



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

Accredited by NAAC & NBA (CSE, IT, ECE, EEE & ME)

Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada

L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

Attainment of POs, PSOs & ATR

(Graduated Batch: 2022)

Department : Electronics and Communication Engineering

S.No.	POs/PSOs	Target	Attainment	Attained / Not Attained
1.	PO1	70	66.25	Not Attained
2.	PO2	70	66.24	Not Attained
3.	PO3	69	64.99	Not Attained
4.	PO4	70	69.41	Not Attained
5.	PO5	67	68.47	Attained
6.	PO6	69	74.35	Attained
7.	PO7	70	70.18	Attained
8.	PO8	77	63.83	Not Attained
9.	PO9	72	70.36	Not Attained
10.	PO10	74	74.29	Attained
11.	PO11	69	74.97	Attained
12.	PO12	71	68.25	Not Attained
13.	PSO1	73	65.77	Not Attained
14.	PSO2	68	66.77	Not Attained
15.	PSO3	72	68.68	Not Attained

Note: It is the front page of Analysis of Attainment of POs, PSOs and ATR. In addition to front page send me the complete analysis report (As per NBA format).

Date
12.07.2022

Handwritten signature in red ink
21/7/22

Signature of HOD
(Dr. Y Amar Babu)

Department of Electronics &
Communication Engineering
Lakireddy Bali Reddy College of Engineering,
MYLAVARAM, Krishna Dt., Andhra Pradesh



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Department of ECE

Date: 12.07.2022

Attainment of Program Outcomes and Program Specific Outcomes (2018 Batch)

a) Direct assessment tools and attainment process:

- The performance of the students in the examinations during the semester in each course is used to compute the level of attainment of the POs and PSOs through the mapping of questions to COs & COs to POs and PSOs.
- CO-PO & PSO mapping for all the courses in the program is prepared by The program coordinator.
- An MS - Excel sheet is used to compute the level of attainment of the POs and PSOs
- The attainment of the POs & PSOs is computed as a weighted average of attainment of the COs that are mapped to the given POs & PSOs.

b) Indirect assessment tools and attainment process:

The following indirect assessment tools are used for calculating PO & PSO attainments.

- (i) Program Exit survey
- (ii) Student portfolio.

The overall PO & PSO attainments are calculated as follows:

- ✓ 70% for direct assessment tool
- ✓ 30% for indirect assessment through surveys
 - 20% for student portfolio
 - 10% for program exit survey

Results of evaluation of each PO & PSO.

- The attainment of POs and PSOs are compared with the expected level and the process is carried out to continuously improve the attainment level.
- In addition to the above, an internal academic audit is being carried out to observe and realize how direct and indirect assessment tools can be improved to ensure that all course outcomes are realized and aligned with POs & PSOs.
- Every year Action Taken Report(ATR) is to be prepared to attain expected levels of POs and PSOs

The following table depicts the POs & PSOs Direct Attainment

1. Direct Attainment – 2018 Batch

Course	COs	CO Attainment Value (%)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
PCI	CO1	93.00				2						3	3		2			
	CO2	93.00		1		2		1				3	3		2			
	CO3	88.00				2						3	3		2			
	CO4	93.00		1		2		1				3	3		2			
	CO5	90.00				2						3	3		2			
DELA	CO1	85.00	3	2		1									1			
	CO2	84.00	3	2		1									1			
	CO3	78.00	3	2		1									1			
	CO4	81.00	3	2											1			
	CO5	70.00	3	2											1			
EC	CO1	77.30	3	3	3					2					2			
	CO2	76.70	3	2	3				2	1					2			
	CO3	78.50	2	2					2	1					2			
	CO4	80.50	3	3						1					2			
	CO5	80.40	2	3											1			
ECN	CO1	74.10	1	1											1		1	
	CO2	70.80	2	3	1										1		3	
	CO3	74.80	2	3	2										2		2	
	CO4	74.60	2	3	2	1									2		3	
EDC	CO1	72.7	1												1		1	
	CO2	76.20	1	1											1		1	
	CO3	78.70	2	3											2		2	
	CO4	71.30	2	3	3										2		3	
EC Lab	CO1	78.00	3	3		2		2	2									
	CO2	83.00	2	3														
	CO3	77.00	3	2														
	CO1	74.10	3	3	1	2	2										2	
ECN Lab	CO2	70.80	2	3	2	2	3										2	
	CO3	74.80	3	2	3	2	3										3	
	CO4	74.60								1	2	3		1				
	CO1	61.00					3	3							2			
CAED Lab	CO2	59.00	3				3	2							2			
	CO3	66.00	3				3								2			
	CO4	59.00	3				3								2			
	CO1	70.00	1			2	1										2	
EDC Lab	CO2	63.00	1	2		2	2										2	
	CO3	67.00	2	2	3	2	2										3	
	CO4	96.05								1	2	3		1				
	CO1	80.70		1		1		1				3	3		2			
PCII	CO2	80.70		1		1		1				3	3		2			
	CO3	86.50		1		1		1				3	3		2			
	CO4	84.60		1		1		1				3	3		2			
	CO5	81.00		1		1		1				3	3		2			
	CO1	93.00				2						3	3		2			

