



Gayatri Vidya Parishad College of Engineering for Women

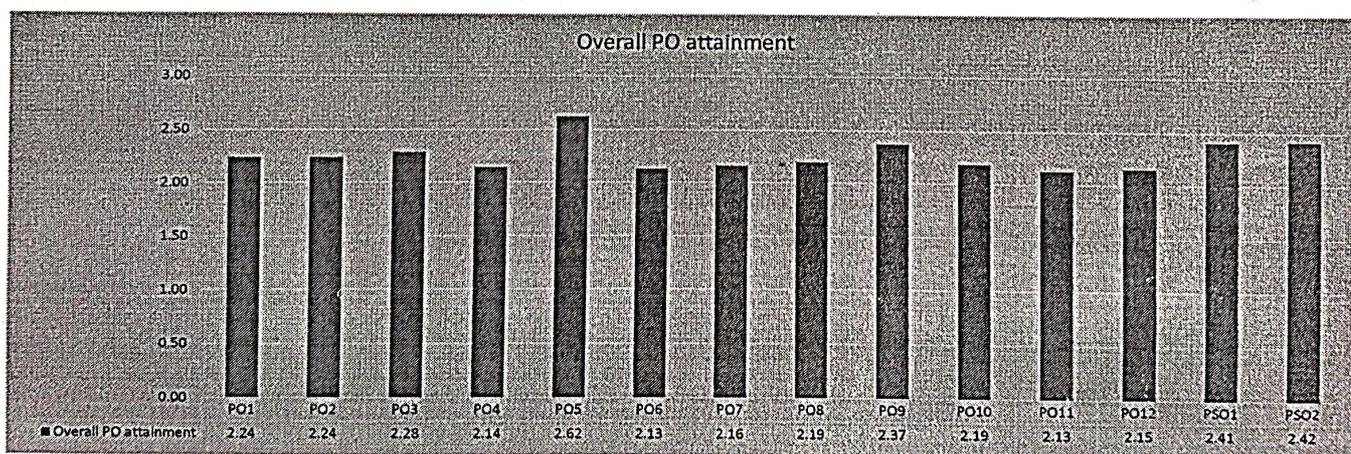
Madhurawada, Visakhapatnam

(Affiliated to JNTUK, Approved by AICTE, NEW DELHI)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Overall PO attainment (2021 batch)

PO#	Direct Attainment	Indirect Attainment	Direct Attainment(80%)	Indirect Attainment(20%)	Overall PO attainment
PO1	2.11	2.75	1.69	0.55	2.24
PO2	2.11	2.75	1.69	0.55	2.24
PO3	2.23	2.5	1.78	0.5	2.28
PO4	1.99	2.75	1.59	0.55	2.14
PO5	2.65	2.5	2.12	0.5	2.62
PO6	1.97	2.75	1.58	0.55	2.13
PO7	1.95	3	1.56	0.6	2.16
PO8	2.03	2.85	1.62	0.57	2.19
PO9	2.34	2.5	1.87	0.5	2.37
PO10	2.02	2.85	1.62	0.57	2.19
PO11	1.97	2.75	1.58	0.55	2.13
PO12	2.00	2.75	1.60	0.55	2.15
PSO1	2.26	3	1.81	0.6	2.41
PSO2	2.27	3	1.82	0.6	2.42



Alankar
HOD (CSE)
Head of Department
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GVP College of Engineering for Women
Madhurawada, Visakhapatnam-48

