	eg: R	15		AY	: 20	20-20	021	
Course	Code:	Course	Name:	VLSI	Desig	n					]	L	Т	Р	C
15A0	4604	Pre-req	uisite:									-	-	24	12
			(	COU	RSE O	OUTC	OMES	G (COs	s)						
CO No.	COURS	E OUT							,						
4604.1	Explain	about IC	fabrica	ation a	and relation	ation b	etwee	n diffe	erent p	aramet	ters of	MO	SFE	T shov	wing
	its chara	cteristics	(L2).												
				_											
4604.2	Apply la								iagran	ns of lo	ogic ci	rcui	ts an	d esti	mat
	sheet res	sistance,	area ca	ipacita	ince ar	nd dela	iys(L3	).							
4604.3	Design of	ligital sv	stem a	t oate	level a	and nh	vsical	level()	[6]						
-005	Design	iigitai sy	stem a	i gaic		ind ph	ysicai		LU).						
4604.4	Design of	lifferent	sub sys	stems	using	variou	s VLS	I desig	gn styl	les(L6)	).				
16015	<b>F</b> 1 '	1 ( 171		1 0 4		<u> </u>		· (T (	<b>)</b>						
4604.5	Explain	about EI	JA too	ls & te	esting	of log	IC CITCI	lits(L	2).						
Map	ping of Co	ourse Ou	tcome	s (CO	s) wit	h Pros	gram	Outco	mes ()	POs) &	& Pros	grar	n Sp	ecific	
- <b>-</b>						omes					· · · · ·				
Cos				_	-	PO					-	-		PS	50
	1	2	3	4	5	6	7	8	9	10	11	1	12	1	2
4604.1	3	-	-	-	-	-	-	-	-	-	-		1	-	2
4604.2					_	_	_	_	_	_					2
4004.2	3	2	1	1	-	-	-	-	-	-	-		1	-	2
4604.3	3	3	3	2	-	-	-	-	-	-	-		1	-	
	3	3	5										T		3
4604.4	3	3	3	2	-	-	-	-	-	-	-		1	-	2
4604.5			_	-		_			-	_	-				3
+004.J	3	2	-	-	1	-	-	-	-	-	-		1	-	
	5														2
AVG	3	2	2	2	1	-	-	-	-	-	-		1	-	2 2

RAMIREDDY SUBBARAMI REDDY ENGINEERING COLLEGE

### RAMIREDDY SUBBARAMI REDDY ENGINEERING COLLEGE

(Approved by AICTE, Affiliated to JNTUA. An ISO 9001: 2015 Certified Institution. NH-16, Kadanuthala, Bogole Mandal, Kavali- 524 142, S.P.S.R. Nellore, A.P.)

### **DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

Engineering I Through Inc		CC	<b>URS</b>	E OU	TCO	MES	& MA	PPIN	IG OI	F COs	s with	POs	& PSO	S
Through the	ioretroa	S	EM: I	II-II			R	eg: R	15		AY	: 2020	)-2021	
Course	Code:	Course	Name	: MA]	ГLAB	Prog	ramn	ning				L T		С
15A04	4605	Pre-rec	uisite:	NIL								3 1	0	3
			C	COUR	SE O	UTC	OME	<b>5</b> (CO	s)					
CO No.	COURS	SE OUI	COM	<b>IE</b>										
4605.1	Underst	and the	MATI	LAB I	Deskto	op, cor	nmano	d winc	low n	nenu 8	k tools	s (L2).		
4605.2	Write th	e MATI	LAB p	orogra	mming	g for a	arrays	and fu	inctio	ns and	l files(	L2).		
4605.3	Analyze	e In-built	t (or) ι	iser de	efine f	unctic	ons, M	athem	atical	funct	ions ir	n MAT	LAB.	(L4)
4605.4	Design Loops &				sing d	liffere	nt log	ical va	riable	es, con	dition	al stat	ements	,
4605.5	Implem	ent real	time e	xampl	es for	matri	x met	hods ı	ising ]	MATI	LAB(I			
Mappin	g of Cou	rse Out	comes		1 - C		gram (PSOs		omes	(POs)	& Pr	ogran	ı Speci	fic
Cos						РО	I						P	SO
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4605.1	3	_	-	-	-	-	-	-	-	-	-	1	-	_
4605.2	3	-	_	_	_	_	_	_	_	_	_	1	-	_
4605.3	3	-	-	-	-	-	-	_	-	-	-	1	-	-
4605.4	3	2	3	2	-	_	-	-	_	-	_	2	-	2
4605.5	3	3	3	3	-	_	_	_	-	_	_	2	-	2
AVG	3	3	3	3	-	-	-	-	-	-	-	2	-	2
3/2/1 Indi	cates Stre	ngth of (	Correl	ation.	3-Hig	sh, 2-N	Aediu	m and	1-Lo	W				

( see		RA	MIRE	DDY	SUB	BAR	AMI I	REDD	YEN	GIN	ÆRIN	ie coi	TEG	E
											Certified .R. Nellor	Institution re. A.P.)		
	RAMI REDDY	DEP				F EL	ECT	RON	ICS	& C(		UNIC	ATIC	)N
ENGINEERING								NEE						
Engineering E Through Inn		C	OUR	SE OU	JTCO	MES	<b>&amp; M</b> A	APPIN	IG OI	<b>COs</b>	with l	POs & l	PSOs	
		S	EM: I	II-II			R	eg: R	15		AY:	2020-2	021	
Course	Cadar	Course	Name:	Micro	oproce	essors	& Mi	croco	ntroll	ers	I		Р	С
Course	Code:	Labor	atory								1	· I	r	C
15A04	4607	Pre-req	uisite:								-	·   -	24	12
			(	COUR	RSE O	UTC	OMES	G (COs	s)		1		1	
CO No.	COURS	E OUT	COM	E										
4607.1	Write 808	36 asser	nbly la	inguag	ge prog	grams(	(L2).							
4607.2	Make us	e of p	rograi	nmab	le per	riphera	al dev	vices	and t	heir i	nterfac	ing in	assen	nbly
	programm	-	U		1	1						U		5
4607.3	Make use						ing de	vices	in CC	Studi	o and s	simulate	progr	ams
	using em	bedded	C for I	MSP 4	430(L3	3).								
Mapp	ing of Cou	rse Out	tcome	s (CO			-		mes (	POs)	& Prog	gram Sj	pecific	
	1				Outc	omes	(PSOs	3)					1	
Cos						PO							PS	0
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4607.1	2	1	2	1	2	-	-	-	1	1	1	2	1	1
4607.2	2	1	2	1	<i>L</i>				1	1	1	2	1	
4007.2	2	1	2	1	2	-	-	-	1	1	1	2	1	1
4607.3		<u> </u>	2			-	-	-	4	-	1	0	2	2
	2 2	2	2	2	2				1	1	1	$\frac{2}{2}$	1	
AVG	2	2	2	1	2	-	-	-	1	1	1	2	1	1
	3/2/1	Indicat	es Stre	ength o	of Cor	relatio	n. 3-H	ligh, 2	-Medi	um an	d 1-Lo	W		

