

RAGHU ENGINEERING COLLEGE (Autonomous)

(Approved by AICTE, New Delhi & Permanently Affiliated to JNTUGV, Vizianagaram) NBA and NAAC 'A+' grade accredited Institute.

Dakamarri, Bheemili Mandal, Visakhapatnam – 531162,A.P. Phone: 08922-248001 www.raghuenggcollege.com

INSTITUTE VISION

"Envisioning to be a world class technical institution by synergizing quality education with ethical values"

INSTITUTE MISSION

- To encourage training and research in cutting-edge technologies.
- To develop and strengthen strategic links with the industry.
- To kindle the zeal among the students and promote their quest for academic excellence.
- To encourage extra-curricular activities along with good communication skills.

QUALITY POLICY

"RAGHU Engineering College underscores ethical values along with innovative teaching through an interactive, activity-based pedagogy; establishes the best of infrastructural facilities, inculcates engineering temper among the students through the use of the latest Information and Communication Technologies, and strives for an efficient, responsive and transparent administration in all areas"

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

VISION

"To produce Electrical and Electronics Engineers through quality education with exposure to state of art technology and innovation with ethical values"

MISSION

- M1 : Empowering students and professionals with state-of-art knowledge and Technological skills.
- M2 : To prepare students for higher studies and entrepreneurship.
- M3 : To impart essential skills of leadership, teamwork, communication and ethics among the students.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

• **PEO 1:**

Domain Knowledge:

Graduates will have knowledge in basic science, mathematical tools and fundamental engineering stream with contemporary problem solving, critical analysis in Electrical and Electronics Engineering and its allied areas.

• **PEO 2**:

Communication Skills & Employability:

Graduates will have careers in the diversified sectors of electrical power industry, software industries and also encouraged for higher education and research.

• **PEO 3**:

Life Long Learning & Social Concern:

Graduates will be able to communicate effectively, adopt lifelong learning act with integrity and have inter personal skills needed to engage in, lead and nurture diverse teams with commitment to their ethical and social responsibilities.

MAPPING OF MISSION STATEMENTS WITH PEOS

MS/PEO	PEO 1	PEO 2	PEO 3
M1	3	3	2
M2	2	2	3
M3	2	3	2

1-Slight, 2- Moderate, 3- Substantial

PROGR	AMME OUTCOMES										
Graduates	s of Electrical and Electronics Engineering Will:										
PO 1	Engineering knowledge :										
	Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.										
PO 2	Problem analysis:										
	Identify, formulate, review research literature, and analyze complex engineering problems										
	reaching substantiated conclusions using first principles of mathematics, natural sciences, and										
	engineering sciences.										
PO 3	Design/development of solutions:										
	Design solutions for complex engineering problems and design system components or processes that										
	meet the specified needs with appropriate consideration for the public health and safety, and the										
	cultural, societal, and environmental considerations.										
PO 4	Conduct investigations of complex problems:										
	Use research-based knowledge and research methods including design of experiments, analysis and										
	interpretation of data, and synthesis of the information to provide valid conclusions.										
PO 5	Modern tool usage:										
	Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools										
	including prediction and modelling to complex engineering activities with an understanding of the										
	limitations.										

PO 6	The eng	ineer a	and soo	ciety:										
	Apply re	easonir	ng info	rmed t	y the	contex	tual kr	owled	ge to a	issess	societal	, health,	safety, le	egal and
	cultural	issues a	and the	conse	- quent r	respons	ibilitie	s relev	ant to tl	he prof	essional	enginee	ering pract	ice.
PO 7	Environ	ment	and s	ustaina	_ ability:					•				
					-		sional	engine	eering	solutio	ns in so	ocietal a	nd enviro	nmental
	contexts		-			•		•	•					
PO 8	Ethics:	·				U					1			
	Apply e	thical	princip	oles an	d con	nmit to	profe	ssional	l ethics	s and	respons	ibilities	and norm	is of the
	engineering practice.													
PO 9	Individual and team work:													
	Function effectively as an individual, and as a member or leader in diverse teams, and in													
DO 10	multidis			ngs.										
PO 10	Commu													
				•		•		•			•	•	nmunity a	
	-	-			-	-					reports a	and desig	gn docume	entation,
	make eff		-		-		receiv	e clear	instruc	tions.				
PO 11	Project	c	•											
				•			•	•	v		•	-	nciples an	
			own wo	ork, as	a mem	ber and	d leade	r in ate	eam, to	manag	e projec	ets and in	n multidisc	ciplinary
	environn													
PO 12	Life-lon	0	0											
	0					-	+		•	to en	gage in	indepen	dent and l	ife-long
	learning							change	•					
PROGRA									.1	1				
PSO 1: Or			-					-		-				
knowledge		•		hardw	are &	softwa	re tool	s relate	ed to E	lectrica	al and E	lectron	cs Engine	ering for
solving rea														
PSO 2: On			•			-			0				•	-
design & d	-			•	•			ty of e	enginee	ring ap	plicatio	ns and t	hus demo	nstrating
professiona							.							
MAPPINC							1	1	1	1	1	1	1	ſ
PEO/POs		PO-	PO-	PO-	PO-	PO-	PO-	PO-	PO- 9	PO-	PO-	PO-	PSO-1	PSO-2
PEO 1	1 3	2 3	3 3	4 3	5	6	7	8	у 	10	11	12	3	3
ILUI	5	5	5	5		2	2	2	2	2	2			
PEO 2						3	3	3	3	3	3		2	2