S.No.	Subjects	Course Code	CO attainment level of 2021 batch
I-I	Communicative English	C111	3
I-I	Mathematics - I	C112	2
I-I	Applied physics	C113	3
I-I	Programming for Problem solving using c	C114	2
I-I	Computer Engineering workshop	C115	3
I-I	English Communication skills Lab	C116	3
I-I	Applied Physics Lab	C117	3
I-I	Programming for Problem solving using c lab	C118	3
I-II	Mathematics – II	C121	3
I-II	Applied Chemistry	C122	2
I-II	Computer Organization	C123	3
I-II	Python Programming	C124	3
I-II	Data strctures	C125	3
I-II	Applied Chemistry Lab	C126	3
I-II	Python Programming lab	C127	3
I-II	Data strctures lab	C128	3
II-I	M-III	C211	3
II-I	OOP THRU C++	C212	3
II-I	OS	C213	3
II-I	SE	C214	2
II-I	MFCS	C215	3
II-I	OOP THRU C++ Lab	C216	3
II-I	OS LAB	C217	3
II-I	SE LAB	C218	3
II-II	P&S	C221	2
II-II	DBMS	C222	3
II-II	FLAT	C223	3
II-II	JP	C224	3
II-II	MEFA	C225	3
II-II	DBMS LAB	C226	3
II-II	RP LAB	C227	3
II-II	JP LAB	C228	3
II-II	PANDAS/WAD-II	C229	3
III-I	CN	C311	3
III-I	DAA	C312	3
III-I	DWDM	C313	3
III-I	RES	C314	3
III-I	AI/AUP	C315	3
III-I	DWDM LAB	C316	3
III-I	CN LAB	C317	3
III-I	DEVOPS	C318	3
III-I	INTERNSHIP	C319	3
III-II	ML	C321	3
III-II	CD	C322	3
III-II	CNS	C323	3
III-II	BDA/OOAD	C324	3
III-II	MSD	C325	3
III-II	ML LAB	C326	3
III-II	CD LAB	C327	3
III-II	CNS LAB	C328	3
III-II	BDS/MST-1	C329	3
IV-I	CC/CSF	C411	3
IV-I	DLT	C412	3
IV-I	BCT/EH	C413	3
IV-I	APIMS	C414	3
IV-I	DC/DLD	C415	3
IV-I	UHV	C416	3
IV-I	DL SKILL/MST-II	C417	3
IV-I	INTERNSHIP	C418	3
IV-II	PROJECT	C421	3