		RAN	IIREI	DDY	SUBE	BAR	¥MI <del>I</del>	REDD	oy en	IGINI	EERI	N <del>G</del> CO	LLEC	iE
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ST.	$\geq$		IN.								NICS	ore, A.P.) 5 &		
RAMIREDDY SUBB ENGINEERING	ARAMI REDBY			CO	MM	UNI	CAT	ION	ENG	INE	ERIN	IG		
Engineering I Through Inc	Excellence	C	DURS	E OU	TCO	MES	<b>&amp; M</b> A	PPIN	IG OI	F COs	with	POs &	PSOs	
Through the	1042(1011	S	EM: I	II-II			R	eg: R	15		AY	: 2020-2	2021	
Course	Code:	Course	Namel	Digita	l Sign	al Pro	ocessi	ng La	borat	ory	Ι	T	Р	С
15A0	4608	Pre-rec	uisite:								-	• -	24	12
			C	COUR	SE O	UTC	OME	<b>S</b> (CO	s)		L	1		1
CO No.	COURS	E OUT	COM	E										
4608.1	Analyze	discrete	e time	signal	s & sy	ystems	s using	g MA	ГLAB	(L4).				
4608.2	Design &	k imple	ment I	IR &	FIR fi	lters f	or diff	erent	specif	ïcatio	ns usir	ng MAT	LAB	L6)
4608.3	Analyze code cor					systen	ns usii	ng flo	ating	point	DSP p	processo	or kit	with
4608.4	Design & studio (C	-		IR & I	FIR fi	lters u	ising I	OSP p	rocess	or kit	with c	ode cor	npose	ſ
Mappii	ng of Cou	rse Out	comes	-		h Prog omes	-		omes (	(POs)	& Pro	ogram S	Specif	ic
Cos						PO	1						PS	0
CUS	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4608.1	3	3	1		1	-	-	1	1	1	3	1	2	1
4608.2	3	3	3	1	1	-	-	1	1	1	3	1	3	2
					2	-	-	1	1	1	3	1	2	
4608.3	3	3	2	1	2			-				-		1
4608.3 4608.4	3 3	3 3	2 3	1	2	-	-	1	1	1	3	1	3	1

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	2										NICS			
RAMIREDDY SUBB ENGINEERING	ARAMI REDDY										ERIN			
Engineering I Through Ini		CO	DURS	E OU	TCO	MES	& MA	APPIN	IG OI	F COs	with 1	POs &	PSOs	\$
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Course	Code:	Course Comm							atory		L	Т	Р	С
15A5	2602	Pre-req	uisite:								-	-	24	12
			C	COUR	SE O	UTC	OMES	<b>S</b> (CO	s)		<u>.</u>		-	
CO No.	COUR	SE OUT	COM	E										
2602.1	Develop	o commu	nicati	on ski	lls thr	ough c	compr	ehens	ive an	d voca	ıbulary	(L6).		
2602.2	Apply v	vriting sk	cills in	prepa	ring r	esume	e, ema	il and	techn	ical re	ports(I	.3)		
2602.3	Build p	resentatio	on skil	ls thro	ough p	oster	and or	ral(L2	).					
2602.4	Analyze	the stuc	lents f	or job	skills	and p	rofess	ional	develo	opmen	t activi	ties(L4	4).	
2602.5	Develop	o manage	ement	skills	and a	nalyze	probl	em so	lving	techni	ques(L	6).		
Mappi	ng of Cou	rse Out	comes			h Prog omes (			omes (	POs)	& Pro	gram S	Specif	ic
Cos						РО		/					PS	50
CUS	1	2	3	4	5	6	7	8	9	10	11	12	1	2
2602.1	-	-	-	-	-	-	-	1	2	3	3	1	-	-
2602.2	-	-	-	-	-	-	-	1	2	3	3	1	-	-
2602.3	-	-	-	-	-	-	-	1	2	3	3	1	-	-
2602.4	-	-	-	-	-	-	-	1	3	3	3	1	-	-
2602.5	-	-	-	-	-	-	-	1	2	3	3	1	-	-
	+	1	1	1			1		2	3	3	1	1	1

1.24		RAN												
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<b>N</b>	×			DEF	PAR	ГМЕ	NT (	<b>)F E</b> ]	LEC	TRO	NICS	5&		
ENGINEERING		C	OURS							INE F COs		IG POs &	PSOs	}
Through In	novation	S	EM: I	II-II			R	eg: R	15		AY	: 2020-2	2021	
Course	Code:	Course	Name:	Com	prehe	ensive	Onlin	e Exa	mina	tion-I	ΙΙ	L T	Р	C
15A0	4609	Pre-req	uisite:								-	-	24	12
			C	COUR	SE O	UTC	OMES	5 (CO	s)					
CO No.	COURS	E OUT	СОМ	Έ										
1 400 4														
4609.1	Acquire	fundam	ental e	engine	ering	know]	ledge(	L1).						
4609.1	Acquire Demons			C	C		Ū,	,	learn	ing(L2	2).			
	1	trate the	abilit	y to na	avigat	e skill	s and	online		U.	·	3).		
4609.2 4609.3	Demons	trate the	abilit pt of p	y to na	avigato m-solv s) with	e skill ving a h <b>Pro</b> g	s and o	online in con Outco	npetiti	ve exa	ims(L3		Specif	ic
4609.2 4609.3 <b>Mappi</b>	Demons Apply th	trate the	abilit pt of p	y to na	avigato m-solv s) with	e skill ving a h <b>Pro</b> g	s and o bility i gram ( (PSOs	online in con Outco	npetiti	ve exa	ims(L3		Specif PS	
4609.2 4609.3	Demons Apply th	trate the	abilit pt of p	y to na	avigato m-solv s) with	e skill ving a h <b>Prog</b> omes (	s and o bility i gram ( (PSOs	online in con Outco	npetiti	ve exa	ims(L3		•	
4609.2 4609.3 <b>Mappi</b>	Demons Apply th ng of Cou	trate the e conce rse Out	abilit pt of p	y to na	avigato m-solv s) with Outco	e skill ving a h Prog omes PO	s and o bility i gram ( (PSOs	online in con Outco	npetiti o <mark>mes (</mark>	ve exa	ums(L3	ogram S	PS	50
4609.2 4609.3 <b>Mappi</b> Cos	Demons Apply th ng of Cou	trate the conce	abilit pt of p	y to na	avigato m-solv s) with Outco	e skill ving a h Prog omes PO	s and o bility i gram ( (PSOs	online in con Outco i) 8	npetiti o <mark>mes (</mark>	ve exa	ums(L3	ogram S	PS	50
4609.2 4609.3 <b>Mappi</b> Cos 4609.1	Demons Apply th ng of Cou 1 2	trate the conce	ability pt of p comes 3 -	y to na probles s (COs 4 -	avigato m-solv s) with Outco	e skill ving a <b>h Prog</b> <b>pomes</b> <b>PO</b> 6 -	s and bility i gram ( (PSOs 7 -	online in con Outco i) 8 1	npetiti o <mark>mes (</mark>	ve exa	11 -	ogram S	PS 1 -	50



## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

# **CO'S AND PO'S MAPPING**

## **JNTUA-R15 REGULATION**

# **INDEX**

## List of all courses offered by the institution for the regulation R15, JNTUA

S.No	Course Code	Course Name	Year & Sem
1	15A04701	Optical Fiber Communication	
2	15A04702	Embedded system	
3	15A04703	Microwave engineering	
4	15A04704	Data communication and networks	
5	15A04705	Radar systems	IV-I Sem
6	15A047016	Digital image processing	
7	15A04711	Microwave and optical fiber communication	
		laboratory	
8	15A04712	VLSI & Embedded systems laboratory	
9	15A04802	Low Power VLSI Circuits & Systems	
10	15A04804	RF Integrated Circuits	
11	15A04805	Comprehensive Viva Voce	<b>IV-II Sem</b>
12	15A04806	Technical Seminar	
13	15A04807	Project Work	

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		(4	NH-1	6, Kada	nuthala	a, Bogol	d to JN e Mand	al, Kav	n ISO 9 ali- 524	142, S.I	P.S.R. Ne	ied Instit llore, A.I		
											ONI			
ENGINEERIN		COU									EERI	NG h POs	& P9	SOs
Through In														
			<b>M</b> :	IV-I				eg: R				: 2021	1	
Course	Code:	Course	e Nam	e: OPT	FICAL	, FIBE	R CON	AMUN	VICAT	ION			P	C
15A04	4701	Prereq	uisite	None	e						3	1	0	3
			CC	OURS	SE O	UTC	OME	<b>S</b> (CO	Os)					
CO No.	COUR	SE OU	тсо	ME										
4701.1	Analyze	e the pe	rform	nance	of di	gital a	and ar	nalog	optic	al fib	er syst	ems (I	3TL4	)
4701.2	Evaluat	e the sy	/stem	band	width	n, nois	se bit	rate c	of dig	ital fi	ber sys	stem (l	BTL5	)
4701.3	Evaluat	e the sy	stem	link	loss, d	distor	tion (	BTL5	5)					
4701.4	Underst	and the	e char	acteri	stics	of fib	er sou	urces	and d	letecto	ors (B'	TL2)		
4701.5	Design	and con	nduct	expe	rimen	its and	d anal	yses	the re	sults	(BTLe	5)		
Mappi	ng of Co	urse O	utcon	nes ((	COs)	with	Prog	ram	Outc	omes	(POs)	& Pr	ograi	m
	1			Speci	ific O	utco	mes (	PSOs	s)					
Cos						PO	)						PS	<b>60</b>
008	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4701.1	3	3	3	-	-	-	-	1	-	-	-	1	2	2
4701.2	3	2	2	-	-	-	-	1	-	-	-	1	2	2
4701.3	3	2	1	-	_	-	_	1	-	-	-	1	2	1
4701.4	3	2	2	-	-	-	-	1	-	-	_	1	1	1
4701.5	3	2	1	-	-	-	-	1	-	-	-	1	2	1
AVG	3	2	2	-	-	-	-	1	-	-	-	1	2	1
3/2/1 Ind	icates Str	ength c	of Cor	relati	on. 3-	-High	, 3-M	lediur	n and	1-Lo	W			

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Engineering I Through Inc			COUI	RSE O	UTCO	OMES	<b>&amp; M</b> A	APPIN	IG OF	COs	with PO	Os & P	SOs	
		YEAR	&SEN	M:IV-	[		R	eg: R1	5		AY:	2021-2	022	
Course	e Code:	Cours	e Nam	e: EM	BEDD	ED SY	STEN	1			I	T	Р	C
15A0	4702	Prereq	uisite: ]	None							3	1	0	3
				COUF	RSE O	UTCC	<b>MES</b>	(COs)						
CO No.	COURS	E OUT(	COME											
4702.1	Design of (L6)	f embedo	ded sys	stems l	eading	to 32-	bit app	olicatio	on deve	lopme	ent.			
4702.2	Understa ensuring				•	cepts t (L2		nect dig	gital as	well a	is analo	og senso	ors whi	le
4702.3	impleme	nt the pro	otocols	used b	by mic	rocont	roller t	o com	munica	ate wit	h exteri	nal sens	ors and	d
1702.0	actuators				-									
4702.4		in real w	vorld.	Networ	king (I									
	actuators	in real w	vorld. edded N			L2)								
4702.4 4702.5 Mapping (	actuators Understa Understa	in real v nd Embe	vorld. edded N edded N	Networ	king a	L2) nd IoT	' conce	pts bas	sed up	on con	nected	MCUs		
4702.4 4702.5 Mapping ( (PSOs)	actuators       Understa       Understa       (L2)	in real v nd Embe	vorld. edded N edded N	Networ	king a	L2) nd IoT	' conce utcom	pts bas	sed up	on con	nected	MCUs	itcome	
4702.4 4702.5 Mapping o	actuators       Understa       Understa       (L2)	in real v nd Embe	vorld. edded N edded N	Networ	king a	L2) nd IoT ram O	' conce utcom	pts bas	sed up	on con	nected	MCUs	itcome	28
4702.4 4702.5 Mapping ( (PSOs)	actuators Understa (L2)	in real v nd Embe	vorld. edded N edded N s (COs	Networ	king a Progr	L2) nd IoT ram O PO	' conce	epts bas es (PO	sed up () & I	on con Progra	nected m Spec	MCUs cific Ou	itcome PS	es 50 2
4702.4 4702.5 Mapping o (PSOs) Cos	actuators Understa (L2)  f Course ( 1	in real v nd Embe nd Embe	vorld. edded N edded N s (COs 3	Vetwor with 4	king a Progr	L2) nd IoT ram O PO 6	conce utcom	epts bas es (PC	sed up () & I () & I	on con Progra	nected m Spec	MCUs cific Ou 12	Itcome PS 1	es 50 2 3
4702.4 4702.5 Mapping o (PSOs) Cos 4702.1	actuators Understa (L2)  Course (	in real v nd Embe nd Embe	vorld. edded N edded N s (COs 3 2	Networ with 4 -	king a Progr 5 -	L2) nd IoT ram O PO 6 -	conce utcom	epts bas es (PC 8 1	sed up ()()()()()()()()()()()()()()()()()()()	on con Progra 10	nected m Spec	MCUs cific Ou 12 1	Itcome PS 1 1	es 50 2 3 3
4702.4 4702.5 Mapping o (PSOs) Cos 4702.1 4702.2	actuators Understa (L2)  f Course (	in real v nd Embe nd Embe	vorld. edded N edded N s (COs 3 2 2 2	Vetwor  ) with  4	king a Progr 5	L2) nd IoT ram O PO 6 -	7 -	epts bas es (PO 8 1 1	sed up () () () () () () () () () () () () ()	on con <b>rogra</b> 10 1 2	nected m Spec	MCUs cific Ou 12 1	<b>P</b> <b>P</b> <b>1</b> 1 1	es SO
4702.4 4702.5 Mapping ( (PSOs) Cos 4702.1 4702.2 4702.3	actuators       Understa       Understa       (L2)       of Course (       1       3       3       3       3	in real v nd Embe nd Embe	vorld. edded N edded N s (COs 3 2 2 2 2	Vetwor <b>4</b> - - -	king a Progr 5	L2) nd IoT am O PO 6 - -	[•] conce utcom 7 - -	epts bas es (PO 8 1 1 1	sed up s) & I 9 - - -	on con Progra 10 1 2 2	nected m Spec	MCUs cific Ou 12 1 1 1	1tcome PS 1 1 1 1	es 50 2 3 3 3 3

