



**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: 2024)**

Department : Electronics and Communication Engineering

S. No.	POs / PSOs	Target (%)	Attainment (%)	Attained / Not Attained
1	PO1	70	69.62	Not Attained
2	PO2	69	69.16	Attained
3	PO3	69	68.18	Not Attained
4	PO4	71	70.10	Not Attained
5	PO5	68	71.76	Attained
6	PO6	77	70.60	Not Attained
7	PO7	71	65.89	Not Attained
8	PO8	69	72.34	Attained
9	PO9	70	72.99	Attained
10	PO10	74	74.29	Attained
11	PO11	70	77.69	Attained
12	PO12	70	68.94	Not Attained
13	PSO1	68	68.26	Attained
14	PSO2	69	72.02	Attained
15	PSO3	72	73.31	Attained

Date: 27.09.2024

G. Srinivas
27/9/24
HOD, ECE



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Attainment of Program Outcomes and Program Specific Outcomes

(2020-24 Graduated 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 table depicts the POs & PSOs Direct Attainment

1. Direct Attainment – 2020-24 Graduated Batch

Course with Code	COs	CO Target (%)	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 20FE01	CO1	60	73.10	-	-	-	2	-	-	-	-	3	3		2	-	-	-
	CO2	65	71.00	-	1	-	2	-	1	-	-	3	3		2	-	-	-
	CO3	60	64.30	-	-	-	2	-	-	-	-	3	3	-	2	-	-	-
	CO4	65	61.60	-	1	-	2	-	1	-	-	3	3	-	2	-	-	-
	CO5	60	74.70	-	-	-	2	-	-	-	-	3	3	-	2	-	-	-
DE 20FE03	CO1	55	68.00	-	-	-	2	-	-	-	-	3	3	-	2	-	-	-
	CO2	60	74.00	-	1	-	2	-	1	-	-	3	3	-	2	-	-	-
	CO3	55	70.00	-	-	-	2	-	-	-	-	3	3	-	2	-	-	-
	CO4	60	65.00	-	1	-	2	-	1	-	-	3	3	-	2	-	-	-
	CO5	55	60.00	-	1	-	2	-	1	-	-	3	3	-	2	-	-	-
AP 20FE07	CO1	60	71.80	3	3	1	1	-	-	-	-	-	-	-	1	-	-	-
	CO2	55	55.10	3	3	2	1	-	-	-	-	-	-	-	1	-	-	-
	CO3	60	68.40	3	3	1	1	-	-	-	-	-	-	-	1	-	-	-
	CO4	65	67.90	3	3	1	1	-	-	-	-	-	-	-	1	-	-	-
	CO5	60	67.60	3	3	1	1	-	-	-	-	-	-	-	1	-	-	-
BEE 20EE01	CO1	75	70.30	2	1	-	-	-	-	-	-	-	1			-	-	2
	CO2	75	65.40	2	1	1	1	-	-	-	-	-	1			-	-	2
	CO3	75	67.10	3	3	1	1	-	-	-	-	-	1			-	-	2
	CO4	75	56.20	3	2	1	1	-	-	1	-	-	1			-	-	3
EDC 20EC01	CO1	75	78.00	2	3	1	-	-	3	1	-	-	-	1	2	-	1	-
	CO2	75	75.00	2	1	2	1	-	3	1	-	-	-	-	1	-	1	-
	CO3	70	67.00	3	1	1	-	-	-	1	-	-	-	-	-	-	2	-
	CO4	70	63.00	1	3	-	-	-	-	-	-	-	-	1	1	-	2	-
PCS Lab 20FE51	CO1	65	73.00	-	-	-	-	3	-	-	-	-	3	3	-	-	1	-
	CO2	65	75.00	-	-	-	-	3	-	-	-	-	3	3	-	-	1	-
	CO3	65	74.00	-	-	-	-	3	-	-	-	-	3	3	-	-	2	-
	CO4	80	95.00	-	-	-	-	3	-	-	-	-	3	3	-	-	2	-
AP Lab 20FE54	CO1	70	76.00	3	3	1	1	-	1	-	-	1	-	-	1	-	-	-
	CO2	65	78.00	3	2	1	1	-	1	-	-	1	-	-	1	-	-	-
	CO3	75	82.00	3	2	1	1	-	-	-	-	1	-	-	1	-	-	-
	CO4	70	79.00	3	2	1	1	-	-	-	-	1	-	-	1	-	-	-
	CO5	80	80.32	3	2	1	1	-	-	-	2	2	2	-	1	-	-	-
BEE Lab 20EE51	CO1	75	92.89	3	2	1	1	-	-	-	-	-	2	-	-	-	-	2
	CO2	75	92.58	3	3	1	1	-	-	-	-	-	2	-	-	-	-	2
	CO3	75	91.21	3	2	1	1	-	-	-	-	-	2	-	-	-	-	3
	CO4	70	97.80	-	-	-	-	-	-	-	-	2	3	-	-	-	-	-
EDC Lab 20EC51	CO1	75	65.00	2	1	-	-	-	-	-	-	-	-	-	-	-	1	-
	CO2	70	65.00	3	1	-	-	-	-	-	-	-	-	1	1	-	2	-
	CO3	75	68.00	3	1	1	-	-	-	-	-	-	-	-	-	-	2	-
	CO4	75	70.00	-	-	-	-	-	-	-	-	3	2	-	-	-	-	-