Course Code	Program Outcomes (POs) and Program Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C111	-	-	-	-	-	3	3	3	3	3	3	3	-	-
C112	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C113	3	2	1	-	-	-	-	-	-	-	-	1	-	-
C114	1.8	2.2	2.4	2.25	1.6	-	-	-	-	-	-	2	1.4	1
C115	2	1.3	1.5	1	2.8	-	1	-	-	-	-	1	1.6	1.3
C116	-	-	-	-	-	-	-	-	-	3	-	3	-	-
C117	2.2	2	-	-	-	-	-	-	-	-	-	-	-	-
C118	1.8	2.2	2.4	1.8	2.2	-	-	-	-	-	-	2	1.8	1
C121	3	2	-	-	-	-	-	-	-	-	-	2.4	-	-
C122	1.8	2	1.75	2	-	2	1.75	1.5	-	-	-	2	-	-
C123	2	2	2	2	-	-	-	-	-	-	-	-	1.6	-
C124	1.67	1.67	2	1.8	2	-	-	-	-	2	2	2	1.8	2.8
C125	1.8	1.6	2	1	2	-	-	-	-	-	-	2	2.2	-
C126	1.8	2	2.25	1.75	-	2	1.67	2	1.67	1.5	-	2	-	-
C127	1.2	2	1.8	1	2.6	-	-	-	-	-	2	1.6	1.8	2.2
C128	1.8	1.6	1.6	1	2	-	-	-	-	-	-	2	1.6	2.4
C129	3	2	-	-	-	-	-	-	-	-	-	2	-	-
C211	1.25	2	2.6	1.8	3	-	-	-	-	-	-	1.6	2.8	2.2
C212	2.8	1.6	2.4	-	3	-	-	-	-	1	-	2	2.5	2.8
C213	1	1.2	2.25	1	2.4	1.8	1	1.8	2	1.75	1.25	2	2.2	2.2
C214	3	3	-	3	-	-	-	-	-	-	-	2	-	-
C215	1.4	2	3	2	3	-	-	-	-	-	-	2.2	3	2.2
C216	-	-	2.6	-	3	-	-	-	-	-	-	-	2.6	-
C217	-	3	3	3	3	2	-	2	3	3	2	-	2	2
C218	-	-	3	1	3	-	-	-	2	1	1	-	3	3
C221	2.75	2	-	2	-	-	-	-	-	-	-	2	-	2
C222	2	2.4	2.6	2.5	3	-	-	-	-	-	-	2	3	2.8
C223	2.8	2.2	2.2	1.4	2.2	2	2	1	-	-	-	-	2.6	1.6
C224	2	2.8	2.8	2.8	3	-	-	-	-	2	-	2.8	2.6	3
C225	-	-	-	-	-	-	-	-	2	2	2.2	3	-	-
C226	2	1	2	1	3	-	-	-	-	-	-	1	2	2
C227	1	1.8	3	-	3	-	-	-	-	1	-	2	2.8	2.5
C228	2	3	3	-	3	-	-	-	-	2	-	2	3	3
C229	-	-	3	2.2	3	-	-	-	2	1	1	-	3	2.6
C311	2.4	2.4	2.4	2.4	2.4	-	-	-	-	1.8	2	2.8	2.6	2.2
C312	3	2	1	2	-	-	-	-	-	-	-	1	-	2
C313	2	3	3	2.8	3	-	-	-	-	1	2	1.8	3	3
C314	2	2	2	-	-	-	3	-	-	-	-	2	2	2
C315	2.25	3	1.8	2	3	-	-	-	2	2.33	2	2.5	2.33	2.33
C316	1	1.8	2	2.8	3	-	-	-	-	-	-	1.6	2.8	3
C317	1.6	2.6	2.4	2	2.2	-	-	-	-	-	-	2	2.2	1.8
C318	2.4	2	2	-	2.4	-	-	-	-	2	2	-	2	2.4
C319	3	3	2.6	2.4	3	2	2	2	3	3	2	3	2	3
C321	2.2	2	2	2	3	1.6	-	-	-	-	-	2	3	3
C322	2.75	2.5	2.5	2.5	2	-	-	-	-	1	-	-	3	2.33
C323	2.4	2	1.8	1.8	2	-	-	-	-	-	-	2	1.4	2
C324	2	2.2	2.75	1	3	-	-	-	1.75	1.75	-	1	2	2
C325	2.8	2.5	2.3	2	3	1.25	-	-	-	-	-	-	3	3
C326	1.6	2	2.2	2.8	2.8	-	-	-	-	-	-	2	2.6	2.6
C327	2	2	2	3	3	-	-	-	2	2	-	3	1.4	1.2
C328	2.4	2	2.2	1.8	3	-	-	-	-	-	-	2	1.6	1.8
C329	1.6	1.25	2	2.6	3	-	-	-	-	-	-	2.2	2.4	2.4
C411	1.6	1.8	2.2	2.33	2	-	-	-	-	-	-	2	2	2
C412	3	2	3	3	3	-	-	-	-	-	-	2	2	2
C413	3	2	2	2	2	3	3	-	-	-	-	-	3	3
C414	3	3	3	3	3	-	-	-	-	1	2	2	3	2
C415	2.3	2	2	1.33	1	1.5	1	-	-	-	-	2	1.875	1.75
C416	1	1	1	1	1	1	1	3	1	1	1	2	2	1
C417	2	2	2	3	3	-	-	-	-	-	-	1	2	3
C418	3	3	2.6	2.4	3	2	2	2	3	3	2	3	2	3
C421	3	3	3	1	3	-	-	2	3	3	2	2	2	2
AVERAGE	2.18	2.12	2.27	2.00	2.62	1.93	1.87	2.03	2.24	1.89	1.85	2.03	2.29	2.26



GAYATRI VIDYA PARISHAD COLLEGE OF ENGINEERING FOR WOMEN
MADHURAWADA, VISAKHAPATNAM-48
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
2021 batch PO Attainment with Direct Assessment