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		S	EM:	IV-I			R	eg: R	15		AY:	: 2021-2	2022	
Course	Code:	Course	Name:	MICR	OWAV	/E ENG	GINEE	RING			Ι	L T	Р	C
15A0	4703	Pre-rec	uisite:	EMTI							3	3 1	0	3
			C	COUR	SE O	UTCO	OMES	G (CO	s)					
CO No.	COURS	E OUT	COM	E										
4703.1	Analyze	the way	veguid	es usii	ng wa	ve equ	ations	s. (L4)						
4703.2	Describe	e the cha	racter	istics	of mic	croway	ve circ	uits th	rough	S-Pa	aramet	ers. (L2	2)	
4703.3	Analyze	various	micro	owave	Oscill	lators	& Am	plifie	rs. (L4	)				
4703.4	Analyze	various	micro	owave	comp	onents	s. (L4)	)						
4703.5	Explain	various	metho	ds of	micro					•				
+103.J	F			<b>u</b> b 01 1	mero	wave	measu	remer	nts. (L	2)				
	ng of Cou			(COs	s) with	n Prog	gram (	Outco			& Pro	ogram S	Specif	ic
Mappir	-			(COs	s) with	n Prog	gram ( (PSOs	Outco			& Pro	ogram S	Specif PS	
	-			(COs	s) with	n Prog omes (	gram ( (PSOs	Outco			<mark>&amp; Pro</mark>	ogram S	-	
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Mappin Cos	ng of Cour	rse Out	comes 3	4 (COs	s) with Outco	n Prog omes ( PO	gram ( (PSOs	Outco	omes (	POs) 10		12	PS 1	5 <b>0</b> 2 2
<b>Mappin</b> <b>Cos</b> 4703.1	ng of Cour	<b>rse Out 2</b> 2	<b>3</b>	4 2	s) with Outco	n Prog omes ( PO	gram ( (PSOs	<b>Outco</b> ) <b>8</b> 1	omes (	POs) 10 1		<b>12</b> 1	PS 1 1	2 2 2 2
<b>Mappin</b> <b>Cos</b> 4703.1 4703.2	1 3 3	<b>2</b> 2 2 2	<b>3</b> 1 1	4 2 1	s) with Outco	n Prog omes ( PO	gram ( (PSOs	<b>Outco</b> (i) <b>8</b> 1 1	omes (	POs) 10 1 1		<b>12</b> 1 1 1	<b>PS</b> <b>1</b> 1	<b>50</b> 2 2 2 2 2
Mappin Cos 4703.1 4703.2 4703.3	1 3 3 3	<b>2</b> 2 2 2 2 2	<b>3</b> 1 1 1	4 2 1 1	s) with Outco 5 - -	n Prog omes ( PO 6 - -	gram ( (PSOs 7 - -	Outco ) 8 1 1 1	omes (	POs) 10 1 1 1 1	-	<b>12</b> 1 1 1 1	<b>P</b> S <b>1</b> 1 1 1	<b>0</b>

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		Class	& Sen	n: I	V-I		R	eg: R	15		AY:	2021	-2022	
Course	e Code:	Course	Name:	DATA	COM	MUNI	CATIO	NS & N	JETW(	ORKIN	G L	, T	Р	C
15A0	4704	Prerequ	uisite: I	None							3	1	0	3
				COUF	RSE O	UTCO	OMES	(COs)						
CO No.	COURS	SE OUT	COM	E										
4704.1	Understand app					+	-		etwoi	KIII <u>6</u> , <u>1</u>		013, <b>u</b>	enneer	uree
4704.2	Discuss protocol	1			-	0,	witchi	ng and	d tran	smissi	on me	edia ir	netwo	orks
4704.3	Demons	trate the	multi	ple ac	cess n	nethod	ls, IEE	EE star	ndards	, Ether	rnet (I	.5)		
4704.3 4704.4	Demons Design i			•							`		s (L4)	
		ssues re	lated t	o netw	vork la	ayer ro	outing	algo	rithm	s, Inter	met pr	otocol		
4704.4 4704.5	Design i	ssues re the vari	lated t	o netw pes of (COs	vork la crypt	ayer ro ograp n <b>Pro</b> g	outing hy and	algo 1 netw <mark>Outco</mark>	rithm ork se	s, Inter ecurity	net pr techn	otocol	(L4)	ïc
4704.4 4704.5 <b>Mappin</b>	Design i Analyze	ssues re the vari	lated t	o netw pes of (COs	vork la crypt	ayer ro ograp n <b>Pro</b> g	buting hy and gram ( (PSOs	algo 1 netw <mark>Outco</mark>	rithm ork se	s, Inter ecurity	net pr techn	otocol	(L4) Specif	ic SO
4704.4 4704.5	Design i Analyze	ssues re the vari	lated t	o netw pes of (COs	vork la crypt	ayer ro cograp n Prog omes (	buting hy and gram ( (PSOs	algo 1 netw <mark>Outco</mark>	rithm ork se	s, Inter ecurity	net pr techn	otocol	(L4) Specif	
4704.4 4704.5 <b>Mappin</b>	Design i Analyze	ssues re the vari	lated t ious ty comes	o netw pes of (COs	vork la crypt ) with Outco	ayer ro ograp n Prog omes ( PO	buting hy and gram ( (PSOs	algo 1 netw Outco	rithm: ork se <b>mes (</b>	s, Inter ecurity POs)	net pr techn <b>&amp; Pro</b>	otocol iques gram	(L4) Specif	50
4704.4 4704.5 <b>Mappin</b> COs	Design i Analyze ng of Cou	ssues re the vari rse Out	lated t ious ty comes	o netw pes of (COs	vork la crypt ) with Outco	ayer ro cograp n Prog omes ( PO 6	buting hy and gram ( (PSOs) 7	algo d netw Outco ;) 8	rithma ork se mes ( 9	s, Inter ecurity POs)	net pr techn <b>&amp; Pro</b> 11	otocol iques gram 12	(L4) Specif PS 1	50
4704.4 4704.5 <b>Mappin</b> COs 4704.1	Design i Analyze ng of Cou	the varies of th	lated t ious ty comes 3 -	o netw pes of (COs 4	vork la crypt ) with Outco	ayer ro cograp n Prog omes ( PO 6 -	buting hy and gram ( (PSOs 7 -	algo 1 netw Outco ;) 8 -	rithma ork se mes ( 9 -	s, Inter ecurity POs) a 10	net pr techn <b>&amp; Pro</b> 11	otocol iques gram 12 1	(L4) Specif PS 1 1	50
4704.4 4704.5 <b>Mappin</b> COs 4704.1 4704.2	Design i Analyze ng of Cou 1 3 3	ssues re the vari rse Out 2 2 2	lated t ious ty comes 3 -	o netw pes of (COs 4	vork la crypt ) with Outco	ayer ro cograp n Prog omes ( PO 6 -	buting hy and gram ( (PSOs 7 -	algo 1 netw Outco ;) 8 -	rithma ork se mes ( 9 -	s, Inter ecurity POs) a 10	net pr techn <b>&amp; Pro</b> 11	otocol iques gram 12 1 1	(L4) Specif PS 1 1 1	50
4704.4 4704.5 <b>Mappin</b> cos 4704.1 4704.2 4704.3	Design i Analyze ng of Cou 1 3 3 3	the variation of the va	ated t ious ty comes 3 - - -	• netw pes of (COs 4 - -	vork la crypt ) with Outco	ayer ro cograp n Prog omes ( PO 6 - -	puting hy and gram ( PSOs 7 - -	algo d netw Outco ;) 8 - - -	rithma ork se mes ( 9 -	s, Inter ecurity POs) a 10	net pr techn <b>&amp; Pro</b> 11 - -	otocol iques gram 12 1 1 1	(L4) Specif PS 1 1 1 2	50