Course	COs	CO Attainment Value (%)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
SS	CO1	65.50	3	2	1	1	1							2	2		3
	CO2	57.20	3	3	3	2	2							2	3		3
	CO3	46.30	3	3	2	2	1							2	3		3
	CO4	40.80	3	3	3	2	2							2	3		3
RVSP	CO1	70.3	1	1	1									1	1		
	CO2	51.1	2	3	1									2	2		
	CO3	47.6	2	2	3	2								2	2		
	CO4	65.2	3	3	2	3								2	2		
PSC	CO1	64.20	1	2	3									1	1	3	
	CO2	38.60	2	2	3	2								2		3	
	CO3	40.00	2	2	3	2								2		3	
	CO4	38.20	2	2	1	1								1		2	
PEHV	CO1	76.60								3							
	CO2	72.50			1					3							
	CO3	52.00		1	2					3	2						
	CO4	66.40				1		2		3	1						
	CO5	67.00						1	2	3				1			
AIC	CO1	71.40	1	2										1		1	
	CO2	57.60	2	2										1		1	
	CO3	69.20	2	2	3	2								2		2	
	CO4	73.40	3	2	2	2								2		2	
	CO5	50.60	2	2	3	2								2		3	
CP Lab	CO1	70.36	2	3								2		2	1		
	CO2	68.04	2	3								2		2	1		
	CO3	63.90	2	3								2		2	1		
	CO4	72.30								2	2	2					
PSC Lab	CO1	68.22	2	3	1	2	2									2	
	CO2	70.62	1	2	2	2	2									2	
	CO3	69.70	2	2	3	2	3									3	
	CO4	85.50								1	2	3		1			
AIC Lab	CO1	68.68	2	3		1	1									2	
	CO2	67.04	3	3	3	3	2									3	
	CO3	71.42	3	2	2	2	2									2	
	CO4	84.90								1	2	3		1			
PAL	CO1	66.70					2	1			2		1	2			
	CO2	69.20	2	2	2	2					2			2			
	CO3	61.20									2	3		2			
	CO4	85.36								2	2	3		2			
	CO5	66.67								3	3			3			
ES	CO1	65.30	3	3				3	3	3				3			
	CO2	67.30	3	3				3	3					3			
	CO3	65.00	3		3				2					2			
	CO4	78.40	3					2	3	2				3			
	CO5	66.80	3	3	3	3		3	3	3				3			