Course Code	Program Outcomes (POs) and Program Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C111	-	-	-	-	-	3	3	3	3	3	3	3	-	-
C112	2	1.33333	-	-	-	-	-	-	-	-	-	2	-	-
C113	3	2	1	-	-	-	-	-	-	-	-	1	-	-
C114	1.2	1.46667	1.6	1.5	1.6	-	-	-	-	-	-	2	1.4	1
C115	2	1.3	1.5	1	2.8	-	1	-	-	-	-	1	1.6	1.3
C116	-	-	-	-	-	-	-	-	-	3	-	3	-	-
C117	2.2	2	-	-	-	-	-	-	-	-	-	-	-	-
C118	-	2.2	2.4	1.8	2.2	-	-	-	-	-	-	2	1.8	1
C121	3	2	-	-	-	-	-	-	-	-	-	2.4	-	-
C122	1.2	1.33333	-	-	-	-	-	-	-	-	-	2.4	-	-
C123	2	2	1.75	2	-	2	1.75	1.5	-	-	-	2	-	-
C124	1.67	2	2	2	-	-	-	-	-	-	-	-	1.6	-
C125	1.8	1.67	2	1.8	2	-	-	-	-	2	2	2	1.8	2.8
C126	1.8	1.6	2	1	2	-	-	-	-	-	-	2	2.2	-
C127	1.2	2	2.25	1.75	-	2	1.67	2	1.67	1.5	-	2	-	-
C128	1.8	2	1.8	1	2.6	-	-	-	-	-	2	1.6	1.8	2.2
C129	3	1.6	1.6	1	2	-	-	-	-	-	-	2	1.6	2.4
C211	1.25	2	-	-	-	-	-	-	-	-	-	2	-	-
C212	2.8	2	2.6	1.8	3	-	-	-	-	-	-	1.6	2.8	2.2
C213	0.66666667	1.06667	1.6	-	3	-	-	-	-	1	-	2	2.5	2.8
C214	3	1.2	2.25	1	2.4	1.8	1	1.8	2	1.75	1.25	2	2.2	2.2
C215	1.4	3	-	3	-	-	-	-	-	-	-	2	-	-
C216	-	2	3	2	3	-	-	-	-	-	-	2.2	3	2.2
C217	-	-	2.6	-	3	-	-	-	-	-	-	-	2.6	-
C218	-	3	3	3	3	2	-	2	3	3	2	-	2	2
C221	1.833333333	1.33333	-	1.3333	-	-	-	-	-	-	-	2	-	2
C222	2	2.4	2.6	2.5	3	-	-	-	-	-	-	2	3	2.8
C223	2.8	2.2	2.2	1.4	2.2	2	2	1	-	-	-	-	2.6	1.6
C224	2	2.8	2.8	2.8	3	-	-	-	-	2	-	2.8	2.6	3
C225	-	-	-	-	-	-	-	-	2	2	2.2	3	-	-
C226	2	1	2	1	3	-	-	-	-	-	-	1	2	2
C227	1	1.8	3	-	3	-	-	-	-	1	-	2	2.8	2.5
C228	2	3	3	-	3	-	-	-	-	2	-	2	3	3
C229	-	2.4	2.4	2.4	2.4	-	-	-	-	1.8	2	2.8	2.6	2.2
C311	2.4	2	1	2	-	-	-	-	-	-	-	1	-	2
C312	3	3	3	2.8	3	-	-	-	-	1	2	1.8	3	3
C313	2	2	2	-	-	-	3	-	-	-	-	2	2	2
C314	2	3	1.8	2	3	-	-	-	2	2.33	2	2.5	2.33	2.33
C315	2.25	3	1.8	2	3	-	-	-	2	2.33	2	2.5	2.33	2.33
C316	1	1.8	2	2.8	3	-	-	-	-	-	-	1.6	2.8	3
C317	1.6	2.6	2.4	2	2.2	-	-	-	-	-	-	2	2.2	1.8
C318	2.4	2	2	2	3	1.6	-	-	-	-	-	2	3	3
C319	3	2.5	2.5	2.5	2	-	-	-	-	1	-	-	3	2.33
C321	2.2	2	1.8	1.8	2	-	-	-	-	-	-	2	1.4	2
C322	2.75	2.2	2.75	1	3	-	-	-	1.75	1.75	-	1	2	2
C323	2.4	2	1.8	1.8	2	-	-	-	-	-	-	2	1.4	2
C324	2	2.5	2.3	2	3	1.25	-	-	-	-	-	-	3	3
C325	2.8	2	2.2	2.8	2.8	-	-	-	-	-	-	2	2.6	2.6
C326	1.6	2	2.2	1.8	3	-	-	-	-	-	-	2	1.6	1.8
C327	2	1.8	2.2	2.33	2	-	-	-	-	-	-	2	2	2
C328	2.4	2	3	3	3	-	-	-	-	-	-	2	2	2
C329	1.6	2	2	2	2	3	3	-	-	-	-	-	3	3
C411	1.6	3	3	3	3	-	-	-	-	1	2	2	3	2
C412	3	2	3	3	3	-	-	-	-	-	-	2	2	2
C413	3	1	1	1	1	1	1	3	1	1	1	2	2	1
C414	3	2	2	3	3	-	-	-	-	-	-	1	2	3
C415	2.3	3	2.6	2.4	3	2	2	3	3	2	3	2	3	3
C416	1	3	3	1	3	-	-	2	3	3	2	2	2	2
C417	2	2	2	3	3	-	-	-	-	-	-	1	2	3
C418	3	3	2.6	2.4	3	2	2	2	3	3	2	3	2	3
C421	3	3	3	1	3	-	-	2	3	3	2	2	2	2
Direct	2.11	2.11	2.23	1.99	2.65	1.97	1.95	2.03	2.34	2.02	1.97	2.00	2.26	2.27
	1.69	1.69	1.79	1.59	2.12	1.58	1.56	1.62	1.87	1.62	1.57	1.60	1.81	1.82

