



**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
(AUTONOMOUS)**

Approved by AICTE, New Delhi & Permanently Affiliated to JNTUK, Kakinada
Accredited by NAAC with "A" Grade and NBA (ECE, EEE, CSE, IT, MECH, CE & ASE) Under Tier-I
L B Reddy Nagar, Mylavaram-521 230, NTR District, Andhra Pradesh.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ATTAINMENT OF POs, PSOs & ATR

(Graduated Batch: 2023)

Department : Electronics and Communication Engineering

S. No.	POs / PSOs	Target (%)	Attainment (%)	Attained / Not Attained
1	PO1	70	63.87	Not Attained
2	PO2	69	63.50	Not Attained
3	PO3	68	62.35	Not Attained
4	PO4	69	66.18	Not Attained
5	PO5	66	67.46	Attained
6	PO6	68	72.61	Attained
7	PO7	69	69.07	Attained
8	PO8	74	66.20	Not Attained
9	PO9	71	68.45	Not Attained
10	PO10	75	69.50	Not Attained
11	PO11	67	78.01	Attained
12	PO12	70	65.38	Not Attained
13	PSO1	70	62.64	Not Attained
14	PSO2	68	64.15	Not Attained
15	PSO3	69	65.63	Not Attained

Date: 01.08.2023

HOD, ECE
HEAD

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



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Attainment of Program Outcomes and Program Specific Outcomes (2019-23 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) Student portfolio.
- (ii) Program Exit survey.

The overall PO & PSO attainments are computed as follows:

- ✓ 70% for direct assessment tools
- ✓ 30% for indirect assessment tools
 - 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 for continuous improvement of attainment levels.
- 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.
- Action Taken Report(ATR) is to be prepared to attain expected levels of POs and PSOs