Course	COs	CO Attainment Value (%)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
FCV	CO1	66.00	3	2	1									1			
	CO2	65.00	3	2	1									1			
	CO3	65.00	3	2	1									1			
	CO4	60.00	3	2	1									1			
	CO5	65.00	3	2	1									1			
EMFW	CO1	60.00	1	2	2									1	1		
	CO2	57.00	3	3	2	2								2	2		
	CO3	47.10	2	3	2	1								2	3		
	CO4	55.70	2	3	2	2								3	3		
DSP	CO1	78.90	3	1	1									1	1		1
	CO2	72.00	3	2	2	1								1	1		2
	CO3	64.80	3	3	3	2	1							2	2		3
	CO4	51.80	3	3	3	2	1							2	2		3
	CO1	79.50	1	1	2	1								1		1	
DSD	CO2	60.70	3	2	2	2								2		3	
	CO3	46.30	1	3	2	2	1							2		3	
	CO4	41.00	1	2	3	2	2							2		3	
	CO1	66.70	1	1										1	1		
AC	CO2	47.80	2	2	1									2	3		
	CO3	62.80	3	2	1									2	2		
	CO4	70.10	2	3										2	2		
	CO1	72.80	3	2		3	3										3
DSP Lab	CO2	71.72	3	3		3	3										3
	CO3	67.46	3	3	3	3	3										3
	CO4	78.40							1	2	3			1			
	CO1	87.78	1	2	1	2	2										2
DSD Lab	CO2	69.90	2	2	3	2	3										3
	CO3	67.30	2	2	2	2	3										3
	CO4	84.90							1	2	3			1			
	CO1	71.84	1	3	1	2	1										2
AC Lab	CO2	64.16		2		3	1										3
	CO3	67.74	3	2		3	3										2
	CO4	81.70							1	2	3			1			
	CO1	76.50	2	2	2	2					2			2			
PBL	CO2	72.50	1				2	2					2	2	2		
	CO3	62.60										2	3	2			
	CO4	70.76								2	2	3		2			
	CO5	66.04								3	3			3			
	CO1	62.60	3							3	3	1	2	3			
EEA	CO2	70.50		3								2	2				
	CO3	71.50					3		3			2	2				
	CO4	73.00					3					2	2				
	CO5	78.50					2		3	3	2		2				
	CO1	66.00	3	2	1									1			

Course	COs	CO Attainment Value (%)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
COA	CO1	76.20	1											1		2	
	CO2	42.70	2	3	3	1								2		2	
	CO3	66.00	3	2	2	2								2		3	
	CO4	46.90	3	3	3	2								3		3	
TLWG	CO1	75.60	1	1										1	1		
	CO2	47.70	2	3	2	1								1	2		
	CO3	38.90	2	2	2	2								1	2		
	CO4	68.30	3	3	2	2								2	3		
DC	CO1	72.20	1	1	1									1	1		
	CO2	44.40	2	3	1									1	2		
	CO3	54.30	3	3	2	2								1	2		
	CO4	71.70	3	2	2	2								1	3		
VLSID	CO1	76.70	1	2	1									1		1	
	CO2	59.90	3	3	2	1								2		3	
	CO3	64.70	2	3	2	2								2		2	
	CO4	58.30	2	3	3	2								2		3	
	CO5	48.30	2	3	3	2								2		3	
MEMS	CO1	61.40	2											1		1	
	CO2	49.20	3	2										2		2	
	CO3	67.20	2											2		2	
	CO4	44.50	2	3	2									2		2	
	CO5	75.50	2	2		2								1		1	
EMI	CO1	77.30	1	1										1		1	
	CO2	64.30	3	3										1		1	
	CO3	53.60	3	3	2									2		2	
	CO4	60.90	3	3	3									2		2	
DC Lab	CO1	69.76	2	2		1	1									2	
	CO2	67.92	3	2	1	1	1									2	
	CO3	72.18	2	3	1	2	1									3	
	CO4	83.40								1	2	3		1			
VLSID Lab	CO1	70.98	3	2	1	2	3										1
	CO2	69.24	1	3	2	2	3										3
	CO3	74.04	3	3	3	3	3										3
	CO4	88.80								1	2	3		1			
Mini Project	CO1	87.80	2	3				3						3	3	3	3
	CO2	84.50	2	3	3	3	3	3	2					3	3	3	3
	CO3	97.50	2	3	3	2	2	3	2				3	3	3	3	3
	CO4	82.10										3		3			
	CO5	93.47								3	3			3			
	CO6	84.93										3		3			