Course Code	Program Outcomes (POs) and Program Specific Outcomes (PSOs)															
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO2		
Communicative English	C111	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	3	3	3	3	3	3	#VALUE!	#VALUE!		
Mathematics - I	C112	2	1.333333	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	#VALUE!	#VALUE!	
Applied physics	C113	3	2	1	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1	#VALUE!	#VALUE!	
Programming for Problem solving usi	C114	1.2	1.466667	1.6	1.5	1.6	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	1.4	1	
Computer Engineering workshop	C115	2	1.3	1.5	1	2.8	#VALUE!	1	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1	1.6	1.3	
English Communication skills Lab	C116	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	3	#VALUE!	3	#VALUE!	#VALUE!	#VALUE!	
Applied Physics Lab	C117	2.2	2	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	
Programming for Problem solving usi	C118	#VALUE!	2.2	2.4	1.8	2.2	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	1.8	1	
Mathematics – II	C121	3	2	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2.4	#VALUE!	#VALUE!	
Applied Chemistry	C122	1.2	1.333333	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2.4	#VALUE!	#VALUE!	
Computer Organization	C123	2	2	1.75	2	#VALUE!	2	1.75	1.5	#VALUE!	#VALUE!	#VALUE!	2	#VALUE!	#VALUE!	
Python Programming	C124	1.67	2	2	2	2	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	1.6	#VALUE!	
Data structures	C125	1.8	1.67	2	1.8	2	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	2	2	1.8	2.8	
Applied Chemistry Lab	C126	1.8	1.6	2	1	2	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	2.2	#VALUE!	
Python Programming lab	C127	1.2	2	2.25	1.75	#VALUE!	2	1.67	2	1.67	1.5	#VALUE!	2	#VALUE!	#VALUE!	
Data structures lab	C128	1.8	2	1.8	1	2.6	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	1.6	1.8	2.2
M-III	C129	3	1.6	1.6	1	2	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	1.6	2.4	
OOP THRU C++	C211	1.25	2	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	#VALUE!	#VALUE!	
OS	C212	2.8	2	2.6	1.8	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1.6	2.8	2.2	
SE	C213	0.66666667	1.066667	1.6	#VALUE!	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1	#VALUE!	2	2.5	2.8	
MFCS	C214	3	1.2	2.25	1	2.4	1.8	1	1.8	2	1.75	1.25	2	2.2	2.2	
OOP THRU C++ Lab	C215	1.4	3	#VALUE!	3	#VALUE!	2	#VALUE!	#VALUE!							
OS LAB	C216	#VALUE!	#VALUE!	2	3	2	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2.2	3	2.2	
SE LAB	C217	#VALUE!	#VALUE!	2.6	#VALUE!	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2.6	#VALUE!	#VALUE!	
NUMPY/WAD-I	C218	#VALUE!	3	3	3	3	2	#VALUE!	2	3	3	2	#VALUE!	2	2	
P&S	C221	1.833333333	1.333333	#VALUE!	1.333333	#VALUE!	2	#VALUE!	2							
DBMS	C222	2	2.4	2.6	2.5	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	3	2.8	