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SE OUT A Radar fu erstand th calculate	EM: 1 Name: Juisite: COM undam ne diff	E OU IV-I RADA MICR COUR E entals	AR SYS OWAV SE O	MES STEMS VES UTCO analys veen C	& MA R S OMES is of ra	eg: R	(G O) 15 s) gnals.	F COs	with     AY:     I     3	POs	21-2 T	022 P	С
SE OUT A Radar fu erstand th calculate	EM: 1 Name: Juisite: COM undam ne diff	IV-I RADA MICRA COUR E mentals	AR SYS OWAV SE O and a e betw	STEMS VES UTC unalys veen C	R S OMES is of ra	eg: R	15 s) gnals.	(L2)	AY: 1 3	202	21-2 T	022 P	С
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Pre-req SE OUT Radar fu erstand th calculate	uisite: COM undam ne diff	MICR COUR E ientals	OWAV SE O and a betw	VES UTCO analys veen C	OMES is of ra W rad	adar si	gnals.		3	<b>3</b>	_	_	
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calculate						lar and	I FM (	CW ra	dar. (L	2)			
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identify					TI rad	ar par	amete	rs. (L3	3)				
14011011	the tra	acking	of the	e targe	et usin	g vario	ous tra	acking	radars	s. (L	4)		
y the diffe	erence	types	of rac	lar rec	ceivers	s. (L1)							
irse Out	comes						omes (	POs)	& Pro	gra	m S	pecifi	ic
						/						PS	0
2	3	4	5	6	7	8	9	10	11	12	2	1	2
2	1	-	-	-	-	-	-	-	-	-		2	-
2	1	-	-	-	-	-	-	-	2	2	2	2	-
3	1	-	-	-	-	-	-	-	1	1		2	-
2	2	-	-	-	-	-	-	-	2	2	2	2	-
2	1	-	-	-	-	-	-	-	-	-		2	-
2	1	-	_	-	-	_	_	-	1	1		2	-
	2 2 2 3 2 2 2 2	2     3       2     1       2     1       3     1       2     2       2     1       2     1       2     1       2     1       2     1	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2       3       4       5         2       1       -       -         2       1       -       -         3       1       -       -         2       2       -       -         3       1       -       -         2       2       -       -         2       1       -       -         2       1       -       -         2       1       -       -         2       1       -       -	2       3       4       5       6         2       1       -       -       -         2       1       -       -       -         2       1       -       -       -         3       1       -       -       -         2       2       -       -       -         2       1       -       -       -         2       1       -       -       -         2       1       -       -       -         2       1       -       -       -	2       3       4       5       6       7         2       1       -       -       -       -         2       1       -       -       -       -         2       1       -       -       -       -         3       1       -       -       -       -         2       2       -       -       -       -         2       1       -       -       -       -         2       1       -       -       -       -         2       1       -       -       -       -         2       1       -       -       -       -         2       1       -       -       -       -	2       3       4       5       6       7       8         2       1       -       -       -       -       -         2       1       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -         3       1       -       -       -       -       -       -       -         2       2       1       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -       -	Outcomes (PSOs)         PO       PO         2       3       4       5       6       7       8       9         2       1       -       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -	Outcomes (PSOs)         PO       PO         2       3       4       5       6       7       8       9       10         2       1       -       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       - <td>Outcomes (PSOs)         PO       PO         2       3       4       5       6       7       8       9       10       11         2       1       -       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -       2       -         3       1       -       -       -       -       -       -       -       2         3       1       -       -       -       -       -       -       2       1         2       2       -       -       -       -       -       -       -       1         2       1       -       -       -       -       -       -       1       1         2       1       -       -       -       -       -       -       1</td> <td>Outcomes (PSOs)         PO       PO         2       3       4       5       6       7       8       9       10       11       12         2       1       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -<td>Outcomes (PSOs)         PO       PO         2       3       4       5       6       7       8       9       10       11       12         2       1       -       -       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -<td>PO       PS         2       3       4       5       6       7       8       9       10       11       12       1         2       1       -       -       -       -       -       -       -       2       1         2       1       -       -       -       -       -       -       -       2       2         2       1       -       -       -       -       -       -       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2</td></td></td>	Outcomes (PSOs)         PO       PO         2       3       4       5       6       7       8       9       10       11         2       1       -       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -       2       -         3       1       -       -       -       -       -       -       -       2         3       1       -       -       -       -       -       -       2       1         2       2       -       -       -       -       -       -       -       1         2       1       -       -       -       -       -       -       1       1         2       1       -       -       -       -       -       -       1	Outcomes (PSOs)         PO       PO         2       3       4       5       6       7       8       9       10       11       12         2       1       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       - <td>Outcomes (PSOs)         PO       PO         2       3       4       5       6       7       8       9       10       11       12         2       1       -       -       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -<td>PO       PS         2       3       4       5       6       7       8       9       10       11       12       1         2       1       -       -       -       -       -       -       -       2       1         2       1       -       -       -       -       -       -       -       2       2         2       1       -       -       -       -       -       -       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2</td></td>	Outcomes (PSOs)         PO       PO         2       3       4       5       6       7       8       9       10       11       12         2       1       -       -       -       -       -       -       -       -       -         2       1       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       - <td>PO       PS         2       3       4       5       6       7       8       9       10       11       12       1         2       1       -       -       -       -       -       -       -       2       1         2       1       -       -       -       -       -       -       -       2       2         2       1       -       -       -       -       -       -       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2</td>	PO       PS         2       3       4       5       6       7       8       9       10       11       12       1         2       1       -       -       -       -       -       -       -       2       1         2       1       -       -       -       -       -       -       -       2       2         2       1       -       -       -       -       -       -       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2

	2-	RAN	IIREI	DDY	SUBE	BARA	¥MI f	REDD	oy en	GIN	EERI	NG CO	LLEC	Æ
												d Institutio ore, A.P.)	on.	
	×		1					)FE						
RAMIREDDY SUBB ENGINEERING	ARAMI REDDY COLLEGE							ION						
Engineering I Through Inc		C	DURS	E OU	TCO	MES	& MA	PPIN	IG OI	F COs	with	POs &	PSOs	•
		S	EM:	IV-I			R	eg: R	15		AY	: 2021-2	2022	
Course	Code:	Course	Name:	DIGIT	TAL IM	IAGE F	PROCE	SSING	r		Ι	L T	Р	С
15A0	4708	Pre-req	uisite:	None								3 1	-	3
				COUI	RSE O	UTCO	OMES	(COs)						
CO No.	COURS	E OUT	COM	E										
4708.1	Understa	and the l	oasic f	undan	nental	s of In	nage I	Proces	sing (	L2)				
4708.2	Apply va	arious Iı	nage [	Fransf	ormat	ions w	ith th	eir pro	opertie	es(L3)				
4708.3	Explain	about va	arious	techni	iques	of ima	ige en	hancer	ment i	n diffe	erent d	lomains	(L4)	
4708.4	Analyze image (I		ge for	segm	entatio	on and	l Alge	braic a	approa	aches	for res	storation	n of an	L
4708.5	Classify compres					nages	and	deterr	mine	variou	ıs Ima	age Foi	rmats	and
Марріі	ng of Cou	rse Out	comes			n Prog omes (	-		omes (	(POs)	& Pro	ogram S	Specif	ic
Cos			_			РО							PS	50
COS	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4708.1	3	1	1	2	2	-	-	1	-	-	-	-	3	1
4708.2	3	2	1	2	3	-	-	1	-	-	-	-	3	-
4708.3	3	2		2	2	-	-	1	-	-	1	-	3	1
4708.4	3	2	1	2	1	-	-	1	-	-	1	-	3	1
4708.5	3	1	1	1	1	-	-	1	-	-	1	-	3	1
AVG	3	2	1	2	2	-	-	1	-	-	1	-	3	1