The following table1 depicts the POs & PSOs Direct Attainment

1. Direct Attainment – 2019 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
PC - I	CO1	77.70	-	-	-	2	-	-	-	-	3	3	-	2	-	-	-
	CO2	70.60	-	1	-	2	-	1	-	-	3	3	-	2	-	-	-
	CO3	67.30	-	-	-	2	-	-	-	-	3	3	-	2	-	-	-
	CO4	85.30	-	1	-	2	-	1	-	-	3	3	-	2	-	-	-
	CO5	82.30	-	-	-	2	-	-	-	-	3	3	-	2	-	-	-
DELA	CO1	76.00	3	2	-	1	-	-	-	-	-	-	-	1	-	-	-
	CO2	78.00	3	2	-	1	-	-	-	-	-	-	-	1	-	-	-
	CO3	72.00	3	2	-	1	-	-	-	-	-	-	-	1	-	-	-
	CO4	81.00	3	2	-	-	-	-	-	-	-	-	-	1	-	-	-
	CO5	67.00	3	2	-	-	-	-	-	-	-	-	-	1	-	-	-
EC	CO1	77.00	3	3	3	-	-	-	2	-	-	-	-	2	-	-	-
	CO2	75.00	3	2	3	-	-	2	1	-	-	-	-	2	-	-	-
	CO3	71.00	2	2	-	-	-	2	1	-	-	-	-	2	-	-	-
	CO4	62.00	3	3	-	-	-	-	1	-	-	-	-	2	-	-	-
	CO5	57.00	2	3	-	-	-	-	-	-	-	-	-	1	-	-	-
ECN	CO1	55.90	1	1	-	-	-	-	-	-	-	-	-	1	-	1	-
	CO2	44.90	2	3	1	-	-	-	-	-	-	-	-	1	-	3	-
	CO3	45.10	2	3	2	-	-	-	-	-	-	-	-	2	-	2	-
	CO4	71.30	2	3	2	1	-	-	-	-	-	-	-	2	-	3	-
EDC	CO1	68.10	1	-	-	-	-	-	-	-	-	-	-	1	-	1	-
	CO2	65.80	1	1	-	-	-	-	-	-	-	-	-	1	-	1	-
	CO3	51.80	2	3	-	-	-	-	-	-	-	-	-	2	-	2	-
	CO4	42.60	2	3	3	-	-	-	-	-	-	-	-	2	-	3	-
EC Lab	CO1	75.00	3	3	3	2	*	3	1	-	-	-	-	1	-	-	-
	CO2	75.00	2	2	1	-	-	1	1	-	-	-	-	1	-	-	-
	CO3	88.00	-	-	-	-	-	-	-	2	2	2	-	1	-	-	-
ECN Lab	CO1	71.48	3	3	1	2	2	-	-	-	-	-	-	-	-	2	-
	CO2	72.60	2	3	2	2	3	-	-	-	-	-	-	-	-	2	-
	CO3	70.28	3	2	3	2	3	-	-	-	-	-	-	-	-	3	-
	CO4	76.90	-	-	-	-	-	-	-	1	2	3	-	1	-	-	-
CAED Lab	CO1	67.00	-	-	-	-	3	3	-	-	-	-	-	2	-	-	-
	CO2	69.00	3	-	-	-	3	2	-	-	-	-	-	2	-	-	-
	CO3	69.00	3	-	-	-	3	-	-	-	-	-	-	2	-	-	-
	CO4	90.00	3	-	-	-	3	-	-	-	-	-	-	2	-	-	-
EDC Lab	CO1	65.00	1	-	-	2	1	-	-	-	-	-	-	-	-	2	-
	CO2	68.00	1	2	-	2	2	-	-	-	-	-	-	-	-	2	-
	CO3	64.00	2	2	3	2	2	-	-	-	-	-	-	-	-	3	-
	CO4	89.00	-	-	-	-	-	-	-	1	2	3	-	1	-	-	-
PC - II	CO1	61.00	-	1	-	1	-	1	-	-	3	3	-	2	-	-	-
	CO2	83.00	-	1	-	1	-	1	-	-	3	3	-	2	-	-	-
	CO3	72.00	-	1	-	1	-	1	-	-	3	3	-	2	-	-	-
	CO4	69.00	-	1	-	1	-	1	-	-	3	3	-	2	-	-	-
	CO5	49.00	-	1	-	1	-	1	-	-	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
 TTVC	CO1	73.00	3	2	-	1	-	-	-	-	-	-	-	1	-	-	-
	CO2	66.00	3	2	-	1	-	-	-	-	-	-	-	1	-	-	-
	CO3	67.00	3	2	-	1	-	-	-	-	-	-	-	1	-	-	-
	CO4	70.00	3	2	-	1	-	-	-	-	-	-	-	1	-	-	-
	CO5	66.00	3	2	-	1	-	-	-	-	-	-	-	1	-	-	-
 AP	CO1	70.10	3	3	1	1	-	-	-	-	-	-	-	1	-	-	-
	CO2	71.30	3	3	2	1	-	-	-	-	-	-	-	1	-	-	-
	CO3	75.40	3	3	1	1	-	-	-	-	-	-	-	1	-	-	-
	CO4	73.00	3	3	1	1	-	-	-	-	-	-	-	1	-	-	-
	CO5	66.50	3	3	1	1	-	-	-	-	-	-	-	1	-	-	-
 AEC	CO1	71.40	1	1	-	-	-	-	-	-	-	-	-	1	-	1	-
	CO2	69.00	1	2	2	-	-	-	-	-	-	-	-	1	-	2	-
	CO3	62.90	3	2	2	-	-	-	-	-	-	-	-	2	-	2	-
	CO4	64.80	2	2	3	-	-	-	-	-	-	-	-	2	-	3	-
 DEC	CO1	69.00	2	1	-	-	-	-	-	-	-	-	-	1	-	1	-
	CO2	69.00	2	3	2	-	-	-	-	-	-	-	-	2	-	2	-
	CO3	60.00	2	3	2	-	-	-	-	-	-	-	-	2	-	3	-
	CO4	55.00	2	3	3	-	-	-	-	-	-	-	-	3	-	3	-
 ECS Lab	CO1	96.00	-	1	-	2	-	1	-	2	3	3	-	2	-	-	-
	CO2	96.00	-	1	-	2	-	2	-	1	3	3	-	2	-	-	-
	CO3	96.00	-	-	-	-	-	2	-	1	3	3	-	2	-	-	-
	CO4	96.00	-	-	-	-	-	2	-	1	3	3	-	2	-	-	-
 AP Lab	CO1	82.00	3	3	1	1	-	-	-	-	1	-	-	1	-	-	-
	CO2	76.00	3	3	2	1	-	-	-	-	1	-	-	1	-	-	-
	CO3	73.00	3	3	1	1	-	-	-	-	1	-	-	1	-	-	-
	CO4	70.00	3	3	1	1	-	-	-	-	1	-	-	1	-	-	-
 EWS	CO1	75.00	3	-	2	3	3	3	-	-	3	-	-	2	-	-	-
	CO2	71.00	3	-	2	3	3	3	-	-	3	-	-	2	-	-	-
	CO3	74.00	3	-	2	3	3	3	-	-	3	-	-	2	-	-	-
	CO4	70.00	3	-	2	3	3	3	-	-	3	-	-	2	-	-	-
 ADEC Lab	CO1	70.18	3	3	1	2	2	-	-	-	-	-	-	-	-	2	-
	CO2	73.06	2	3	2	2	3	-	-	-	-	-	-	-	-	3	-
	CO3	77.14	3	2	3	2	3	-	-	-	-	-	-	-	-	3	-
	CO4	92.40	-	-	-	-	-	-	-	-	1	2	3	-	1	-	-
 NMFA	CO1	81.70	3	2	-	2	-	-	-	-	-	-	-	1	-	-	-
	CO2	81.60	3	2	-	2	-	-	-	-	-	-	-	1	-	-	-
	CO3	74.90	3	2	-	2	-	-	-	-	-	-	-	1	-	-	-
	CO4	84.10	3	2	-	2	-	-	-	-	-	-	-	1	-	-	-
	CO5	76.70	3	2	-	-	-	-	-	-	-	-	-	1	-	-	-