FLAT	C223	2.8	2.2	2.2	1.4	2.2	2	2	1	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2.6	1.6	
JP	C224	2	2.8	2.8	2.8	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	#VALUE!	2.8	2.6	3	
MEFA	C225	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	2	2.2	3	#VALUE!	#VALUE!	
DBMS LAB	C226	2	1	2	1	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1	2	2	
RP LAB	C227	1	1.8	3	#VALUE!	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1	#VALUE!	2	2.8	2.5	
JP LAB	C228	2	3	3	#VALUE!	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	#VALUE!	2	3	3	
PANDAS/WAD-II	C229	#VALUE!	2.4	2.4	2.4	2.4	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1.8	2	2.8	2.6	2.2	
CN	C311	2.4	2	1	2	#VALUE!	1	#VALUE!	2							
DAA	C312	3	3	3	2.8	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1	2	1.8	3	3	
DWDM	C313	2	2	2	#VALUE!	#VALUE!	#VALUE!	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	2	2	
RES	C314	2	3	1.8	2	3	#VALUE!	#VALUE!	#VALUE!	2	2.33	2	2.5	2.33	2.33	
AI/AUP	C315	2.25	3	1.8	2	3	#VALUE!	#VALUE!	#VALUE!	2	2.33	2	2.5	2.33	2.33	
DWDM LAB	C316	1	1.8	2	2.8	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1.6	2.8	3	
CN LAB	C317	1.6	2.6	2.4	2	2.2	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	2.2	1.8	
DEVOPS	C318	2.4	2	2	2	3	1.6	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	3	3	
INTERNSHIP	C319	3	2.5	2.5	2.5	2	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1	#VALUE!	#VALUE!	3	2.33	
ML	C321	2.2	2	1.8	1.8	2	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	1.4	2	
CD	C322	2.75	2.2	2.75	1	3	#VALUE!	#VALUE!	#VALUE!	1.75	1.75	#VALUE!	1	2	2	
CNS	C323	2.4	2	1.8	1.8	2	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	1.4	2	
BDA/OOAD	C324	2	2.5	2.3	2	3	1.25	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	3	3	
MSD	C325	2.8	2	2.2	2.8	2.8	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	2.6	2.6	
ML LAB	C326	1.6	2	2.2	1.8	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	1.6	1.8	
CD LAB	C327	2	1.8	2.2	2.33	2	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	2	2	
CNS LAB	C328	2.4	2	3	3	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	2	2	
BDS/MST-1	C329	1.6	2	2	2	2	3	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	3	3	
CC/CSF	C411	1.6	3	3	3	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1	2	2	3	2	
DLT	C412	3	2	3	3	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	2	2	2	
BCT/EH	C413	3	1	1	1	1	1	1	3	1	1	1	2	2	1	
APIMS	C414	3	2	2	3	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1	2	3	
DC/DLD	C415	2.3	3	2.6	2.4	3	2	2	2	3	3	2	3	2	3	
UHV	C416	1	3	3	1	3	#VALUE!	#VALUE!	2	3	3	2	2	2	2	
DL SKILL/MST-II	C417	2	2	2	3	3	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	1	2	3	
INTERNSHIP	C418	3	3	2.6	2.4	3	2	2	2	3	3	2	3	2	3	
PROJECT	C421	3	3	3	1	3	#VALUE!	#VALUE!	2	3	3	2	2	2	2	