Course	COs	CO Attainment Value (%)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EES - I	CO1	56.35	1	1						2	2	3		3			
	CO2	56.35						3		2	2	3		3			
	CO3	56.35								2	2	3		3			
	CO4	56.35	1	1						2	2	3		3			
	CO5	56.35								2	2	3		3			
LCS	CO1	70.40	1	1										1			1
	CO2	56.40	3	3	2	2								2			2
	CO3	49.00	2	3	1	1								2		2	3
	CO4	48.00	3	3	3	3								3			3
OOPJ	CO1	66.80	3	1	2									1			
	CO2	63.10	3	3	2		1							1			
	CO3	67.80	3	2	3		1							1			
	CO4	68.50	3	2	3		1							1			
	CO5	54.60	3	2	2		1							1			
AWP	CO1	59.30	2	2										1	1		
	CO2	55.60	2	3	1	1								1	2		
	CO3	56.60	1	2	3	2								2	3		
	CO4	45.90	1	2	3	2								1	2		
MPMC	CO1	68.50	1											1		1	
	CO2	58.30	3	3	1									2		2	
	CO3	43.80	2	3	2									3		3	
	CO4	52.80	3	3	3									3		3	
CMC	CO1	60.70	1	2	1									1	2		
	CO2	65.10	3	2	2									1	2		
	CO3	65.70	2	2	3									2	3		
	CO4	66.00	1	3	1			1						1	3		
TSSN	CO1	83.30	1											1	1		
	CO2	79.70	2	3										2	2		
	CO3	67.70	3	2										2	2		
	CO4	54.30	2	3										2	2		
IEM	CO1	53.20	2							2	1			2			
	CO2	56.10					2							2			
	CO3	48.50												2			
	CO4	52.00								3	2			2			
	CO5	52.00				2						1		2			
PS Lab	CO1	99.00		1		3		2			3	3		2			
	CO2	94.00		1		3		2			3	3		2			
	CO3	98.00		1		3		2			3	3		2			
	CO4	99.00		1		3		2			3	3		2			
OOPJ Lab	CO1	70.00	2	3	3	1	1							1			
	CO2	65.00	2	3	3	1	1							1			
	CO3	67.00	2	3	3	1	1							1			
	CO4	83.00								2	2	2					

Course	COs	CO Attainment Value (%)	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MWOC Lab	CO1	81.14	1			1	1								1		
	CO2	75.36	2	2		2	2								2		
	CO3	75.62	2	2		3	2								3		
	CO4	91.80								1	2	3		1			
ESD Lab	CO1	62.00	2	2	3	2	3									3	
	CO2	65.00	2	2	3	2	3									3	
	CO3	80.00								1	2	3		1			
Internship	CO1	92.47	3	3	2	3		2	2		3			3	3	3	3
	CO2	87.94	3	3	3	3	3	2			3			3	3	3	3
	CO3	66.34									3	3		3			
	CO4	72.87					1			3	3	3		3			
Project Work	CO1	93.92	2	3				3						3	3	3	3
	CO2	97.60	2	3	3	3	3	3	2					3	3	3	3
	CO3	88.28	2	3	3	2	2	3	2				3	3	3	3	3
	CO4	82.34										3		3			
	CO5	98.47								3	3			3			
	CO6	80.75										3		3			
CVV	CO1	57.20	3	3	3									2	3	3	3
	CO2	53.81									3	3		2			
Direct Attainment (%)			66.29	65.76	64.18	70.71	69.24	77.00	77.29	69.73	77.30	77.45	77.96	68.89	65.42	66.66	69.56

Indirect Attainment (2018 Batch):

1. Student Portfolios:

1.1. Co-curricular Details:

Component	No. of students	Total No. of Final Year Students	% of Participation/Awards	Weightage (%)	Attainment (%)
Workshops	Participated	197	197	100	20
Certification Programs	Participated	104	197	52.8	2.7
	Certified	104	197	52.8	8
NPTEL	Successfully Completed	41	197	20.82	1.1
	Elite / Silver / Gold	127	197	64.47	6.5
Technical Fest (Paper Presentation, Poster Presentation, Quiz, Project Expo, etc.)	Participated	197	197	100	10
	Awards	29	197	14.73	3
Journal / Conference Publications	Involved	120	197	60.92	6.1
Industrial Visit / Internships	Participated	193	197	97.97	4.9
Attainment (%)					62.30

1.2. Extra-curricular Details:

Component	No. of students		Total No. of Final Year Students	% of Participation/Awards	Weightage (%)	Attainment (%)	
Sports & Games	Participated	State Level	0	197	0	5	0
		International/National Level	0	197	0	10	0
		University & Institute Level	197	197	100	10	10
	Awards	State Level	0	197	0	15	0
		International/National Level	0	197	0	20	0
		University & Institute Level	97	197	49.24	10	5
Yoga	Participated		92	197	46.71	5	2.4
	Awards		0	197	0	10	0
Cultural Activities	Participated		35	197	17.77	5	0.9
	Awards		8	197	4.07	10	0.5
Attainment (%)						18.80	