 CP	CO1	68.70	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO2	68.40	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO3	73.00	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-
	CO4	74.50	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-
	CO5	65.50	2	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	84.90	3	3	1	1	1	-	-	-	-	-	-	1	2	-	3
	CO2	66.30	3	3	3	2	2	-	-	-	-	-	-	1	2	-	3
	CO3	61.10	3	3	3	2	2	-	-	-	-	-	-	1	2	-	3
	CO4	57.80	3	3	3	2	2	-	-	-	-	-	-	1	2	-	3
	CO5	53.30	3	3	3	2	2	-	-	-	-	-	-	1	2	-	3
RVSP	CO1	81.70	1	1	1	-	-	-	-	-	-	-	-	1	1	-	-
	CO2	78.50	2	3	1	-	-	-	-	-	-	-	-	2	2	-	-
	CO3	56.30	2	2	3	2	-	-	-	-	-	-	-	2	2	-	-
	CO4	59.40	3	3	2	3	-	-	-	-	-	-	-	2	2	-	-
PSC	CO1	72.50	1	2	3	-	-	-	-	-	-	-	-	1	1	3	-
	CO2	56.30	2	2	3	2	-	-	-	-	-	-	-	2	-	3	-
	CO3	74.70	2	2	3	2	-	-	-	-	-	-	-	2	-	3	-
	CO4	51.50	2	2	1	1	-	-	-	-	-	-	-	1	-	2	-
PEHV	CO1	72.90	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
	CO2	72.20	-		1	-	-	-	-	3	-	-	-	-	-	-	-
	CO3	76.10	-	1	2	-	-	-	-	3	2	-	-	-	-	-	-
	CO4	84.10	-	-	-	1	-	2	-	3	1	-	-	-	-	-	-
	CO5	75.50	-	-	-	-	-	1	2	3	-	-	-	1	-	-	-
AIC	CO1	77.50	1	2	-	-	-	-	-	-	-	-	-	1	-	1	-
	CO2	67.10	2	2	-	-	-	-	-	-	-	-	-	1	-	1	-
	CO3	54.60	2	2	3	2	-	-	-	-	-	-	-	2	-	2	-
	CO4	50.90	3	2	2	2	-	-	-	-	-	-	-	2	-	2	-
	CO5	47.20	2	2	3	2	-	-	-	-	-	-	-	2	-	3	-
CP Lab	CO1	69.64	2	3	-	-	-	-	-	-	-	2	-	2	1	-	-
	CO2	67.48	2	3	-	-	-	-	-	-	-	2	-	2	1	-	-
	CO3	63.54	2	3	-	-	-	-	-	-	-	2	-	2	1	-	-
	CO4	71.30	-	-	-	-	-	-	-	2	2	2	-	-	-	-	-
PSC Lab	CO1	74.72	2	3	1	2	2	-	-	-	-	-	-	-	-	2	-
	CO2	72.16	1	2	2	2	2	-	-	-	-	-	-	-	-	2	-
	CO3	72.96	2	2	3	2	3	-	-	-	-	-	-	-	-	3	-
	CO4	95.30	-	-	-	-	-	-	-	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	85.60	-	-	-	-	-	-	-	1	2	3	-	1	-	-	-
PAL	CO1	76.50	-	-	-	-	2	1	-	-	2	-	1	2	-	-	-
	CO2	72.50	2	2	2	2	-	-	-	-	2	-	-	2	-	-	-
	CO3	83.10	-	-	-	-	-	-	-	-	2	3	-	2	-	-	-
	CO4	89.63	-	-	-	-	-	-	-	2	2	3	-	2	-	-	-
	CO5	75.48	-	-	-	-	-	-	-	3	3	-	-	3	-	-	-
ES	CO1	70.70	3	3	-	-	-	3	3	3	-	-	-	3	-	-	-
	CO2	73.60	3	3	-	-	-	3	3	-	-	-	-	3	-	-	-
	CO3	63.60	3	-	3	-	-	-	2	-	-	-	-	2	-	-	-
	CO4	65.80	3	-	-	-	-	2	3	2	-	-	-	3	-	-	-
	CO5	67.00	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	65.00	3	2	1	-	-	-	-	-	-	-	-	1	-	-	-
	CO2	67.00	3	2	1	-	-	-	-	-	-	-	-	1	-	-	-
	CO3	65.00	3	2	1	-	-	-	-	-	-	-	-	1	-	-	-
	CO4	66.00	3	2	1	-	-	-	-	-	-	-	-	1	-	-	-
	CO5	65.00	3	2	1	-	-	-	-	-	-	-	-	1	-	-	-
EMFW	CO1	63.40	1	2	2	-	-	-	-	-	-	-	-	1	1	-	-
	CO2	45.90	3	3	2	2	-	-	-	-	-	-	-	2	2	-	-
	CO3	34.00	2	3	2	1	-	-	-	-	-	-	-	2	3	-	-
	CO4	53.80	2	3	2	2	-	-	-	-	-	-	-	3	3	-	-
DSP	CO1	57.30	3	1	1	-	-	-	-	-	-	-	-	1	1	-	1
	CO2	58.10	3	2	2	1	-	-	-	-	-	-	-	1	1	-	2
	CO3	49.80	3	3	3	2	1	-	-	-	-	-	-	2	2	-	3
	CO4	40.20	3	3	3	2	1	-	-	-	-	-	-	2	2	-	3
JSD	CO1	64.00	1	1	2	1	-	-	-	-	-	-	-	1	-	1	-
	CO2	53.10	3	2	2	2	-	-	-	-	-	-	-	2	-	3	-
	CO3	44.90	1	3	2	2	1	-	-	-	-	-	-	2	-	3	-
	CO4	71.30	1	2	3	2	2	-	-	-	-	-	-	2	-	3	-
AC	CO1	71.90	1	1	-	-	-	-	-	-	-	-	-	1	1	-	-
	CO2	65.00	2	2	1	-	-	-	-	-	-	-	-	2	3	-	-
	CO3	63.70	3	2	1	-	-	-	-	-	-	-	-	2	2	-	-
	CO4	66.10	2	3	-	-	-	-	-	-	-	-	-	2	2	-	-
DSP Lab	CO1	80.18	3	2	-	3	3	-	-	-	-	-	-	-	-	-	3
	CO2	71.82	3	3	-	3	3	-	-	-	-	-	-	-	-	-	3
	CO3	68.22	3	3	3	3	3	-	-	-	-	-	-	-	-	-	3
	CO4	90.90	-	-	-	-	-	-	-	1	2	3	-	1	-	-	-
DSD Lab	CO1	95.88	1	2	1	2	2	-	-	-	-	-	-	-	-	2	-
	CO2	73.18	2	2	3	2	3	-	-	-	-	-	-	-	-	3	-
	CO3	75.10	2	2	2	2	3	-	-	-	-	-	-	-	-	3	-
	CO4	85.00	-	-	-	-	-	-	-	1	2	3	-	1	-	-	-
AC Lab	CO1	73.44	1	3	1	2	1	-	-	-	-	-	-	-	2	-	-
	CO2	72.66	-	2	-	3	1	-	-	-	-	-	-	-	3	-	-
	CO3	69.16	3	2	-	3	3	-	-	-	-	-	-	-	2	-	-
	CO4	79.00	-	-	-	-	-	-	-	1	2	3	-	1	-	-	-
PBL	CO1	82.70	2	2	2	2	-	-	-	-	2	-	-	2	-	-	-
	CO2	83.50	1	-	-	-	2	2	-	-	2	-	2	2	-	-	-