Gayatri Vidya Parishad College of Engineering for Women

Madhurawada, Visakhapatnam

(Affiliated to JNTUK, Approved by AICTE, New Delhi)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Indirect Assessment (2021 Batch)

PO#	Pos/PSOs	Exit survey	Alumni Survey	Employer survey	Parent survey	Indirect Attainment Level (20%)	Indirect attainment
PO1	Engineering Knowledge	3	3	2		0.55	2.75
PO2	Problem Analysis	3	3	2		0.55	2.75
PO3	Design/Development of Solutions	3	2	2		0.5	2.5
PO4	Conduct investigations of complex problems	3	3	2		0.55	2.75
PO5	Modern tool usage	3	2	2		0.5	2.5
PO6	The engineer and society	3	3	2		0.55	2.75
PO7	Environment and sustainability	3	3	3		0.6	3
PO8	Ethics	3	3	2	3	0.57	2.85
PO9	Individual and team work	3	3	1		0.5	2.5
PO10	Communication	3	3	2	3	0.57	2.85
PO11	Project management and finance	3	3	2		0.55	2.75
PO12	Life-long learning	3	3	2		0.55	2.75
PSO1	Design and analyze systems that efficiently generate, transmit, distribute and utilize electrical power	3	3	3		0.6	3
PSO2	Demonstrate the proficiency in the use of hardware and software tools for solving the complex engineering problems in renewable energy and other emerging areas	3	3	3		0.6	3

HOD(CSE)



Gayatri Vidya Parishad College of Engineering for Women

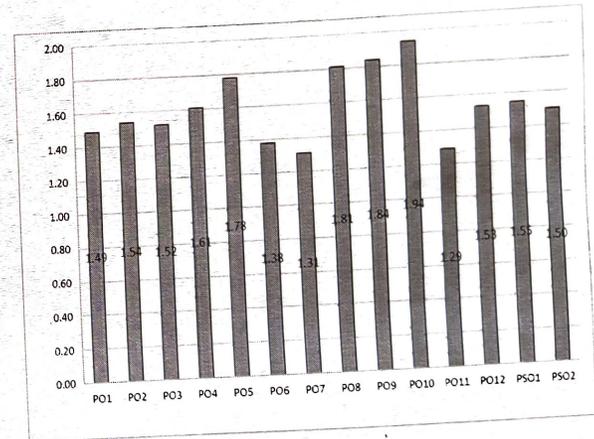
Madhurawada, Visakhapatnam

(Affiliated to JNTUK, Approved by AICTE, NEW DELHI)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Overall PO attainment (2021 batch)

PO#	Direct Attainment	Indirect Attainment	Direct Attainment(80%)	Indirect Attainment(20%)	Overall PO attainment
PO1	1.52	2.63	1.22	0.27	1.49
PO2	1.57	2.94	1.26	0.28	1.54
PO3	1.55	2.97	1.24	0.28	1.52
PO4	1.64	2.96	1.32	0.29	1.61
PO5	1.81	2.96	1.45	0.33	1.78
PO6	1.41	2.88	1.13	0.25	1.38
PO7	1.33	2.97	1.07	0.24	1.31
PO8	1.86	3.19	1.49	0.32	1.81
PO9	1.87	2.93	1.50	0.34	1.84
PO10	2.00	3.15	1.60	0.34	1.94
PO11	1.31	3.11	1.05	0.24	1.29
PO12	1.56	3.01	1.25	0.28	1.53
PSO1	1.58	3.01	1.27	0.28	1.55
PSO2	1.53	2.96	1.23	0.27	1.50