PEO 31-Slight,2- Moderate,3- Substantial

	(Only for EEE)									
Programme &Branch	B.Tech & EEE	Sem	Category	L	Τ	Р	Credit				
Prerequisites	23ES104										
-	Basic Electrical and Electronics										
	Engineering 3 PC 3										
	2302101 Electrical Circuit Analysis-I										
To analyzeTo evaluat	tives: cand three phase circuits e transients in electrical systems e network parameters of given electrical net e Fourier analysis and network synthesis.	twork									
Preamble:	This course sime at study of three phase or			•							
Course Conto	This course aims at study of three phase sy and Fourier analysis and filters for the futu										
	and Fourier analysis and filters for the future nts:	ire study	and analysis	s of p	owe	r sys	tems.				
Unit-1	and Fourier analysis and filters for the futu nts: Analysis of three phase balanced circui	ts& unb	and analysis	s of p	Con	r sys ntact	tems.				
Unit-1 Phase sequence	and Fourier analysis and filters for the future nts: Analysis of three phase balanced circui e, star and delta connection of sources and lo	ts& unb	and analysis	s of p cuits ween	Con Line	r sys	tems. Hours: phase				
Unit-1 Phase sequence quantities, anal	and Fourier analysis and filters for the future nts: Analysis of three phase balanced circui e, star and delta connection of sources and low ysis of balanced three phase circuits, measu	ts& unb bads, rel	and analysis Dalanced circ ationship bet of active and	s of p cuits ween react	Con line	tact and	Hours: phase phase				
Unit-1 Phase sequence quantities, anal	and Fourier analysis and filters for the future nts: Analysis of three phase balanced circui e, star and delta connection of sources and low ysis of balanced three phase circuits, measure Star-Delta transformation technique, measure	ts& unb bads, rel rement or	and analysis palanced circ ationship bet of active and of active and	s of p cuits ween react	Con line tive p	tact and powe	Hours: phase r. r.				
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Text	Books:										
1	Networks and Synthesis – D. Roy Choudhury, Third Edition, 2023, New Age In	iternational									
	ublishers.										
2	Engineering Circuit Analysis, William Hayt and Jack E. Kemmerly, 9th Edition	Engineering Circuit Analysis, William Hayt and Jack E. Kemmerly, 9 th Edition McGraw-Hill,									
	2020										
Refe	rence Books:										
1	Circuits and Networks Analysis and Synthesis, A. Sudhakar, Shyam Mohan S. I	Palli, 5 th Edition,									
	Tata McGraw-Hill, 2017.										
2	Circuit Theory: Analysis and Synthesis, A. Chakrabarti, Dhanpat Rai & Co., 2018, 7 th Revised										
	Edition.										
Web	References :										
1	https://archive.nptel.ac.in/courses/117/106/117106108/										
2	https://archive.nptel.ac.in/courses/108/105/108105159/										
Cou	rse Outcomes:	BT Mapped									
Upor	n completion of the course, students shall have ability to	(Highest									
		Level)									
CO	CO1Analyze the balanced and unbalanced 3 phase circuits for powerL3										
	calculations.										
CO	J	L3									
CO		L2									
CO		L3									
CO	5 Analyze network Synthesis concepts.	L3									

Mapping of Cos with POs and PSOs

mapping or C	mapping of cos with 1 05 and 1 005													
COs/POs	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO-	PO-	PSO	PSO
	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	11	12	-1	-2
CO 1	3	3											2	1
CO 2	3	3											2	1
CO 3	3	3											2	1
CO 4	3	3											2	1
CO 5	3	3											2	1
1 – Slight, 2 -	1 – Slight, 2 – Moderate, 3 – Substantial, BT- Bloom's Taxonomy													

Assessment Pattern – Theory											
TEST	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating	Total%				
IESI	(K1)%	(K2)%	(K3)%	(K4)%	(K5)%	(K6)%	1010170				
Mid-1	6	9	85				100				
Mid-2	6	9	85				100				
SEE	10	10	80				100				