Course with Code	COs	CO Target (%)	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-II 20FE02	CO1	60	61.00	-	-	-	2	-	-	-	-	3	3	-	2	-	-	-
	CO2	65	57.00	-	1	-	2	-	1	-	-	3	3	-	2	-	-	-
	CO3	60	65.00	-	-	-	2	-	-	-	-	3	3	-	2	-	-	-
	CO4	65	72.00	-	1	-	2	-	1	-	-	3	3	-	2	-	-	-
	CO5	60	68.00	-	1	-	2	-	1	-	-	3	3	-	2	-	-	-
LATT 20FE04	CO1	55	76.00	3	2	-	2	-	-	-	-	-	-	-	1	-	-	-
	CO2	55	75.00	3	2	-	2	-	-	-	-	-	-	-	1	-	-	-
	CO3	60	77.00	3	2	-	2	-	-	-	-	-	-	-	1	-	-	-
	CO4	55	70.00	2	1	-	1	-	-	-	-	-	-	-	1	-	-	-
	CO5	55	75.00	3	2	-	2	-	-	-	-	-	-	-	1	-	-	-
EC 20FE06	CO1	55	58.20	3	3	2	1	-	2	2	-	-	-	-	2	-	-	-
	CO2	55	56.50	3	2	2	1	-	2	1	-	-	-	-	2	-	-	-
	CO3	60	60.40	3	2	2	1	-	1	1	-	-	-	-	2	-	-	-
	CO4	60	63.50	3	2	2	1	-	1	1	-	-	-	-	2	-	-	-
	CO5	55	57.10	3	2	1	1	-	1	1	-	-	-	-	2	-	-	-
PPSC 20CS01	CO1	65	67.80	2	3	-	-	-	-	-	-	-	1	-	1	-	-	-
	CO2	60	63.90	2	3	2	1	-	-	-	-	-	1	-	1	-	-	-
	CO3	60	53.40	2	3	2	1	-	-	-	-	-	1	-	1	-	-	-
	CO4	60	51.80	2	3	2	-	-	-	-	-	-	1	-	1	-	-	-
	CO5	65	60.10	2	3	2	-	-	-	-	-	-	1	-	1	-	-	-
DLC 20EC02	CO1	75	62.20	2	3	1	-	-	-	-	-	-	-	-	1	-	1	-
	CO2	75	53.40	2	3	3	-	-	-	-	-	-	-	-	2	-	2	-
	CO3	75	57.60	2	3	3	-	-	-	-	-	-	-	-	2	-	3	-
	CO4	70	46.80	2	3	3	-	-	-	-	-	-	-	-	3	-	3	-
CI 20MC01	CO1	75	78.30	-	-	-	-	-	3	3	3	-	2	-	3	-	-	-
	CO2	75	75.20	-	-	-	-	-	3	2	3	-	2	-	3	-	-	-
	CO3	70	66.70	-	-	-	-	-	3	3	3	-	2	-	3	-	-	-
	CO4	65	62.10	-	-	-	-	-	3	2	3	-	2	-	3	-	-	-
EC Lab 20FE53	CO1	75	85.00	3	3	-	1	-	2	2	-	-	-	-	-	-	-	-
	CO2	70	83.00	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO3	70	80.00	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-
	CO4	80	91.00	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-
PPSC Lab 20CS51	CO1	65	62.00	2	3	1	-	-	-	-	-	1	1	-	2	-	-	-
	CO2	65	64.00	2	3	1	-	-	-	-	-	1	1	-	2	-	-	-
	CO3	65	63.00	2	3	1	-	-	-	-	-	1	1	-	2	-	-	-
	CO4	80	72.00	2	3	1	-	-	-	-	-	1	1	-	2	-	-	-
DLC Lab 20EC52	CO1	75	72.00	2	2	1	2	2	-	-	-	-	-	-	2	-	2	-
	CO2	75	70.00	2	3	2	3	3	-	-	-	-	-	-	2	-	2	-
	CO3	70	70.00	2	3	2	3	3	-	-	-	-	-	-	2	-	2	-
	CO4	75	72.00	-	-	-	-	-	-	-	2	2	3	-	1	-	-	-

Course with Code	COs	CO Target (%)	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
EWS 20ME51	CO1	60	75.00	1	2	1	2	-	2	-	-	3	1	-	3	-	-	-
	CO2	60	72.00	1	2	1	2	-	2	-	-	3	1	-	3	-	-	-
	CO3	65	73.00	1	2	1	1	-	2	-	-	3	1	-	3	-	-	-
	CO4	70	74.00	1	2	1	2	-	2	-	-	3	1	-	3	-	-	-
NMIC 20FE10	CO1	65	69.40	3	2	-	2	-	-	-	-	-	-	-	1	-	-	-
	CO2	60	70.80	3	2	-	2	-	-	-	-	-	-	-	1	-	-	-
	CO3	60	77.30	3	2	-	1	-	-	-	-	-	-	-	1	-	-	-
	CO4	60	60.10	3	1	-	-	-	-	-	-	-	-	-	1	-	-	-
	CO5	60	74.20	3	1	-	1	-	-	-	-	-	-	-	1	-	-	-
DS 20CS03	CO1	75	69.34	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO2	75	68.89	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO3	70	75.31	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO4	75	75.13	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO5	75	74.00	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-
ACD 20EC03	CO1	75	66.44	2	3	1	-	-	3	1	-	-	-	1	2	-	2	-
	CO2	75	68.11	3	1	-	-	-	-	-	-	-	-	-	1	-	2	-
	CO3	70	68.23	3	1	1	-	-	-	-	-	-	-	-	2	-	3	-
	CO4	75	73.06	3	-	-	-	-	-	-	-	-	-	1	1	-	2	-
SS 20EC04	CO1	75	69.22	2	1	1	-	-	-	-	-	-	-	-	-	-	-	1
	CO2	75	65.48	2	1	1	-	-	-	-	-	-	-	-	-	1	-	2
	CO3	75	64.35	3	1	1	1	-	-	-	-	-	-	-	1	-	-	2
	CO4	70	64.15	3	2	1	1	-	-	-	-	-	-	-	2	2	-	3
RVSP 20EC05	CO1	75	55.00	3	2	1	-	-	-	-	-	-	-	-	1	1	-	1
	CO2	75	44.00	3	2	1	1	-	-	-	-	-	-	-	2	2	-	2
	CO3	70	42.00	3	2	1	1	-	-	-	-	-	-	-	2	2	-	-
	CO4	75	57.00	3	3	1	1	-	-	-	-	-	-	-	2	3	-	2
DS Lab 20CS53	CO1	75	73.52	-	2	1	-	1	-	-	-	-	-	-	-	-	-	-
	CO2	75	75.39	-	2	1	-	1	-	-	-	-	-	-	-	-	-	-
	CO3	70	70.25	-	2	1	-	1	-	-	-	-	-	-	-	-	-	-
	CO4	75	100.00	-	-	-	-	-	-	2	2	2	-	-	-	-	-	-
ACD Lab 20EC53	CO1	75	67.40	2	1	-	-	-	-	-	-	-	-	-	-	-	1	-
	CO2	75	69.24	3	1	1	-	-	-	-	-	-	-	-	-	-	1	-
	CO3	70	69.43	1	1	1	2	-	-	-	-	-	-	-	1	-	2	-
	CO4	75	71.69	-	-	-	-	-	-	-	-	3	2	-	-	-	3	-
DSD Lab 20EC54	CO1	75	70.59	1	1	2	1	2	-	-	-	-	-	-	1	-	2	-
	CO2	70	75.99	3	2	3	2	3	-	-	-	-	-	-	2	-	3	-
	CO3	75	69.81	3	2	3	2	3	-	-	-	-	-	-	2	-	3	-
	CO4	75	91.84	3	2	2	1	-	-	-	-	-	-	-	2	-	2	-
SMA 20ECS1	CO1	75	78.10	1	1	-	1	2	-	-	-	-	-	-	2	-	-	-
	CO2	70	78.10	2	2	1	-	-	-	-	-	-	-	-	2	-	-	2
	CO3	75	74.70	-	-	-	-	-	-	-	-	1	3	-	-	-	-	-