		RAN	lirei	DDY	SUBE	BAR/	¥MI f	REDD	YEN	IGIN	EERI	NG CO	LLEC	ΞĒ
												l Institutio ore, A.P.)	n.	
	$\geq$		1								NICS			
RAMIREDDY SUBB ENGINEERING	ARAMI REDDY COLLEGE										ERIN			
Engineering I Through Ini		CO	DURS	E OU	TCO	MES	& MA	PPIN	IG OI	F COs	with	POs &	PSOs	
10 10 10 <b>1</b> 10 1		S	EM:	IV-I			R	eg: R	15		AY	: 2021-2	2022	
Course 15A0		Course COMM						ICAL			Ι	T	Р	C
			C	COUR	SE O	UTC	OMES	<b>5</b> (CO	s)					
CO No.	COURS	SE OUT	COM	Έ										
4711.1	Understa	and the o	charac	teristi	cs of I	Reflex	klysti	on an	d GUI	NN di	ode ( I	(12)		
4711.2	Calculat	e the fre	quenc	y, atte	enuatio	on, VS	SWR t	ising r	nicrov	vave t	ench s	set-up. (	(L4)	
4711.3	Determi (L5)	ne the p	oarame	eters c	of Mag	gic-Te	e and	Direc	ctional	coup	ler us	ing ben	ch set	e-up.
4711.4	Understa	and the o	charac	teristi	cs of o	optical	devic	es lik	e LAS	ER ar	nd LEI	D(L2)		
4711.5	Design a	and anal	yze an	optic	al fibe	er link	. (L4)							
Mappi	ng of Cou	rse Out	comes			h Proş omes	-		omes (	POs)	& Pro	ogram S	Specif	ic
<b>C</b>						PO		,					PS	50
Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4711.1	3	-	2	-	-	-	-	-	-	-	-	2	-	2
4711.2	2	2	2	-	-	-	-	-	-	-	-	2	-	2
4711.3	3	2	1	-	-	-	-	-	-	-	-	2	-	2
4/11.5	5				1	1				Ì	1		1	-
4711.3	3	2	1	-	-	-	-	-	-	-	-	2	-	2
	_	2 2	1	-	-	-	-	-	-	-	-	2 2	-	2 2

	2-	RAN	IIRE	DDY	SUBE	BAR	AMI I	REDD	)Ý EN	IGINI	EERI	NG CO	LLEC	ĭE
1			(App N	roved by H-16. K	AICTE	, Affiliat ala, Bogo	ed to JN de Man	TUA. Aı lal. Kava	n ISO 90 ali- 524 1	01: 2015 42. S.P.S	Certifie R. Nell	d Institutio ore, A.P.)	on.	
	×											AND		
RAMIREDDY SUBB ENGINEERING	ARAMI REDDY COLLEGE									INE				
Engineering I Through Inc		C	DURS	E OU	TCO	MES	<b>&amp; M</b> A	APPIN	IG OI	F COs	with	POs &	PSOs	
		SEM:	IV-I				R	eg: Ri	15		AY	: 2021-2	2022	
Course	Code:	Course	Name	VLSI	& EMI	BEDDE	ED SYS	STEM I	LABOR	ATOR	Y I	LT	Р	С
15A0	4712	Prerequ	uisite:	None								-   -	4	2
			(	COUR	SE O	UTC	OME	<b>S</b> (CO	s)					1
CO No.	COURS	E OUT												
4712.1	Design a				l struc	ture o	f the v	variou	s digit	al inte	grated	l circuit	s(L6)	
4712.2	Develop simulato			-			-				-			[L5)
4712.3	Design a microcom		-	e diffe	erent c	onfigu	uration	ns of i	nterfa	cing m	odule	es of TN	14C	
Mapping Outcomes		e Outco	mes (	COs)	with <b>I</b>	Progra	am O	utcom	es (P	<b>Os) &amp;</b>	Prog	ram Sp	ecific	
C						РО							PS	<b>60</b>
Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4712.1	3	-	3	2	2	-	-	-	1	1	1	1	1	3
4712.2	3	-	3	2	2	-	-	-	1	1	1	1	1	3
4712.3	3	-	3	2	2	-	-	-	1	1	1	1	1	3
AVG	3	-	1	2	2	-	-	-	1	1	1	1	1	3
3/2/1 Indie	cates Strer	igth of <b>C</b>	Correla		1	h, 3-N	Iediur	n and	1-Lov	V	I		-	<u>.</u>

### IV B.Tech, II Sem ECE Cos and pos mapping (R15-JNTUA)

		RAM	IREI	DDY S	SUBE	BARA	¥MI <del>f</del>	REDD	oy en	IGIN	EERI	NG CO	LLE	SE
			(Appr N	oved by H-16, Ka	AICTE, danutha	, Affiliato ala, Bogo	ed to JN le Mand	ΓUA. Aı al, Kava	n ISO 90 ali- 524 1	01: 2015 42, S.P.S	Certified S.R. Nello	l Institutio ore, A.P.)	ən.	
	2										NICS			
ENGINEERING Engineering 1	COLLEGE	CC	MIRS								ERIN with	<b>IG</b> <b>POs &amp;</b>	PSO	2
Through Inr														3
6	<u>c 1</u>		EM: I		DONU			eg: R				: 2021-2	1	C
Course		Course					SI CIRC	UITS	& SYS	TEMS	I 3		P 0	C 3
15A04	4802	Pre-req	uisite:	VLSI	DESIG	N					5		U	3
			C	OUR	SE O	UTC	OMES	5 (CO	s)					
CO No.	COURS													
4802.1	Describe (L1, L2)	the nee	ed for	low p	ower (	design	and r	ecall t	he fur	idame	ntals c	of MOS	transi	stor
4802.2	Describe circuits.			he M	OS in	verter	chara	acteris	stics a	nd de	sign tl	ne com	binati	onal
4802.3	Describe (L2, L4)	the sou	irces o	of pov	ver dis	ssipati	on an	d clas	sify v	arious	suppl	y volta	ge sca	ling
4802.4	Determin	ne vario	us me	thods	of Mi	nimiz	ing Sv	vitche	d Cap	acitan	ce(L5)	)		
4802.5	Evaluate	the me	thods	of Mi	nimizi	ing Le	akage	Powe	er (L5	)				
Mappin	g of Cour	se Outo	comes			n Prog omes (	-		omes	(POs)	& Pro	ogram (	Specif	lic
Cos						PO							PS	<b>60</b>
0.05	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4802.1	1	1	2	2	-	1	-	1	-	-	-	2	1	3
4802.2	2	1	1	1	-	1	-	1	-	-	-	2	1	3
4802.3	2	2	1	2	-	1	-	1	-	-	-	1	1	3