1.3. Extension Activities (NSS, NCC) Details:

Component	No. of students		Total No. of Final Year Students	% of Participation/Awards	Weightage (%)	Attainment (%)	
NSS	Participated	Adopted Villages	7	197	3.56	20	0.8
		Institute Level /Local Community	74	197	37.57	50	18.8
NCC Only Girls	Participated		25	77	32.47	10	3.3
	Awards ('B' & 'C' certificates)		14	77	18.19	20	3.7
Attainment (%)						26.60	

1.4. Placements & Higher Studies Details:

Component	No. of students		Total No. of Final Year Students	% of Participation	Weightage (%)	Attainment (%)
Placement	Placed	142	197	72.09	80	57.7
Higher Studies	Qualified in Competitive Examinations	12	197	6.1	20	1.3
Attainment (%)						59.00

Student Portfolio Attainment:

Component	% Attainment	Program Outcomes (%)												Program Specific Outcomes (%)		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
COCURRICULAR ACTIVITIES	62.30	3	3	3	2	2	2	2	3	3	1	1	3	3	3	3
EXTRA CURRICULAR ACTIVITIES	18.80								3	3						
NSS and NCC	26.60							3	3	3						
PLACEMENT & HIGHER STUDIES	59.00	3	3	3	3	3				3	3		3	3	3	3
% Pos and PSOs Attainment		60.65	60.65	60.65	60.32	60.32	62.30	40.88	35.90	41.68	59.83	62.30	60.65	60.65	60.65	60.65

2. Exit Survey (2018 Batch):

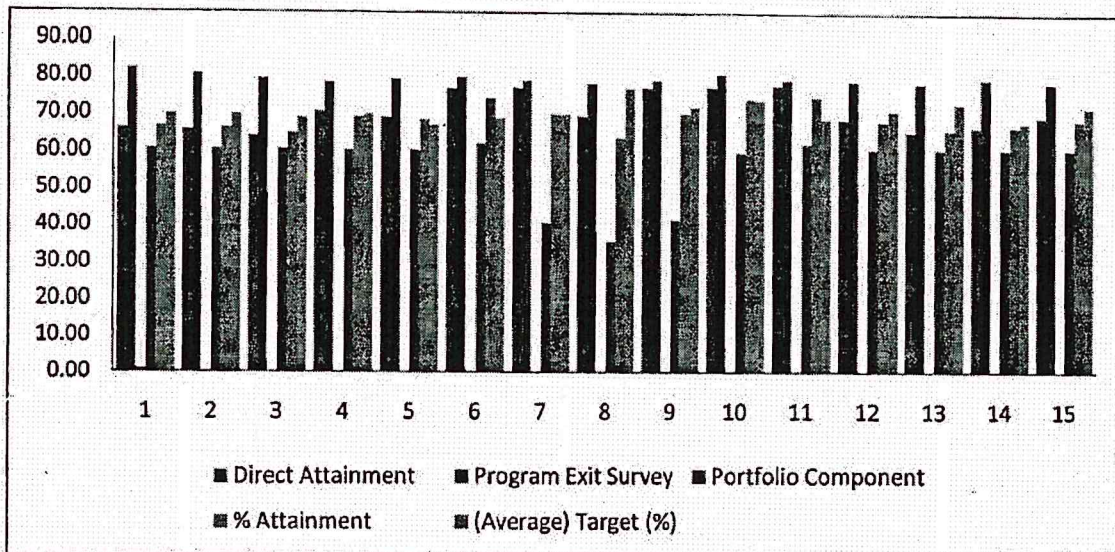
POs/PSOs	Excellent (4)	Very Good (3)	Good (2)	Poor (1)	Total No of Students Participated	Attainment Value (%)
PO1	84	82	28	0	194	82.22
PO2	77	85	32	0	194	80.80
PO3	80	71	40	3	194	79.38
PO4	71	81	40	2	194	78.48
PO5	74	80	40	0	194	79.38
PO6	78	76	40	0	194	79.90
PO7	78	69	47	0	194	78.99
PO8	74	72	48	0	194	78.35
PO9	75	80	35	4	194	79.12
PO10	78	85	31	0	194	81.06
PO11	72	87	32	3	194	79.38
PO12	76	73	45	0	194	78.99
PSO1	69	86	36	3	194	78.48
PSO2	75	81	38	0	194	79.77
PSO3	73	77	43	1	194	78.61