Course with Code	COs	CO Target (%)	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
UHV 20HS01	CO1	60	51.40	-	-	-	-	-	3	2	2	-	-	-	1	-	-	-
	CO2	65	64.20	-	-	-	-	-	2	2	-	-	-	-	1	-	-	-
	CO3	65	66.10	-	-	-	-	-	3	2	-	-	-	-	1	-	-	-
	CO4	65	64.90	-	-	-	-	-	3	3	2	-	-	-	1	-	-	-
	CO5	60	55.60	-	-	-	-	-	2	2	3	-	-	-	2	-	-	-
CS 20EE09	CO1	75	76.60	1	1	1	-	-	-	-	-	-	-	-	1	-	-	-
	CO2	75	65.74	3	1	1	1	-	-	-	-	-	-	-	2	-	-	1
	CO3	75	63.27	3	2	1	1	-	-	-	-	-	-	-	2	-	-	1
	CO4	75	69.20	3	2	1	1	1	-	-	-	-	-	-	1	-	-	-
DSP 20EC06	CO1	75	70.58	2	2	1	-	-	-	-	-	-	-	-	2	-	-	1
	CO2	75	53.81	2	1	1	-	-	-	-	-	-	-	-	2	-	-	2
	CO3	75	60.44	3	3	1	1	-	-	-	-	-	-	-	2	-	-	2
	CO4	75	56.20	3	3	2	1	-	-	-	-	-	-	-	3	-	-	2
AC 20EC07	CO1	75	71.10	2	2	1	-	-	-	-	-	-	-	-	2	1	-	-
	CO2	75	67.00	2	2	1	-	-	-	-	-	-	-	-	2	2	-	-
	CO3	75	67.60	2	2	1	1	-	-	-	-	-	-	-	2	3	-	-
	CO4	70	64.60	2	3	1	1	-	-	-	-	-	-	-	3	3	-	-
EMTL 20EC08	CO1	75	49.90	3	2	1	1	-	-	-	-	-	-	-	1	3	-	-
	CO2	75	61.90	3	2	1	1	-	-	-	-	-	-	-	1	3	-	-
	CO3	75	63.90	2	3	2	1	1	-	-	-	-	-	-	2	3	-	-
	CO4	70	36.50	2	3	2	1	1	1	-	-	-	-	-	2	3	-	-
ES 20MC02	CO1	60	54.00	3	3	-	-	-	3	3	3	-	-	-	3	-	-	-
	CO2	60	54.00	3	3	-	-	-	3	3	-	-	-	-	3	-	-	-
	CO3	60	50.30	3	-	3	-	-	-	2	-	-	-	-	2	-	-	-
	CO4	60	66.40	3	-	-	-	-	2	3	2	-	-	-	3	-	-	-
	CO5	60	50.10	3	3	3	3	-	3	3	3	-	-	-	3	-	-	-
PP Lab 20AD54	CO1	75	74.34	3	2	-	-	2	-	-	-	-	-	-	-	-	-	-
	CO2	75	68.71	3	2	2	-	3	-	-	-	-	-	-	-	-	-	-
	CO3	75	71.40	3	2	2	-	3	-	-	-	-	-	-	-	-	-	-
	CO4	75	87.80	-	-	-	-	-	-	-	-	3	2	-	-	-	-	-
DSP Lab 20EC55	CO1	75	73.74	1	1	-	-	1	-	-	-	-	-	-	-	-	-	1
	CO2	70	71.15	2	3	-	-	1	-	-	-	-	-	-	2	-	-	2
	CO3	75	68.05	2	2	3	1	2	-	-	-	-	-	-	2	-	-	2
	CO4	75	87.20	-	-	-	2	-	-	-	1	2	3	-	1	-	-	-
AC Lab 20EC56	CO1	75	69.37	3	3	1	-	1	-	-	-	-	-	-	-	2	-	-
	CO2	75	70.01	2	3	1	-	1	-	-	-	-	-	-	2	2	-	-
	CO3	75	71.89	3	2	2	-	2	-	-	-	-	-	-	2	3	-	-
	CO4	75	88.20	-	-	-	-	-	-	-	1	2	3	-	1	-	-	-
MDP Lab 20ECS2	CO1	75	66.00	3	2	-	-	2	-	-	-	-	-	-	1	1	2	1
	CO2	75	78.00	3	2	2	-	2	-	-	-	2	-	-	1	1	2	1
	CO3	75	69.00	-	-	-	-	-	-	-	-	2	2	-	-	1	2	1