4802.4	2	1	1	2	-	1	-	-	-	-	-	1	1	3
4802.5	1	1	1	1	2	1	-	-	-	-	-	2	1	3
AVG	2	1	1	2	2	1	-	1	-	-	-	2	1	3
3/2/1 India	cates Stren	gth of C	Correla	ation.	3-Hig	h, 2-N	Aediu	m and	1-Lov	W				

(an		IM II	11 <b>15</b> 1	נועע	SUBI	) MKI		<b>TEDD</b>				ie co	LLE	11.
											Certified S.R. Nello	Institutio re. A.P.)	n.	
	×			DEI	PAR	ГМЕ	NT (	<b>DF E</b>	LEC	TRO	NICS	&		
RAMIREDDY SUBB ENGINEERING	ARAMI REDDY COLLEGE										ERIN			
Engineering I Through Inc		C	JURS	E OU	TCO	MES	& MA	APPIN	NG OI	F COs	with l	POs &	PSOs	5
		S	EM: I	V-II			R	eg: R	15		AY:	2021-2	2022	
Course	Code:	Course	Name	RF IN	TEGR	ATED	CIRCI	UTS			L	Т	Р	C
15A0	4804	Pre-rec	uisite:	CMOS	5 DESI	GN					3	1	0	3
			(	COUR	SE O	UTC	OME	<b>S</b> (CO	s)		•			
CO No.	COUR	SE OUI	COM	E										
4804.1	Underst	and the	structu	re of	radio	freque	ncy sy	ystem.	(L2)					
4804.2	Analyze	e the ban	dwidt	h estir	nation	techr	iques	and ri	se tim	e and	delay t	ime (L	4)	
4804.3	Identify	the low	noise	ampli	fier ar	nd sub	sampl	ing m	ixers ]	L2)				
4804.4	Explain	various	types	of RF	powe	r amp	lifiers	. (L4)						
4804.5	Disting	uish vari	ous fre	equen	cy syn	thesis	techn	iques	(L2)					
Mappi	ng of Cou	irse Out	comes	s (CO		h Prog omes	-		omes (	(POs)	& Pro	gram S	Specif	ïc
Con						PO		,					PS	50
Cos	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4804.1	2	1	2	1	-	-	-	-	-	-	-	-	-	2
	2	3	1	1	-	-	-	-	-	-	-	-	-	2
4804.2		1	1	1	-	-	-	-	-	-	-	-	-	2
4804.2 4804.3	2					_	-	-	-	-	-	_	-	2
	2 2	2	2	1	-									
4804.3		2 2	23	1	-	-	-	-	-	-	-	-	-	2

Can.		RAN	IIREI	DDY	SUBE	BARI	AMI A	REDD	YEN	IGINI	EERIN	ie c	OLLE	GE
			· • •	•		/					Certified S.R. Nello			
	X		11.								NICS			
RAMIREDDY SUBE ENGINEERING	ARAMI REDDY										ERIN			
Engineering Through In	Excellence	CO	DURS	E OU	TCO	MES	<b>&amp; M</b> A	PPIN	IG OI	F COs	with l	POs &	k PSO	S
		S	EM: I	V-II			R	eg: R	15		AY:	2021	-2022	
Course	Code:	Course	Name:	COM	PREHE	ENSIVE	E VIVA	VOCE	3		L	T	Р	С
15A0	4805	Pre-req	uisite:	NONI	Ξ						-	-	4	2
			C	COUR	SE O	UTC	OMES	<b>S</b> (CO	s)					
CO No.	COURS	E OUT	COM	E										
4805.1	Recall th	e funda	menta	ls of r	nather	natics	, scier	nce an	d Eng	ineerii	ng(L1)			
4805.2	Relate c professio	-			erstand	ding o	of tech	nique	es app	licable	e to th	eir o	wn are	a of
4805.2		onal prac	ctice(I					-						
4805.3	professio	onal prac	ctice(I	L2)	on ski s) witl	lls and h Prog	l Build gram	d conf	idence	e to fac	ce the i	ntervi	ews(L	6)
4805.3	profession Develop	onal prac	ctice(I	L2)	on ski s) witl	lls and h Prog omes	l Build gram (PSOs	d conf	idence	e to fac	ce the i	ntervi	ews(L Speci	6) f <mark>ic</mark>
4805.3 <b>Mappi</b>	profession Develop	onal prac	ctice(I	L2)	on ski s) witl	lls and h Prog	l Build gram (PSOs	d conf	idence	e to fac	ce the i	ntervi	ews(L Speci	6)
4805.3	profession Develop	onal prac	ctice(I	L2)	on ski s) witl	lls and h Prog omes	l Build gram (PSOs	d conf	idence	e to fac	ce the i	ntervi	ews(L Speci	6) fic
4805.3 <b>Mappi</b>	profession Develop ng of Court	their Co	ctice(I	.2) nicatio	on ski s) with Outco	lls and h Prog omes PO	d Build gram (PSOs	d conf Outco s)	idence	e to fac POs)	ce the i	intervi gram	ews(L Specif	6) fic SO
4805.3 Mappin Cos 4805.1 4805.2	profession Develop ng of Court	their Co cse Outo	ctice(I	.2) nicatio	on ski s) with Outco	lls and h Prog omes PO	d Build gram (PSOs	d conf Outco s) 8	idence	e to fac POs)	ce the i	intervi gram	ews(L Special P( 1	6) Fic SO 2
4805.3 <b>Mappin</b> <b>Cos</b> 4805.1	profession Develop ng of Court 1 1	their Corse Outo	ctice(I	.2) nications (COs	on ski s) with Outco	lls and h Prog omes PO	d Build gram (PSOs	1 conf Outco 5) 8 1	idence	e to fac POs) 10 1	ce the i & Pro 11 -	intervi gram	ews(L Specif P: 1 2	6) fic SO 2 2