Summary of Direct and Indirect Attainments of 2018 Batch


Assessment Tool	Program Outcomes (%)												Program Specific Outcomes (%)		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Direct Attainment (%)	66.29	65.76	64.18	70.71	69.24	77.00	77.29	69.73	77.30	77.45	77.96	68.89	65.42	66.66	69.56
Student Portfolio (%)	60.65	60.65	60.65	60.32	60.32	62.30	40.88	35.90	41.68	59.83	62.30	60.65	60.65	60.65	60.65
Program Exit Survey (%)	82.22	80.80	79.38	78.48	79.38	79.90	78.99	78.35	79.12	81.06	79.38	78.99	78.48	79.77	78.61

The Final Attainment of 2018 Batch

Assessment Tool	Program Outcomes (%)												Program Specific Outcomes (%)		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Target (%)	70	70	69	70	67	69	70	77	72	74	69	71	73	68	72
70% of Direct Attainment	46.40	46.03	44.93	49.50	48.47	53.90	54.10	48.81	54.11	54.22	54.57	48.22	45.79	46.66	48.69
20% of Student Portfolio	12.13	12.13	12.13	12.06	12.06	12.46	8.18	7.18	8.34	11.97	12.46	12.13	12.13	12.13	12.13
10% of Program Exit Survey	8.22	8.08	7.94	7.85	7.94	7.99	7.90	7.84	7.91	8.11	7.94	7.90	7.85	7.98	7.86
Final Attainment (%)	66.75	66.24	64.99	69.41	68.47	74.35	70.18	63.83	70.36	74.29	74.97	68.25	65.77	66.77	68.68




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Dt:16.07.2022

Department of Electronics & Communication Engineering

POs& PSOs Attainment Levels for 2018Admitted Batchand Actions Taken for improvement

PO	Target	Attained	Observation
PO1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems	70	66.75	TARGET NOT REACHED Out of 75 courses, 70 courses are contributing to this PO. Out of these 70 courses, 20 courses are contributing less.
<p>Action 1: Refining the course content with quality objectives forenabling the student towards applying the gained knowledge.</p> <p>Action 2: Can be improved by making use of appropriatedelivery method.</p> <p>Action 3: Assignments at higher Blooms level are to be given so that student can easily attempt lower-level concepts effectively.</p>			
PO	Target	Attained	Observation
PO2: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences	70	66.24	TARGET NOT REACHED 72 out of 75 courses are contributing to this PO. Lesser values of attainments are observed for 21 courses.
<p>Action1: Incorporating problems/programs in the assignments with application and analysis level questions.</p> <p>Action 2:Problems involving analytical concepts are to be practiced for relevant courses through the tutorial/classroom discussion.</p> <p>Action 3:Refining the course content or addition of courses that can strengthen the problem analysis.</p>			
PO	Target	Attained	Observation
PO3: 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.	69	64.99	TARGET NOT REACHED The number of course mapped to this PO is 60. 19 courses are contributing less.

<p>Action 1: Project expos are to be organized to enable the student to gain design level knowledge.</p> <p>Action 2: More practice is to be done on design-oriented problems in the class room/ tutorial sessions.</p> <p>Action 3: Introducing the courses that contribute for further strengthening of design level concepts.</p>			
PO	Target	Attained	Observation
PO4: 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.	70	69.41	TARGET NOT REACHED 51 out of 75 courses that are correlated to this PO. 13 courses are contributing less.
<p>Action 1: Encouraging the students to do the main/Mini projects addressing the real-time problems.</p> <p>Action 2: The students are to be encouraged to refer journal /conference papers to improve innovative skills for increasing the quality of project work/seminars.</p> <p>Action 3: Students are to be encouraged for participating in project expos/design contests.</p>			
PO	Target	Attained	Observation
PO5: 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.	67	68.47	TARGET REACHED 30 courses that are contributing to this PO5, 6 courses are contributing less.
<p>Action 1: Incorporating the courses that enable simultaneous practicing of theoretical concepts using advanced tools.</p> <p>Action 2: Strengthened by conducting Simulation based workshops on software tools like HFSS, Labview, Cadence etc</p>			
PO	Target	Attained	Observation
PO6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice	69	74.35	TARGET REACHED 20 courses that are contributing to this PO, 3 courses are contributing less.
<p>Action 1: Students are encouraged to do their mini and major projects to solve societal problems.</p> <p>Action 2: Educating the students on various platforms like guest lecturers/ induction program/Association hours about the skills to be acquired for better employability.</p>			
PO	Target	Attained	Observation
PO7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development	70	70.18	TARGET REACHED 8 courses that are contributing to this PO, all courses contributed moderately. Contribution through extra-curricular and extension activity is lagging
<p>Action 1: More number of students could be encouraged to participate in activities that contribute to the society like NCC/ NSS.</p> <p>Action 2: Student participation in events addressing environmental issues is to be enhanced through various clubs in the institution.</p>			
PO	Target	Attained	Observation