Course with Code	COs	CO Target (%)	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
DC 20EC09	CO1	75	63.62	2	1	1	-	-	-	-	-	-	-	-	2	1	-	-
	CO2	70	55.99	3	2	1	-	-	-	-	-	-	-	-	2	3	-	-
	CO3	75	50.75	3	3	2	2	-	-	-	-	-	-	-	2	3	-	-
	CO4	75	59.55	3	2	2	2	-	-	-	-	-	-	-	2	3	-	-
AWP 20EC10	CO1	75	62.40	3	2	1	1	-	-	-	-	-	-	-	1	3	-	-
	CO2	70	46.50	3	2	1	1	-	-	-	-	-	-	-	1	3	-	-
	CO3	75	53.40	2	3	2	1	-	-	-	-	-	-	-	2	3	-	-
	CO4	75	48.00	1	2	3	2	-	-	-	-	-	-	-	2	3	-	-
LIA 20EC11	CO1	75	68.90	3	2	1	1	-	-	-	2	-	-	-	1	-	1	-
	CO2	75	59.32	3	2	2	-	-	-	-	2	-	-	-	1	-	2	-
	CO3	70	65.47	3	3	1	-	-	-	-	2	-	-	-	1	-	2	-
	CO4	70	69.94	3	2	3	1	-	-	-	2	-	-	1	1	-	3	-
DCCN 20EC14	CO1	75	63.78	2	3	1	-	-	-	-	-	-	-	-	3	3	-	-
	CO2	75	36.27	2	1	1	-	-	-	-	-	-	-	-	2	3	-	-
	CO3	70	56.28	3	3	-	2	2	-	-	-	-	-	-	2	3	-	-
	CO4	75	62.77	2	2	-	-	-	-	-	-	-	-	-	3	3	-	-
OOPTJ 20IT81	CO1	65	71.88	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO2	60	56.92	3	2	-	-	1	-	-	-	-	-	-	3	-	-	-
	CO3	65	61.60	3	1	-	-	2	-	-	-	-	-	-	3	-	-	-
	CO4	60	57.50	3	1	-	-	2	-	3	-	-	-	-	3	-	-	-
	CO5	65	69.59	3	2	-	-	2	-	-	-	-	-	-	3	-	-	-
DC Lab 20EC57	CO1	75	75.56	3	2	-	2	-	-	-	-	-	-	-	2	3	-	-
	CO2	75	78.12	3	2	1	2	-	-	-	-	-	-	-	-	3	-	-
	CO3	75	72.24	3	2	-	2	3	-	-	-	-	-	-	-	3	-	-
	CO4	75	86.90	-	-	-	2	-	-	-	1	2	3	-	1	-	-	-
LIA Lab 20EC58	CO1	75	75.28	2	3	1	2	-	-	-	2	1	2	-	1	-	2	-
	CO2	75	73.69	2	3	1	1	-	-	-	2	1	2	-	1	-	2	-
	CO3	75	77.17	2	3	1	2	-	-	-	2	1	2	-	1	-	3	-
	CO4	75	87.49	-	-	-	2	-	-	-	1	2	3	-	1	-	-	-
DSA 20ECS3	CO1	75	82.00	3	2	1	2	-	-	-	-	-	-	-	-	1	-	-
	CO2	75	82.10	3	2	1	1	-	-	-	-	-	-	-	-	1	-	-
	CO3	70	82.00	3	1	2	2	-	-	-	-	-	-	-	-	3	-	-
	CO4	70	73.80	-	-	-	2	-	-	-	1	2	3	-	1	-	-	-
Summer Internship 20PI01	CO1	75	85.60	3	3	-	-	-	2	3	-	-	-	-	3	3	3	3
	CO2	75	85.60	3	3	3	3	3	3	3	3	3	-	3	3	3	3	3
	CO3	75	86.30	-	-	-	-	-	-	-	-	3	3	1	3	-	-	-
	CO4	75	78.27	-	-	-	-	-	-	-	3	1	3	1	3	-	-	2
MPMC 20EC15	CO1	75	67.65	3	2	1	1	-	-	-	-	-	-	-	1	-	3	-
	CO2	75	59.97	3	2	1	1	-	-	-	-	-	-	-	1	-	3	-
	CO3	70	41.26	2	3	2	1	-	-	-	-	-	-	-	2	-	3	-
	CO4	75	47.95	1	2	3	2	-	-	-	-	-	-	-	2	-	3	-