	CO3	74.60	-	-	-	-	-	-	-	-	2	3	-	2	-	-	-
	CO4	76.80	-	-	-	-	-	-	-	2	2	3	-	2	-	-	-
	CO5	91.00	-	-	-	-	-	-	-	3	3	-	-	3	-	-	-
EEA	CO1	90.20	3	-	-	-	-	-	-	3	3	1	2	3	-	-	-
	CO2	86.50	-	3	-	-	-	-	-	-	2	-	2	-	-	-	-
	CO3	84.00	-	-	-	-	3	-	3	-	2	-	2	-	-	-	-
	CO4	84.00	-	-	-	-	3	-	-	-	2	-	2	-	-	-	-
	CO5	85.20	-	-	-	-	2	-	3	3	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
COA	CO1	85.20	1	-	-	-	-	-	-	-	-	-	-	1	-	2	-
	CO2	65.80	2	3	3	1	-	-	-	-	-	-	-	2	-	2	-
	CO3	74.90	3	2	2	2	-	-	-	-	-	-	-	2	-	3	-
	CO4	75.60	3	3	3	2	-	-	-	-	-	-	-	3	-	3	-
TLWG	CO1	74.00	1	1	-	-	-	-	-	-	-	-	-	1	1	-	-
	CO2	56.10	2	3	2	1	-	-	-	-	-	-	-	1	2	-	-
	CO3	52.70	2	2	2	2	-	-	-	-	-	-	-	1	2	-	-
	CO4	62.60	3	3	2	2	-	-	-	-	-	-	-	2	3	-	-
DC	CO1	64.70	1	1	1	-	-	-	-	-	-	-	-	1	1	-	-
	CO2	42.50	2	3	1	-	-	-	-	-	-	-	-	1	2	-	-
	CO3	61.60	3	3	2	2	-	-	-	-	-	-	-	1	2	-	-
	CO4	60.90	3	2	2	2	-	-	-	-	-	-	-	1	3	-	-
VLSID	CO1	56.30	1	2	1	-	-	-	-	-	-	-	-	1	-	1	-
	CO2	64.40	3	3	2	1	-	-	-	-	-	-	-	2	-	3	-
	CO3	42.50	2	3	2	2	-	-	-	-	-	-	-	2	-	2	-
	CO4	58.60	2	3	3	2	-	-	-	-	-	-	-	2	-	3	-
	CO5	63.40	2	3	3	2	-	-	-	-	-	-	-	2	-	3	-
MEMS	CO1	63.50	2	-	-	-	-	-	-	-	-	-	-	1	-	1	-
	CO2	67.00	3	2	-	-	-	-	-	-	-	-	-	2	-	2	-
	CO3	77.70	2	-	-	-	-	-	-	-	-	-	-	2	-	2	-
	CO4	66.30	2	3	2	-	-	-	-	-	-	-	-	2	-	2	-
	CO5	74.90	2	2	-	2	-	-	-	-	-	-	-	1	-	1	-
EMI	CO1	67.10	1	1	-	-	-	-	-	-	-	-	-	1	-	1	-
	CO2	61.00	3	3	-	-	-	-	-	-	-	-	-	1	-	1	-
	CO3	61.80	3	3	2	-	-	-	-	-	-	-	-	2	-	2	-
	CO4	65.00	3	3	3	-	-	-	-	-	-	-	-	2	-	2	-
DC Lab	CO1	68.90	2	2		1	1	-	-	-	-	-	-	-	2	-	-
	CO2	64.26	3	2	1	1	1	-	-	-	-	-	-	-	2	-	-
	CO3	68.70	2	3	1	2	1	-	-	-	-	-	-	-	3	-	-
	CO4	84.70	-	-	-	-	-	-	-	1	2	3	-	1	-	-	-
VLSID Lab	CO1	65.00	3	2	1	2	3	-	-	-	-	-	-	-	-	1	-
	CO2	61.00	1	3	2	2	3	-	-	-	-	-	-	-	-	3	-
	CO3	62.00	3	3	3	3	3	-	-	-	-	-	-	-	-	3	-
	CO4	66.00	-	-	-	-	-	-	-	1	2	3	-	1	-	-	-
Mini Project	CO1	77.20	2	3	-	-	-	3		-	-	-	-	3	3	3	3
	CO2	97.70	2	3	3	3	3	3	2	-	-	-	-	3	3	3	3
	CO3	64.30	2	3	3	2	2	3	2	-	-	-	3	3	3	3	3
	CO4	76.80	-	-	-	-	-	-	-	-	-	3	-	3	-	-	-
	CO5	49.05	-	-	-	-	-	-	-	3	3	-	-	3	-	-	-
	CO6	72.39	-	-	-	-	-	-	-	-	-	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	56.88	1	1	-	-	-	-	-	2	2	3	-	3	-	-	-
	CO2	56.88	-	-	-	-	-	3	-	2	2	3	-	3	-	-	-
	CO3	56.88	-	-	-	-	-	-	-	2	2	3	-	3	-	-	-
	CO4	56.88	1	1	-	-	-	-	-	2	2	3	-	3	-	-	-
	CO5	56.88	-	-	-	-	-	-	-	2	2	3	-	3	-	-	-
LCS	CO1	68.80	1	1	-	-	-	-	-	-	-	-	-	1	-	-	1
	CO2	70.80	3	3	2	2	-	-	-	-	-	-	-	2	-	-	2
	CO3	48.10	2	3	1	1	-	-	-	-	-	-	-	2	-	2	3
	CO4	69.40	3	3	3	3	-	-	-	-	-	-	-	3	-	-	3
OOPJ	CO1	53.80	3	1	2	-	-	-	-	-	-	-	-	1	-	-	-
	CO2	47.50	3	3	2	-	1	-	-	-	-	-	-	1	-	-	-
	CO3	27.10	3	2	3	-	1	-	-	-	-	-	-	1	-	-	-
	CO4	35.70	3	2	3	-	1	-	-	-	-	-	-	1	-	-	-
	CO5	38.90	3	2	2	-	1	-	-	-	-	-	-	1	-	-	-
AWP	CO1	60.50	2	2	-	-	-	-	-	-	-	-	-	1	1	-	-
	CO2	58.60	2	3	1	1	-	-	-	-	-	-	-	1	2	-	-
	CO3	60.60	1	2	3	2	-	-	-	-	-	-	-	2	3	-	-
	CO4	56.50	1	2	3	2	-	-	-	-	-	-	-	1	2	-	-
MPMC	CO1	72.60	1	-	-	-	-	-	-	-	-	-	-	1	-	1	-
	CO2	54.80	3	3	1	-	-	-	-	-	-	-	-	2	-	2	-
	CO3	47.90	2	3	2	-	-	-	-	-	-	-	-	3	-	3	-
	CO4	50.70	3	3	3	-	-	-	-	-	-	-	-	3	-	3	-
CMC	CO1	57.60	1	2	1	-	-	-	-	-	-	-	-	1	2	-	-
	CO2	53.60	3	2	2	-	-	-	-	-	-	-	-	1	2	-	-
	CO3	48.40	2	2	3	-	-	-	-	-	-	-	-	2	3	-	-
	CO4	38.70	1	3	1	-	-	1	-	-	-	-	-	1	3	-	-
TSSN	CO1	67.50	1	-	-	-	-	-	-	-	-	-	-	1	1	-	-
	CO2	61.50	2	3	-	-	-	-	-	-	-	-	-	2	2	-	-
	CO3	63.40	3	2	-	-	-	-	-	-	-	-	-	2	2	-	-
	CO4	57.20	2	3	-	-	-	-	-	-	-	-	-	2	2	-	-
IEM	CO1	84.30	2	-	-	-	-	-	-	2	1	-	-	2	-	-	-
	CO2	71.10	-	-	-	-	2	-	-	-	-	-	-	2	-	-	-
	CO3	81.70	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
	CO4	80.90	-	-	-	-	-	-	-	3	2	-	-	2	-	-	-
	CO5	68.60	-	-	-	2	-	-	-	-	-	1	-	2	-	-	-
PS Lab	CO1	90.54	-	1	-	3	-	2	-	-	3	3	-	2	-	-	-