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												d Instituti ore, A.P.)	on.	
	×.		11						LEC'					
RAMIREDDY SUBB/ ENGINEERING	ARAMI REDDY COLLEGE								ENG					
Engineering E Through Inn		C	DURS	E OU	TCO	MES	& MA	PPIN	IG OI	F COs	with	POs &	: PSOs	
		S	EM: I	V-II			R	eg: R	15		AY	: 2021-	2022	
Course	Code:	Course	Name:	TECH	NICAI	L SEM	NAR				1	T	Р	С
15A04	4806	Pre-req	uisite:	NONI	Ŧ								4	2
			C	COUR	SE O	UTC	OMES	5 (CO	s)					
CO No.	COURS	E OUT	COM	E										
10061	Develop					-orien	ted fie	ld wit	h abil	ity to a	search	the lite	erature	and
480 <b>6</b> .1	brief rep	ort prep	aratio	n. (L4	)									
4806.2	Develop	the skil	ls, cor	npeter	ncies a	ind po	ints of	view	neede	d by p	orofess	sionals	in the f	field
	most clo	sely rela	ated to	the c	ourse(	L5)								
4806.3	Develop	the di	scussi	on ar	nd cri	tical	thinki	ng ab	out to	opics	of cu	irrent	intellec	tual
	importar							U		1				
4806.4	Develop	the inte	rperso	onal &	comr	nunica	ation s	kills a	nd aw	arene	ss. (Le	5)		
	-		•						ina av	urene	ы. ( <b></b>			
4806.5	Develop	present	ation s	skills.	(L6)									
Mappir	ng of Cou	rse Out	comes	s (CO					omes (	POs)	& Pro	ogram	Specif	ic
					Outco			5)						
Cos			1			PO	1						PS	50
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
4806.1	1	-	-	-	-	-	-	1	2	3	-	-	2	2
4806.2	2	-	-	-	-	-	-	1	2	2	-	-	2	2
4806.3	2	_	_	-	_	_	_		2	3	_	_	2	2
1000.2	2							1	2	3				2
100		-	-	-	-	-	-	1	2	3	-	-	2	
4806.4	1													2
4806.4 4806.5		-	-	-	-	-	-	1	2	2	-	-	2	
	1 1 1	-	-	-	-	-	-	1	2	3	-	-	2	2 2 2 2

6.11	C													
			· • •	•								l Instituti ore, A.P.)	on.	
	$\geq$										NICS			
AMIREDDY SUBB	ARAMI REDDY			CO	MM	UNI	CATI	ION I	ENG	INE	ERIN	IG		
Engineering Through In	Excellence	CO	DURS	E OU	TCO	MES	& MA	PPIN	<b>GO</b>	F COs	with	POs &	z PSOs	5
Through the		S	EM: I	V-II			R	eg: R	15		AY:	: 2021-	2022	
Course	Code:	Course	Name:	PROJI	ECT W	ORK				1	I	T	Р	C
15A0	4807	Pre-req	uisite:								-	-	24	12
			C	OUR	SE O	UTCO	OMES	G (CO	5)					
CO No.	COURS	E OUT							-					
	Identify				e litera	ature s	survey	and a	nalyz	e engi	neerin	ng proł	olems.	(L1
4807.1	L4)	-					·		·	U		01		
4807.2	Apply t	he theo	retical	cond	cepts	to so	lve in	dustri	al pro	oblem	s with	n tean	work	and
4807.2	Apply t multidis				-	to so	lve in	dustri	al pro	oblem	s with	n tean	nwork	and
4807.2		ciplinar	y appro	oach(I	_3)				-					
	multidis	ciplinary system	y appro	oach(I	_3)				-					
	multidis Design	ciplinary system o ation. (I	y appro compo _6)	oach(I	L3)	cquire	s the	need	for pu	iblic ł	nealth	and er	ivironi	
4807.3 4807.4	multidis Design s consider Form a t	system of ation. (I	y appro compo _6) carryi	onent ng the	L3) that ac	cquire ect and	s the	need orm do	for pu	iblic h	nealth	and er	vironi (L6)	men
4807.3 4807.4	multidis Design s consider	system of ation. (I	y appro compo _6) carryi	onent onent onent of the onent of the one of	L3) that ac proje s) with	cquire ect and	s the	need orm do Outco	for pu	iblic h	nealth	and er	vironi (L6)	men
4807.3 4807.4 <b>Mappi</b>	multidis Design s consider Form a t	system of ation. (I	y appro compo _6) carryi	onent onent onent of the onent of the one of	L3) that ac proje s) with	cquire ect and	s the l perfo gram ( (PSOs	need orm do Outco	for pu	iblic h	nealth	and er	(L6) Specif	men
4807.3 4807.4	multidis Design s consider Form a t	system of ation. (I	y appro compo _6) carryi	onent onent onent of the onent of the one of	L3) that ac proje s) with	cquire ect and n Prog omes (	s the l perfo gram ( (PSOs	need orm do Outco	for pu	iblic h	nealth	and er	(L6) Specif	nen ïic SO
4807.3 4807.4 <b>Mappi</b>	multidis     Design s     consider     Form a t     ng of Court     1	system of ation. (I eam for rse Out	y appro compo _6) carryi <b>comes</b>	onent in the constant of the c	(L3) that a proje b) with Outco	cquire ect and <b>Prog</b> <b>PO</b>	s the l perfo gram ( (PSOs	need orm do <b>Outco</b> )	for pu ocume mes (	Iblic h	nealth n effec & Pro	and er tively. p <mark>gram</mark>	(L6) Specif	men ic SO
4807.3 4807.4 <b>Mappin</b> Cos	multidis Design s consider Form a t ng of Cou	ciplinary system of ation. (I eam for rse Out 2 3	y appro compo L6) carryi comes 3 2	ng the (COs	(L3) that ac proje s) with Outco 5 -	cquire ect and prog omes ( PO 6 -	s the l perfo gram ( (PSOs 7	need orm do Outco ) 8 2	for pu for pu mes ( 9 3	blic h ntation POs)	nealth n effec & Pro 11 -	and er stively. ogram 12 1	(L6) Specif	men ic 50 2
4807.3 4807.4 <b>Mappin</b> <b>Cos</b> 4807.1 4807.2	multidis     multidis     Design s     consider     Form a t     ng of Court     1     3     3     3	ciplinary system of ation. (I eam for rse Out 3 1	y appro compo L6) carryi comes 3 2 2 2	onent in the constant of the c	(L3) that a proje b) with Outco	cquire ect and <b>Prog</b> <b>PO</b>	s the l perfo gram ( (PSOs 7	need orm do Outco ) 8 2 2 2	for pu ocume: mes ( 9	hblic h ntation POs) 10 2 2	nealth n effec & Pro	and er tively. ogram 12 1 1	(L6) Specif 1 2 2	men ic 50 2
4807.3 4807.4 <b>Mappin</b> <b>Cos</b> 4807.1 4807.2 4807.3	multidis Design s consider Form a t ng of Cou	ciplinary system of ation. (I eam for rse Out 2 3	y appro compo L6) carryi comes 3 2	ng the (COs	(L3) that ac proje s) with Outco 5 -	cquire ect and prog omes ( PO 6 -	s the l perfo gram ( (PSOs 7	need orm do Outco ) 8 2	for pu for pu mes ( 9 3	blic h ntation POs)	nealth n effec & Pro 11 -	and er stively. ogram 12 1	(L6) Specif PS 1 2	men <b>iic</b> <b>50</b> 2 2 2
4807.3 4807.4 <b>Mappin</b> <b>Cos</b> 4807.1 4807.2	multidis     multidis     Design s     consider     Form a t     ng of Court     1     3     3     3	ciplinary system of ation. (I eam for rse Out 3 1	y appro compo L6) carryi comes 3 2 2 2	ng the (COs	-3) that ac proje s) with Outco 5 - 1	cquire ect and <b>Prog</b> <b>PO</b> 6 - 1	s the l perfo gram ( (PSOs 7	need orm do Outco ) 8 2 2 2	for pu boumes mes ( 9 3 3	hblic h ntation POs) 10 2 2	nealth n effec & Pro 11 - 3	and er tively. ogram 12 1 1	(L6) Specif 1 2 2	nen ⁻