Course with Code	COs	CO Target (%)	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
VLSID 20EC16	CO1	75	71.00	2	1	1	-	-	-	-	-	-	-	-	3	-	-	-
	CO2	75	60.00	2	1	1	-	-	-	-	-	-	-	-	3	-	2	-
	CO3	70	43.00	2	3	2	-	-	-	-	-	-	-	-	3	-	3	-
	CO4	75	52.00	2	2	1	-	-	-	-	-	-	-	-	3	-	-	-
MWE 20EC17	CO1	75	75.80	3	2	2	1	-	-	-	-	-	-	-	2	3	-	-
	CO2	75	60.70	3	2	2	1	-	-	-	-	-	-	-	2	3	-	-
	CO3	75	62.00	3	2	1	1	1	-	-	-	-	-	-	1	3	-	-
	CO4	70	45.90	3	3	2	1	1	-	-	-	-	-	-	2	3	-	-
IP 20EC18	CO1	75	71.44	1	1	1	-	-	-	-	-	-	-	-	1	-	-	3
	CO2	75	58.78	2	3	2	1	-	-	-	-	-	-	-	1	-	-	3
	CO3	75	69.87	3	3	3	2	-	-	-	-	-	-	-	1	-	-	3
	CO4	75	73.15	3	3	2	2	-	-	-	-	-	-	-	1	2	-	3
SC 20EC19	CO1	75	77.80	1	-	-	-	-	3	3	-	-	-	-	1	1	-	-
	CO2	75	80.30	1	1	1	-	-	3	1	-	-	-	-	1	2	-	-
	CO3	75	66.10	1	-	1	2	-	-	-	-	-	-	-	-	2	-	-
	CO4	75	69.60	1	1	1	-	-	3	1	-	-	-	-	-	2	-	-
ORT 20ME81	CO1	65	65.50	1	-	-	-	-	-	-	-	2	-	-	-	1	-	-
	CO2	65	72.60	-	-	-	2	-	-	1	-	-	-	-	-	-	2	-
	CO3	70	76.30	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
	CO4	70	67.80	-	-	2	-	-	-	-	1	-	-	-	-	2	-	-
	CO5	75	84.00	-	-	-	-	1	-	-	-	-	-	1	-	-	1	-
MPMC Lab 20EC59	CO1	75	83.55	2	2	3	2	2	-	1	1	-	-	-	2	-	2	-
	CO2	75	85.19	3	3	3	2	2	-	1	1	-	-	-	3	-	3	-
	CO3	75	84.56	3	3	3	3	3	-	1	1	-	-	-	3	-	3	-
	CO4	75	93.40	-	-	-	2	-	-	-	1	2	3	-	1	-	-	-
VLSID Lab 20EC60	CO1	75	74.00	2	1	2	2	3	-	-	-	-	-	-	-	-	3	-
	CO2	75	73.00	2	1	2	2	3	-	-	-	-	-	-	-	-	3	-
	CO3	70	71.00	2	1	2	2	3	-	-	-	-	-	-	-	-	3	-
	CO4	75	75.00	-	-	-	2	-	-	-	1	2	3	-	1	-	-	-
MWE Lab 20EC61	CO1	75	70.87	1	-	-	1	1	-	-	-	-	-	-	-	1	-	-
	CO2	75	76.30	1	1	1	1	3	-	-	-	-	-	-	1	3	-	-
	CO3	75	70.87	2	2	-	3	2	-	-	-	-	-	-	-	3	-	-
	CO4	75	72.83	-	-	-	2	-	-	-	1	2	3	-	1	-	-	-
SSC Lab 20HSS1	CO1	65	86.00	-	-	-	-	2	-	-	3	3	3	-	2	-	-	-
	CO2	65	89.00	-	2	-	-	2	-	-	3	3	3	-	3	-	-	-
	CO3	65	84.00	-	-	-	-	2	-	-	3	3	3	-	3	-	-	-
	CO4	65	89.00	-	-	-	-	2	-	-	3	3	3	-	-	-	-	-
OC 20EC23	CO1	75	73.83	2	1	1	1	-	-	-	-	-	-	-	2	2	-	-
	CO2	75	71.47	3	2	2	2	-	-	-	-	-	-	-	2	3	-	-
	CO3	75	67.95	2	1	1	1	-	-	-	-	-	-	-	2	2	-	-
	CO4	75	68.85	3	3	2	2	-	-	-	-	-	-	-	1	3	-	-

Course with Code	COs	CO Target (%)	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
WSN 20EC26	CO1	75	64.56	3	2	1	-	-	-	-	-	-	-	-	3	3	-	-
	CO2	75	71.47	-	3	2	-	3	-	-	-	-	-	-	3	3	-	-
	CO3	75	67.40	-	3	3	3	3	-	-	-	-	-	-	3	3	-	-
	CO4	75	68.31	3	2	3	3	3	-	-	-	-	-	-	3	3	-	-
CMC 20EC29	CO1	75	64.10	2	1	-	-	-	2	2	-	-	-	-	1	2	-	-
	CO2	75	65.30	1	1	1	-	-	2	1	-	-	-	-	1	1	-	-
	CO3	75	58.90	3	1	1	-	-	2	1	-	-	-	-	1	1	-	-
	CO4	70	67.90	2	1	1	-	-	2	1	-	-	-	-	1	1	-	-
IAI 20AD81	CO1	60	61.30	2	3	2	-	3	-	-	-	-	-	-	2	-	-	-
	CO2	60	55.00	2	3	3	3	3	-	-	-	-	-	-	2	-	-	-
	CO3	60	71.80	2	3	3	-	3	-	-	-	-	-	-	2	-	-	-
	CO4	60	81.00	2	3	3	2	3	-	-	-	-	-	-	2	-	-	-
	CO5	60	53.10	2	3	3	2	3	-	-	-	-	-	-	2	-	-	-
CSDF 20IT84	CO1	65	62.10	1	1	-	-	1	1	-	1	-	-	-	1	1	-	-
	CO2	60	46.60	-	1	1	-	3	1	-	-	-	-	-	1	1	-	-
	CO3	65	50.60	1	-	-	-	3	1	-	-	-	-	-	1	1	-	-
	CO4	70	56.30	1	-	-	1	-	-	-	-	-	-	-	2	2	-	-
	CO5	70	43.60	-	-	1		3	1					1	2	1	-	-
MSE 20HS02	CO1	70	72.00	3	3	3	2	3	-	-	-	3	-	-	3	-	-	-
	CO2	70	74.50	3	3	1	2	1	-	-	-	3	-	-	3	-	-	-
	CO3	60	63.30	3	3	3	2	1	-	-	-	3	-	-	3	-	-	-
	CO4	70	71.00	3	2	3	2	3	-	-	-	1	-	-	3	-	-	-
	CO5	60	60.50	2	3	3	2	1	-	-	-	1	-	-	3	-	-	-
IoT Lab 20EC30	CO1	75	89.90	3	2	-	-	2	-	-	-	-	-	-	1	1	2	1
	CO2	75	90.60	3	2	2	-	2	-	-	-	2	-	-	1	1	2	1
	CO3	75	95.00	3	2	-	-	2	-	-	-	-	-	-	1	1	2	1
	CO4	75	93.80	-	-	-	-	-	-	-	1	2	3	-	1	-	-	-
Industrial/ Research Internship 20PI02	CO1	75	98.10	3	3	-	-	-	2	3	-	-	-	-	3	3	3	3
	CO2	75	98.60	3	3	3	3	3	3	3	3	3	-	3	3	3	3	3
	CO3	75	79.80	-	-	-	-	-	-	-	-	3	3	1	3	-	-	-
	CO4	75	82.15	-	-	-	-	-	-	-	3	1	3	1	3	-	-	2
Project Work 20PI03	CO1	75	79.46	3	3	-	-	-	2	3	-	-	-	-	3	3	3	3
	CO2	75	79.68	3	3	3	3	3	3	3	3	3	-	3	3	3	3	3
	CO3	75	76.44	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO4	75	81.96	-	-	-	-	-	-	-	-	3	3	1	3	-	-	-
	CO5	75	74.70	-	-	-	-	-	-	-	3	3	1	2	3	-	-	-
	CO6	75	75.13	-	-	-	-	-	-	-	3	1	3	1	3	-	-	2
Direct Attainment (%)				68.33	67.82	66.69	69.98	72.04	69.04	70.14	75.01	75.72	75.93	78.70	67.72	66.41	71.84	73.76