	CO2	88.24	-	1	-	3	-	2	-	-	3	3	-	2	-	-	-
	CO3	96.11	-	1	-	3	-	2	-	-	3	3	-	2	-	-	-
	CO4	93.54	-	1	-	3	-	2	-	-	3	3	-	2	-	-	-
OOPJ Lab	CO1	96.12	2	3	3	1	1	-	-	-	-	-	-	1	-	-	-
	CO2	73.18	2	3	3	1	1	-	-	-	-	-	-	1	-	-	-
	CO3	75.10	2	3	3	1	1	-	-	-	-	-	-	1	-	-	-
	CO4	85.00	-	-	-	-	-	-	-	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
MPMC Lab	CO1	71.20	1	2	3	2	2	-	-	-	-	-	-	-	-	1	-
	CO2	68.60	3	3	2	2	2	-	-	-	-	-	-	-	-	2	-
	CO3	64.60	2	3	3	3	3	-	-	-	-	-	-	-	-	3	-
	CO4	97.70	-	-	-	-	-	-	-	1	2	3	-	1	-	-	-
Seminar	CO1	91.00	3	2	1	-	2	2	-	-	2	-	-	3	3	3	3
	CO2	65.00	1	2	2	2	3	2	-	-	2	-	-	3	3	3	3
	CO3	74.70	-	-	-	-	-	-	-	-	-	3	-	3	-	-	-
	CO4	87.68	-	-	-	-	-	-	-	-	-	3	-	3	-	-	-
EES -II	CO1	40.76	1	1	-	-	-	-	-	2	2	3	-	1	-	-	-
	CO2	40.76	-	-	-	-	-	3	-	2	2	3	-	2	-	-	-
	CO3	40.76	-	-	-	-	-	-	-	2	2	3	-	1	-	-	-
	CO4	40.76	1	1	-	-	-	-	-	2	2	3	-	1	-	-	-
	CO5	40.76	-	-	-	-	-	-	-	2	2	3	-	3	-	-	-
MWE	CO1	65.63	2	2	1	-	-	-	-	-	-	-	-	1	2	-	-
	CO2	41.77	2	3	-	-	-	-	-	-	-	-	-	1	3	-	-
	CO3	62.20	3	3	1	-	-	-	-	-	-	-	-	2	3	-	-
	CO4	64.33	2	3	1	-	-	-	-	-	-	-	-	2	3	-	-
OC	CO1	75.10	2	1		-	-	-	-	-	-	-	-	1	1	-	-
	CO2	51.90	3	3	1	-	-	-	-	-	-	-	-	2	3	-	-
	CO3	63.50	2	3	1	-	-	-	-	-	-	-	-	2	2	-	-
	CO4	66.90	2	2	1	-	-	-	-	-	-	-	-	2	3	-	-
ESD	CO1	82.90	1	2	-	-	-	-	-	-	-	-	-	1	-	1	-
	CO2	73.40	3	2	1	-	-	-	-	-	-	-	-	2	-	2	-
	CO3	62.90	2	3	2	-	-	-	-	-	-	-	-	2	-	3	-
	CO4	61.80	3	3	3	-	-	-	-	-	-	-	-	3	-	3	-
SC	CO1	67.40	1	1	1	-	-	-	-	-	-	-	-	1	1	-	-
	CO2	60.10	3	3	1	-	-	-	-	-	-	-	-	1	2	-	-
	CO3	65.70	2	2	3	-	-	-	-	-	-	-	-	2	3	-	-
	CO4	46.60	1	3	1	-	-	-	-	-	-	-	-	1	2	-	-
DIP	CO1	74.20	1	1	-	-	-	-	-	-	-	-	-	1	-	-	3
	CO2	54.80	2	3	2	1	-	-	-	-	-	-	-	1	-	-	3
	CO3	47.30	3	3	2	2	-	-	-	-	-	-	-	1	2	-	3
	CO4	47.20	3	3	3	2	-	1	-	-	-	-	-	1	-	-	3
ME	CO1	55.40	1	1	-	-	-	1	-	-	-	-	-	-	1	-	-
	CO2	54.50	3	2	2	-	1	2	-	-	-	-	-	-	2	-	-
	CO3	52.30	2	3	-	2	1	2	-	-	-	-	-	-	2	-	2
	CO4	52.20	3	3	-	2	1		-	-	-	-	-	-	3	-	2
MC	CO1	69.60	1	2	-	-	-	-	-	-	-	-	-	1	2	-	-
	CO2	75.50	2	2	3	-	-	-	-	-	-	-	-	3	3	-	-
	CO3	65.50	2	3	2	-	-	-	-	-	-	-	-	2	3	-	-
	CO4	65.80	2	2	3	-	-	-	-	-	-	-	-	2	3	-	-
AMC	CO1	52.00	1	-	-	-	-	-	-	-	-	-	-	1	-	1	-
	CO2	48.30	3	3	1	-	-	-	-	-	-	-	-	2	-	2	-
	CO3	61.30	2	3	3	-	-	-	-	-	-	-	-	3	-	3	-
	CO4	44.10	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
CN	CO1	67.40	1	2	-	-	-	-	-	-	-	-	-	1	1	-	-
	CO2	60.10	2	3	1	1	1	-	-	-	-	-	-	1	3	-	-
	CO3	65.70	3	3	2	1	1	-	-	-	-	-	-	1	3	-	-
	CO4	46.60	2	3	2	1	1	-	-	-	-	-	-	1	3	-	-
IDB	CO1	75.90	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-
	CO2	83.00	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO3	53.80	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO4	68.30	2	1	2	-	-	-	-	-	-	-	-	-	-	-	-
	CO5	44.90	2	1	2	-	-	-	-	-	-	-	-	-	-	-	-
MWOC Lab	CO1	86.34	1	-	-	1	1	-	-	-	-	-	-	-	1	-	-
	CO2	86.08	2	2		2	2	-	-	-	-	-	-	-	2	-	-
	CO3	83.98	2	2		3	2	-	-	-	-	-	-	-	3	-	-
	CO4	91.98	-	-	-	-	-	-	-	1	2	3	-	1	-	-	-
ESD Lab	CO1	67.00	2	2	3	2	3	-	-	-	-	-	-	-	-	3	-
	CO2	68.00	2	2	3	2	3	-	-	-	-	-	-	-	-	3	-
	CO3	75.00	-	-	-	-	-	-	-	1	2	3	-	1	-	-	-
Internship	CO1	90.00	3	3	2	3	-	2	2	-	3	-	-	3	3	3	3
	CO2	72.20	3	3	3	3	3	2	-	-	3	-	-	3	3	3	3
	CO3	59.70	-	-	-	-	-	-	-	-	3	3	-	3	-	-	-
	CO4	88.25	-	-	-	-	1	-	-	3	3	3	-	3	-	-	-
Project Work	CO1	94.32	2	3	-	-	-	3	-	-	-	-	-	3	3	3	3
	CO2	100.00	2	3	3	3	3	3	2	-	-	-	-	3	3	3	3
	CO3	100.00	2	3	3	2	2	3	2	-	-	-	3	3	3	3	3
	CO4	81.37	-	-	-	-	-	-	-	-	-	3	-	3	-	-	-
	CO5	100.00	-	-	-	-	-	-	-	3	3	-	-	3	-	-	-
	CO6	80.38	-	-	-	-	-	-	-	-	-	3	-	3	-	-	-
CVV	CO1	63.40	3	3	3	-	-	-	-	-	-	-	-	2	3	3	3
	CO2	62.26	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
Direct Attainment (%)			65.81	65.43	64.05	70.00	71.78	76.09	77.77	74.47	77.15	75.42	84.01	68.38	64.58	66.64	68.81