<p>PO8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice</p>	<p>77</p>	<p>TARGET NOT REACHED 28 courses that are contributing to this PO, 3 courses are contributing less. Contribution through extra-curricular and extension activity is lagging</p>
<p>Action1: Students are to be encouraged in laboratory, seminar, mini project, main project, internship courses to get aware of ethical principles and practices. Action 2: Students are to be encouraged to participate in extra-curricular and extension activities from first year onwards.</p>		
<p style="text-align: center;">PO</p>		
<p>PO9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings</p>	<p>72</p>	<p>TARGET NOT REACHED 34 courses that are contributing to this PO, 5 courses are contributing less. Contribution through extra-curricular and extension activity is lagging</p>
<p>Action1: Student should be more encouraged towards participation in extracurricular, and extension activities. Action2: Students are being encouraged to organize and participate in technical events to improve their leadership skills and personality development.</p>		
<p style="text-align: center;">PO</p>		
<p>PO10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions</p>	<p>74</p>	<p>TARGET REACHED 31 courses that are contributing to this PO, Contribution by 4 courses is less.</p>
<p>Action 1: Students are to be educated about the need for enhancing communication skills during instruction period of the ILP courses. Action2: Students are to be encouraged to participate in conferences/seminars as well as take lead in organizing association hours to enhance their communication skills.</p>		
<p style="text-align: center;">PO</p>		
<p>PO11: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.</p>	<p>69</p>	<p>TARGET REACHED 5 courses that are contributing to this PO, all courses contributed moderately.</p>
<p>Action1: This can be further improved by involving the students in societal and multidisciplinary projects.</p>		
<p style="text-align: center;">PO</p>		
<p>PO12: Recognize the need for, and have the preparation and ability to engage independent and life-long learning in the broadest context of</p>	<p>71</p>	<p>TARGET NOT REACHED 72 out of 75 courses that are mapped</p>

technological change.			to this PO. Contribution by 19 courses is less.
<p>Action 1: Self-learning through SWAYAM & NPTEL certification courses is to be encouraged. Action 2: Motivating students towards self-learning through referring e-journals/magazines.</p>			
PSO		Target	Attained
PSO1: Design and develop modern communication technologies for building the interdisciplinary skills to meet current and future needs of industry.	73	65.77	TARGET NOT REACHED Out of 75 courses, 26 courses are mapped to this PSO. Contribution by 10 courses is less.
<p>Action 1: It can be enhanced by organizing guest lectures/technical quiz/workshop/seminar in the relevant domain, thereby educating the student about the developments in the communication technology. Action 2: The attainment can be enhanced by practicing problems, as well as giving assignments at higher cognitive level. Action 3: Refining the course content or addition of courses that can strengthen the design and development of communication related problems</p>			
PSO		Target	Attained
PSO2: Design and Analyze Analog and Digital Electronic Circuits or systems and Implement real time applications in the field of VLSI and Embedded Systems using relevant tools	68	66.77	TARGET NOT REACHED 28 courses are mapped to this PSO among 75 courses, Contribution by 8 courses is less.
<p>Action 1: Refining the course content for both theory and laboratory courses to enhance the design skills. Action 2: Practicing analytical and design-based problems, as well as giving assignments at higher cognitive level.</p>			
PSO		Target	Attained
PSO3: Apply the Signal processing techniques to synthesize and realize the issues related to real time applications.	72	68.68	TARGET NOT REACHED 10 courses are mapped to this PSO among 75 courses, Contribution by 4 courses is less.
<p>Action 1: It can be improved by giving derivative-based assignment questions with higher blooms level. Action 2: Refining the course content to enable the students to apply signal processing concepts for better analysis of systems.</p>			



Head of the Department