Indirect Attainment (2020-24 Graduated Batch):**1. Student Portfolios:****1.1. Co-curricular Details:**

Component	No. of students		Total No. of Final Year Students	% of Participation/ Awards	Weightage (%)	Attainment (%)
Certification Programs / Workshops (SDC, Value added Courses, Courseera.. etc)	Participated & Certified	207	207	100	35	35.00
NPTEL	Successfully Completed	32	207	14.98	10	1.50
	Elite / Silver / Gold	88	207	42.52	15	6.40
Technical Fest (Paper Presentation, Poster Presentation, Quiz, Project Expo, etc.)	Participated	207	207	100	15	15.00
Journal / Conference Publications	Involved	60	207	28.99	15	4.40
Industrial Visit / Internships (Online / Offline)	Participated	207	207	100	10	10.00
Attainment (%)						72.30

1.2. Extra-curricular Details:

Component	No. of students		Total No. of Final Year Students	% of Participation/ Awards	Weightage (%)	Attainment (%)
Sports & Games	Participated University & Institute Level / State Level International / National Level	207	207	100	50	50.00
Yoga	Participated	163	207	78.35	30	23.70
Cultural Activities	Participated	45	207	21.74	20	4.40
Attainment (%)						78.10

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 Institute Level /Local Community	56	207	27.06	70	19.00
NCC Only Girls	Participated & Certified ('B' & 'C' Certificates)	19	88	21.60	30	6.50
Attainment (%)						25.50

1.4. Placements & Higher Studies Details:

Component	No. of students		Total No. of Final Year Students	% of Participation	Weightage (%)	Attainment (%)
Placement	Placed	156	207	75.37	80	60.30
Higher Studies	Qualified in Competitive Examinations	24	207	11.6	20	2.40
Attainment (%)						62.70

Student Portfolio Attainment Details (2020-24 Graduated 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	72.30	3	3	3	2	2	2	2	3	3	1	1	3	3	3	3
EXTRA CURRICULAR ACTIVITIES	78.10	-	-	-	-	-	-	-	3	3	-	-	-	-	-	-
NSS and NCC	25.50	-	-	-	-	-	-	3	3	3	-	-	-	-	-	-
PLACEMENT & HIGHER STUDIES	62.70	3	3	3	3	3	-	-	-	3	3	-	3	3	3	3
% Pos and PSOs Attainment		67.50	67.50	67.50	66.54	66.54	72.30	44.22	58.63	59.65	65.10	72.30	67.50	67.50	67.50	67.50