Indirect Attainment (2019 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	207	212	97.65	20	19.6
Certification Programs	Participated	131	212	61.8	5	3.1
	Certified	131	212	61.8	15	9.3
NPTEL	Successfully Completed	2	212	0.95	5	0.1
	Elite / Silver / Gold	103	212	48.59	10	4.9
Technical Fest (Paper Presentation, Poster Presentation, Quiz, Project Expo, etc.)	Participated	212	212	100	10	10
	Awards	36	212	16.99	20	3.4
Journal / Conference Publications	Involved	25	212	11.8	10	1.2
Industrial Visit / Internships (Online)	Participated	212	212	100	5	5
Attainment (%)						56.60

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	212	0	5	0
		International/ National Level	0	212	0	10	0
		University & Institute Level	212	212	100	10	10
	Awards	State Level	0	212	0	15	0
		International/ National Level	0	212	0	20	0
		University & Institute Level	29	212	13.68	10	1.4
Yoga	Participate		147	212	69.34	5	3.5
	Awards		0	212	0	10	0
Cultural Activities	Participated		60	212	28.31	5	1.5
	Awards		10	212	4.72	10	0.5
Attainment (%)							16.90

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	5	212	2.36	20	0.5
		Institute Level /Local Community	51	212	24.06	50	12.1
NCC Only Girls	Participated		16	85	18.83	10	1.9
	Awards ('B' & 'C' certificates)		16	85	18.83	20	3.8
Attainment (%)							18.30

1.4. Placements & Higher Studies Details:

Component	No. of students		Total No. of Final Year Students	% of Participation	Weightage (%)	Attainment (%)
Placement	Placed	100	212	47.17	80	37.8
Higher Studies	Qualified in Competitive Examinations	14	212	6.61	20	1.4
Attainment (%)						39.20

Student Portfolio Attainment Details (2019 Batch):

Component	% Attainment	Program Outcomes (%)												Program Specific Outcomes (%)		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
COCURRICULAR ACTIVITIES	56.60	3	3	3	2	2	2	2	3	3	1	1	3	3	3	3
EXTRA CURRICULAR ACTIVITIES	16.90	-	-	-	-	-	-	-	3	3	-	-	-	-	-	-
NSS and NCC	18.30	-	-	-	-	-	-	3	3	3	-	-	-	-	-	-
PLACEMENT & HIGHER STUDIES	39.20	3	3	3	3	3	-	-	-	3	3	-	3	3	3	3
% Pos and PSOs Attainment		47.90	47.90	47.90	46.16	46.16	56.60	33.62	30.60	32.75	43.55	56.60	47.90	47.90	47.90	47.90