2. Exit Survey (2020-24 Graduated Batch):

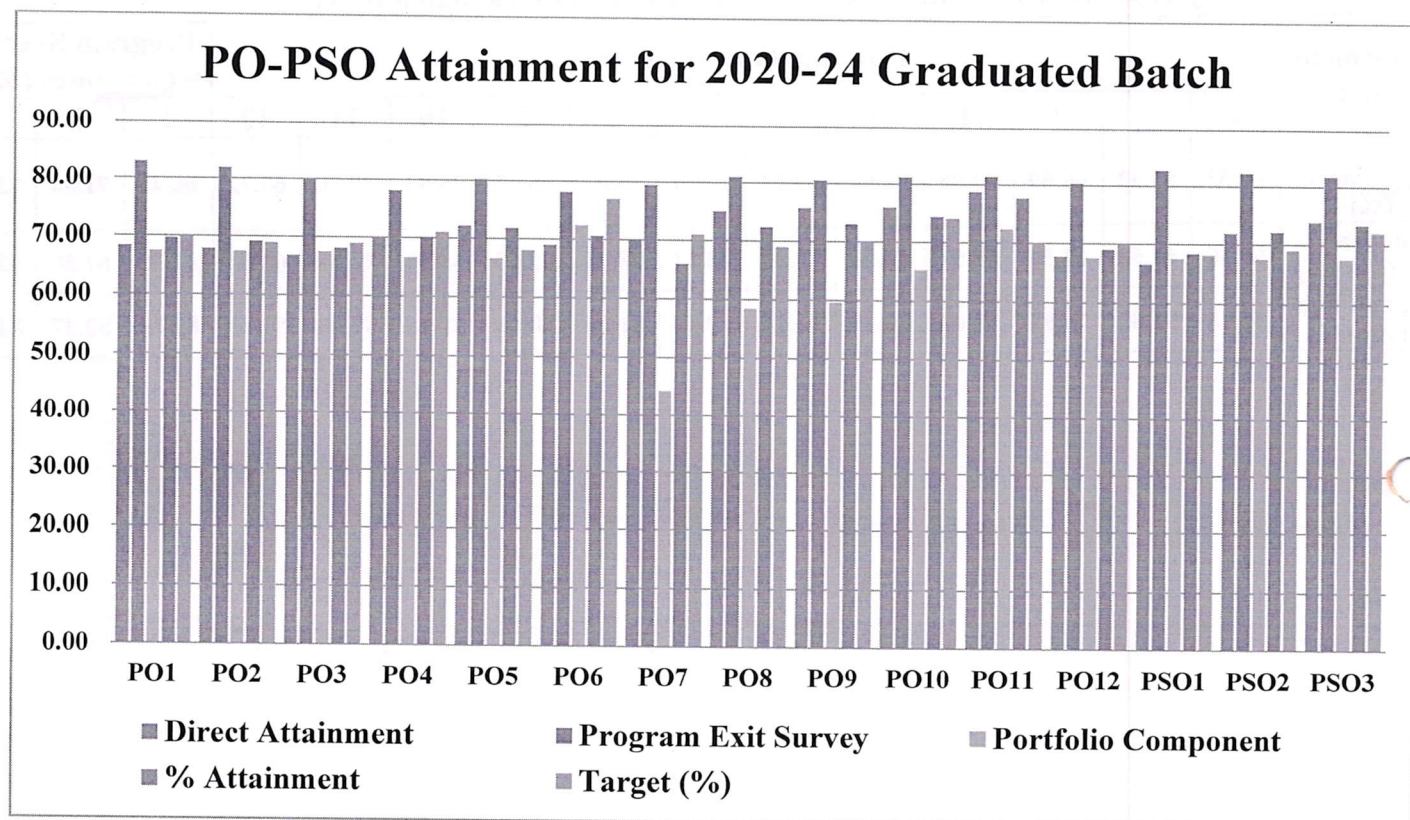
POs/PSOs	Excellent (4)	Very Good (3)	Good (2)	Poor (1)	Total No of Students Participated	Attainment Value (%)
PO1	95	82	30	0	207	82.85
PO2	92	80	35	0	207	81.88
PO3	90	73	39	5	207	79.95
PO4	80	75	49	3	207	78.02
PO5	85	80	42	0	207	80.19
PO6	80	75	50	2	207	78.14
PO7	86	72	49	0	207	79.47
PO8	93	71	43	0	207	81.04
PO9	89	79	35	4	207	80.56
PO10	88	84	33	2	207	81.16
PO11	91	82	30	4	207	81.40
PO12	90	71	46	0	207	80.31
PSO1	93	88	23	3	207	82.73
PSO2	94	82	29	2	207	82.37
PSO3	94	76	36	1	207	81.76

Summary of Direct and Indirect Attainments of 2020-24 Graduated 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 (%)	68.33	67.82	66.69	69.98	72.04	69.04	70.14	75.01	75.72	75.93	78.70	67.72	66.41	71.84	73.76
Student Portfolio (%)	67.50	67.50	67.50	66.54	66.54	72.30	44.22	58.63	59.65	65.10	72.30	67.50	67.50	67.50	67.50
Program Exit Survey (%)	82.85	81.88	79.95	78.02	80.19	78.14	79.47	81.04	80.56	81.16	81.40	80.31	82.73	82.37	81.76

The Final Attainment of 2020-24 Graduated 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	69	71	68	77	71	69	70	74	70	70	68	69	72
Target (3-Point Scale)	2.10	2.07	2.07	2.13	2.04	2.31	2.13	2.07	2.10	2.22	2.10	2.10	2.04	2.07	2.16
70% of Direct Attainment	47.83	47.47	46.68	48.99	50.43	48.33	49.10	52.51	53.00	53.15	55.09	47.40	46.49	50.29	51.63
20% of Student Portfolio	13.50	13.50	13.50	13.31	13.31	14.46	8.84	11.73	11.93	13.02	14.46	13.50	13.50	13.50	13.50
10% of Program Exit Survey	8.29	8.19	8.00	7.80	8.02	7.81	7.95	8.10	8.06	8.12	8.14	8.03	8.27	8.24	8.18
Final Attainment (%)	69.62	69.16	68.18	70.10	71.76	70.60	65.89	72.34	72.99	74.29	77.69	68.94	68.26	72.02	73.31
Final Attainment (3-Point Scale) (%)	2.09	2.07	2.05	2.10	2.15	2.12	1.98	2.17	2.19	2.23	2.33	2.07	2.05	2.16	2.20



PAC, Coordinator

G. Jeyaraj
27/10/24
HOD, ECE



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

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

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
Attainment of POs, PSOs & ATR

(Graduated Batch: 2024)

Department: ELECTRONICS & COMMUNICATION ENGINEERING

S.No.	POs/PSOs	Target	Attainment	Attainment Status, Observations & Actions
1.	PO1	70	69.62	Attainment Status: TARGET NOT REACHED. Observations: Out of 66 courses, 58 courses are contributing to PO1. Out of these 58 courses, Course outcomes of 31 courses are contributing less than target. The lower values of attainments in course outcomes of 31 courses can be attributed to poor performance of the student in applying engineering knowledge. Actions: (i) The courses with less than 70% of PO attainment are identified. Necessary improvements are recommended in teaching-learning methodology for these courses to improve the PO attainment for the forthcoming batches. (ii) Basic engineering principles and knowledge of mathematics are very much essential in the engineering domain. These can be improved by conducting relevant more problem solving sessions, and assignments. (iii) Lateral entry students need more emphasis on mathematical basics for complex engineering problems through bridge classes.
2.	PO2	69	69.16	Attainment Status: TARGET REACHED Observations: 63 out of 66 courses are contributing to this PO2. Lesser values of attainments are observed for course outcomes of 33 courses. Actions: (i) Problems involving analytical concepts are to be practiced for relevant courses through classroom discussion /laboratory/innovative teaching methods. (ii) Incorporating problems in the assignments with application and analysis level questions. (iii) Refining the course content or addition of courses that can strengthen the problem analysis to the possible extent.