2. Exit Survey (2019 Batch):

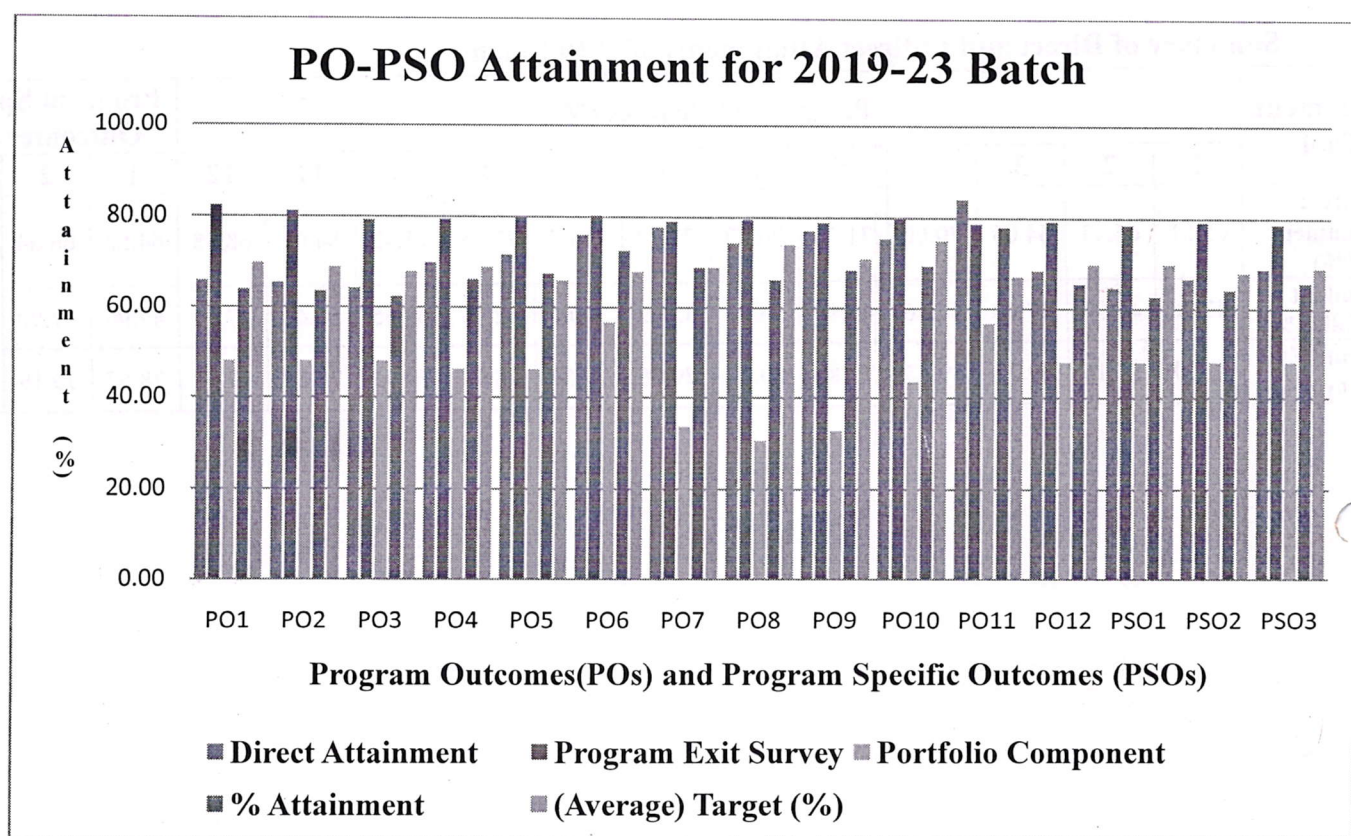
POs/PSOs	Excellent (4)	Very Good (3)	Good (2)	Poor (1)	Total No of Students Participated	Attainment Value (%)
PO1	88	86	29	0	203	82.27
PO2	84	85	34	0	203	81.16
PO3	85	73	40	5	203	79.31
PO4	80	81	40	2	203	79.43
PO5	81	80	42	0	203	79.80
PO6	83	80	40	0	203	80.30
PO7	82	72	49	0	203	79.06
PO8	85	70	48	0	203	79.56
PO9	77	85	37	4	203	78.94
PO10	79	87	35	2	203	79.93
PO11	75	89	34	5	203	78.82
PO12	82	74	47	0	203	79.31
PSO1	75	85	40	3	203	78.57
PSO2	77	85	39	2	203	79.19
PSO3	74	87	41	1	203	78.82

Summary of Direct and Indirect Attainments of 2019 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 (%)	65.81	65.43	64.05	70.00	71.78	76.09	77.77	74.47	77.15	75.42	84.01	68.38	64.58	66.64	68.81
Student Portfolio (%)	47.90	47.90	47.90	46.16	46.16	56.60	33.62	30.60	32.75	43.55	56.60	47.90	47.90	47.90	47.90
Program Exit Survey (%)	82.27	81.16	79.31	79.43	79.80	80.30	79.06	79.56	78.94	79.93	78.82	79.31	78.57	79.19	78.82

The Final Attainment of 2019 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	69	68	69	66	68	69	74	71	75	67	70	70	68	69
70% of Direct Attainment	46.07	45.80	44.84	49.00	50.25	53.26	54.44	52.13	54.01	52.79	58.81	47.87	45.21	46.65	48.17
20% of Student Portfolio	9.58	9.58	9.58	9.23	9.23	11.32	6.72	6.12	6.55	8.71	11.32	9.58	9.58	9.58	9.58
10% of Program Exit Survey	8.23	8.12	7.93	7.94	7.98	8.03	7.91	7.96	7.89	7.99	7.88	7.93	7.86	7.92	7.88
Final Attainment (%)	63.87	63.50	62.35	66.18	67.46	72.61	69.07	66.20	68.45	69.50	78.01	65.38	62.64	64.15	65.63



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LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING
(AUTONOMOUS)

Accredited by NAAC with "A" Grade and NBA(ASE, CE, CSE, ECE, EEE, IT & ME)

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

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
Attainment of POs, PSOs & ATR
(Graduated Batch: 2023)

Department: ELECTRONICS & COMMUNICATION ENGINEERING

S.No.	POs/PSOs	Target	Attainment	Attainment Status, Observations & Actions
1.	PO1	70	63.87	Attainment Status: Not Attained Observations: (i) Out of 77 courses, 72 courses are contributing to this PO. Out of these 72 courses, 20 courses are contributing less. (ii) Contribution through co-curricular and placement and higher studies activity is lagging Actions: (i) Assignments can be given based on the application level knowledge. (ii) Students need to be encouraged to do projects addressing real-time problems. (iii) Experiments in laboratories beyond the syllabus are to be reframed so that the ability to apply knowledge is further strengthened. (iv) Encouraging students regularly to participate in co-curricular activities.
2.	PO2	69	63.50	Attainment Status: Not Attained Observations: (i) 74 out of 77 courses are contributing to this PO. Lesser values of attainments are observed for 22 courses. (ii) Contribution through co-curricular and placement and higher studies activity is lagging Actions: (i) Incorporating problems in the assignments with application and analysis level questions. (ii) Problems involving analytical concepts are to be practiced for relevant courses through the tutorial/classroom discussion. (iii) Design level problems are to be practiced in programming laboratories (iv) Refining the course content or addition of courses that can strengthen the problem analysis.