3.	PO3	69	68.18	Attainment Status: TARGET NOT REACHED Observations: The number of courses mapped to this PO is 55. Out of 55 courses, Course outcomes of 30 courses are contributing less. The lagging in attainments of course outcomes of 30 courses can be attributed to poor performance of the student in design and development of solutions. Actions: (i) Assignment questions can be framed at the design level for all core courses. (ii) Encourage students to explore innovative projects and experimental techniques. (iii) Students are expected to complete their internships in reputable companies/organizations so that they will participate in the design and development of solutions for the challenging engineering issues.
4.	PO4	71	70.10	Attainment Status: TARGET NOT REACHED Observations: 49 out of 66 courses that are correlated to this PO4. Course outcomes of 29 courses are contributing less. The lagging in attainments of course outcomes of 29 courses can be attributed to poor performance of the student in applying research based methods. Actions: (i) Motivate students for participation in design level contents, project expos. (ii) Educate the students about numerous advanced tools and software commonly used in their field for analysis.
5.	PO5	68	71.76	Attainment Status: TARGET REACHED. Observations: 28 courses that are contributing to this PO5. Course outcomes of 6 courses are contributing less towards the attainment of PO5. Actions: (i) Motivate the students to carryout projects by making use of advanced tools. (ii) Introduce the courses that can make the student acquaint knowledge about advanced tools to the possible extent. (iii) It is encouraged to organize more student certification programs on modern tools.
6.	PO6	77	70.60	Attainment Status: TARGET NOT REACHED Observations: 19 courses that are contributing to this PO6, Course outcomes of 14 courses are contributing less. The lagging in attainments of course outcomes of 14 courses reflected due to poor performance of the student in applying contextual knowledge towards societal, environment, etc. Actions: (i) Necessary improvements are recommended in teaching-learning methodology for the relevant courses to improve the PO attainment for the forthcoming batches.

				(ii) Students are to be motivated to visit nearby villages for identifying the solutions to the real time problems through community service projects.
7.	PO7	71	65.89	Attainment Status: TARGET NOT REACHED Observations: 16 courses that are contributing to this PO7. Out of these 16 courses, Course outcomes of 8 courses are contributing less. The lagging in attainments of course outcomes of 8 courses can be attributed to poor performance of the student in demonstrating the knowledge. 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) Faculty is instructed to teach the responsibilities of engineers towards the environment while developing engineering solutions. (iii) More students are to be encouraged to participate in co-curricular and extension activities.
8.	PO8	69	72.34	Attainment Status: TARGET REACHED. Observations: 20 courses that are contributing to this PO8. Course outcomes of 4 courses are contributing less. 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	70	72.99	Attainment Status: TARGET REACHED. Observations: 28 courses that are contributing to this PO, course outcomes of 6 courses are contributing less than target. Actions: (i) Encouraged students to take the lead in carrying out projects and laboratory experiments. (ii) Student should be more encouraged towards participation in extra-curricular, co-curricular and extension activities.
10.	PO10	74	74.29	Attainment Status: TARGET REACHED Observations: 30 courses that are contributing to this PO10. Contribution by course outcomes of 14 courses is less. 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) Soft skill training is imparted to students to enhance various aspects of communication or technical talks through group discussion, presentation.
11.	PO11	70	77.69	Attainment Status: TARGET REACHED Observations: 10 courses that are contributing to this PO. Contribution by course outcomes of 4 courses is less. Actions: (i) Impart the knowledge and understanding of the engineering and management principles to work out projects in multidisciplinary environments. (ii) Select internship activities based on the work, as a member and leader in a team to acquire knowledge of project management principles and finance.
12.	PO12	70	68.94	Attainment Status: TARGET NOT REACHED Observations: 58 out of 66 courses that are mapped to this PO. Contribution by course outcomes of 33 courses is less. The lagging in attainments of course outcomes of 33 courses can be attributed to lower performance of student in enabling technological advancement Actions: (i) Encourage the students for participation in technological competitions and hackathons to enhance the learning skills. (ii) Inculcate the habit of self-preparation and self-learning through textbooks, journals, print media, electronic media, Self-learning modules through SWAYAM & NPTEL courses videos. (iii) Faculty are advised to bring awareness on the importance of core courses in life-long learning.
13.	PSO1	68	68.26	Attainment Status: TARGET REACHED Observations: Out of 66 courses, 24 courses are mapped to this PSO. Contribution by course outcomes of 12 courses is less. Actions: (i) Integrate modern communication technology modules into the curriculum, focusing on emerging technologies. (ii) It is advised to solve the application-oriented problems in the core subjects. Higher cognitive level problems especially in design orientation courses are to be discussed in the classrooms/ assignments.
14.	PSO2	69	72.02	Attainment Status: TARGET REACHED Observations: 21 courses are mapped to this PSO among 66 courses, Contribution by course outcomes of 7 courses is less. Actions:

				(i) Revise the curriculum to include modern VLSI design, and embedded systems concepts. (ii) Provide orientation on industry standard simulation software for electronic circuit design and VLSI development during laboratory sessions.
15.	PSO3	72	73.31	Attainment Status: TARGET REACHED Observations: 15 courses are mapped to this PSO among 66 courses, Contribution by course outcomes of 8 courses is less 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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