3.	PO3	68	62.35	Attainment Status: Not Attained Observations: (i) The number of course mapped to this PO is 62. 18 courses are contributing less. (ii) Contribution through co-curricular and placement and higher studies activity is lagging Actions: (i) Develop new experiments that enhance students' abilities to design, conduct, and analyze experiments. (ii) Assignment questions can be framed at the design level for all core courses. (iii) Encourage students to explore diverse research methodologies and experimental techniques. (iv) Create opportunities for students to engage in collaborative projects gaining practical experience in experimental design and analysis.
4.	PO4	69	66.18	Attainment Status: Not Attained Observations: (i) 53 out of 77 courses that are correlated to this PO. 12 courses are contributing less. (ii) Contribution through co-curricular and placement and higher studies activity is lagging Actions: (i) Encouraging the students to carry out extensive literature survey to find solutions to complex problems. (ii) Motivate student for participation in design level contents, project expos. (iii) Educate the students about numerous research tools and software commonly used in their field for data analysis and experimentation
5.	PO5	66	67.46	Attainment Status: Attained Observations: (i) 31 courses that are contributing to this PO5, 5 courses are contributing less. (ii) Contribution through co-curricular and placement and higher studies activity is lagging Actions: (i) Motivate the students to carry out projects making use of advanced tools. (ii) Introduce the courses that can make the student acquaint knowledge about advanced tools for the possible extent.
6.	PO6	68	72.61	Attainment Status: Attained Observations: (i) 21 courses that are contributing to this PO, 5 courses are contributing less. (ii) Contribution through co-curricular activity is lagging Actions: (i) Students are to be motivated to visit nearby villages for identifying the solutions to the real time problems.

7.	PO7	69	69.07	Attainment Status: Attained Observations: (i) 8 courses that are contributing to this PO, all courses contributed moderately. (ii) Contribution through co-curricular and extension activity is lagging Actions: (i) Student participation in events addressing environmental issues is to be enhanced through various clubs in the institution. (ii) Encourage students to conduct research on low-power electronics and energy-efficient communication systems.
8.	PO8	74	66.20	Attainment Status: Not Attained Observations: (i) 28 courses that are contributing to this PO, 3 courses are contributing less. (ii) Contribution through co-curricular extra-curricular and extension activity is lagging Actions: (i) Students are to be encouraged on various platforms about the need to follow ethics in engineering. (ii) Knowledge about the tools available for carrying out plagiarism checks and their need in research is to be given to the students. (iii) Students are to be encouraged to participate in extra-curricular and extension activities from first year onwards.
9.	PO9	71	68.45	Attainment Status: Not Attained Observations: (i) 34 courses that are contributing to this PO, 3 courses are contributing less. (ii) Contribution from the indirect attainment (student portfolios) is lagging Actions: (i) Encouraged students to take the lead in carrying out projects and laboratory experiments. (ii) Student should be more encouraged towards participation in extracurricular, and extension activities.
10.	PO10	75	69.50	Attainment Status: Not Attained Observations: (i) 31 courses that are contributing to this PO, Contribution by 2 courses is less. (ii) Contribution through co-curricular and placement and higher studies activity is lagging Actions: (i) Students are to be encouraged to participate in conferences/seminars as well as take lead in organizing association hours to enhance their communication skills. (ii) Provided orientation on the use of multimedia and visualization tools to enhance the effectiveness of presentations.

11.	PO11	67	78.01	Attainment Status: Attained Observations: (i) 5 courses that are contributing to this PO, all courses contributed moderately. (ii) Contribution through co-curricular and placement and higher studies activity is lagging Actions: (i) Educate the students about various stages in project development and its importance.
12.	PO12	70	65.38	Attainment Status: Not Attained Observations: (i) 75 out of 77 courses that are mapped to this PO. Contribution by 18 courses is less. (ii) Contribution through co-curricular and placement and higher studies activity is lagging Actions: (i) Encourage the students for participation in technological competitions and hackathons to enhance the learning skills. (ii) Provide information about self-paced online courses and resources for students to explore new technologies. (iii) Educate the students about numerous facilities like innovation centre and labs where students can experiment using emerging technologies.
13.	PSO1	70	62.64	Attainment Status: Not Attained Observations: (i) Out of 75 courses, 28 courses are mapped to this PSO. Contribution by 12 courses is less. (ii) Contribution through co-curricular and placement and higher studies activity is lagging Actions: (i) Integrate modern communication technologies modules into the curriculum, focusing on emerging technologies. (ii) Upgrade communication laboratories with the latest equipment and tools (iii) Invite industry experts and researchers to deliver guest lectures on modern communication technologies.
14.	PSO2	68	64.15	Attainment Status: Not Attained Observations: (i) 29 courses are mapped to this PSO among 77 courses, Contribution by 8 courses is less. (ii) Contribution through co-curricular and placement and higher studies activity is lagging Actions: (i) Revise the curriculum to include modern VLSI design, and embedded systems concepts. (ii) Provide training on industry-standard simulation software for electronic circuit design and VLSI development.

15.	PSO3	69	65.63	Attainment Status: Not Attained Observations: (i) 11 courses are mapped to this PSO among 77 courses, Contribution by 3 courses is less. (ii) Contribution through co-curricular and placement and higher studies activity is lagging Actions: (i) Encourage students to carry out projects to solve real-time problems using signal processing. (ii) Include concepts in the assignment that enhance the programming skills of the students in signal processing domain.
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Date
09.05.2024

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