[Signature]
H.O.D ECE

HEAD
DEPARTMENT OF
ELECTRONICS AND COMMUNICATION ENGINEERING
G V P COLLEGE OF ENGINEERING FOR WOMEN
MADHURAWADA, VISAKHAPATNAM - 530 048



Gayatri Vidya Parishad College of Engineering for Women

Madhurawada, Visakhapatnam

(Affiliated to JNTUK, Approved by AICTE, NEW DELHI)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CO Attainment Levels of 2021 Admitted Batch

Year/Sem	Course Name	Course Code	CO attainment level of 2021 batch
I-I	Communicative English	C111	3
I-I	Mathematics - I	C112	2
I-I	Applied Chemistry	C113	1
I-I	Programming for problem solving using C	C114	1.4
I-I	Engineering Drawing	C115	3
I-I	English Communication Skills Lab	C116	3
I-I	Applied Chemistry Lab	C117	3
I-I	Programming for problem solving using C Lab	C118	3
I-II	Mathematics-II	C121	3
I-II	Applied Physics	C122	3
I-II	Object oriented programming through JAVA	C123	1.6
I-II	Network Analysis	C124	1
I-II	Basic Electrical engineering	C125	2.4
I-II	Electronic Workshop Lab	C126	3
I-II	Basic Electrical engineering Lab	C127	3
I-II	Applied Physics Laboratory	C128	3
II-I	Electronic Devices and Circuits	C211	1
II-I	Switching Theory & Logic Design (STLD)	C212	1
II-I	Signals and Systems	C213	2.8
II-I	Random Variables and Stochastic Processes	C214	1
II-I	Mathematics- III	C215	2.4
II-I	OOPs Through Java Lab	C216	3
II-I	Electronic Devices and Circuits lab	C217	3
II-I	Switching theory and logic design lab	C218	3
II-II	Electronic Circuit Analysis	C221	1.4
II-II	Digital IC Design	C222	1
II-II	Analog Communications	C223	2
II-II	Linear control Systems	C224	1.4
II-II	Management and Organizational Behavior	C225	1.6
II-II	Electronic Circuit Analysis Lab	C226	3
II-II	Analog Communications Lab	C227	3
II-II	Digital IC Design Lab	C228	3
III-I	Analog ICs and Applications	C311	3
III-I	Electromagnetic Waves and Transmission Lines	C312	1.4
III-I	Digital Communications	C313	2.4
III-I	OE1- Data Structures & Advanced UNIX Programming	C314	3
III-I	PE1-Electronic Measurement & Instrumentation and Computer Architecture & Organization	C315	3
III-I	Analog ICs and Applications Lab	C316	3
III-I	Digital Communications Lab	C317	3
III-I	Data Structures using Java Lab	C318	3
III-II	Microprocessor and Microcontrollers	C321	1.2
III-II	VLSI Design	C322	2.6
III-II	Digital Signal Processing	C323	1.6
III-II	PE2: Microwave Engineering/Mobile & Cellular Communication	C324	2
III-II	OE2: Big Data Analytics / Web Technologies	C325	1.4
III-II	Microprocessor and Microcontrollers - Lab	C326	3
III-II	VLSI Design Lab	C327	3
III-II	Digital Signal Processing Lab	C328	3
IV-I	PE3: Digital Image Processing	C411	1.8
IV-I	PE4: Satellite Communications	C412	2.2
IV-I	PE5: Radar Engineering / Internet of Things	C413	2.6
IV-I	OE3: Data Science / AI Tools & techniques	C414	3
IV-I	OE4: Block Chain Technologies / Cloud Computing using AWS	C415	2.2
IV-I	HSSE: Universal Human Values	C415	2.4
IV-II	Project	C421	3

Course Code	Program Outcomes (POs) and Program Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO2
C111	-	-	-	-	-	3	3	3	3	3	3	3	-	-
C112	2	1.333333	-	-	-	-	-	-	-	-	-	1.333333	-	-
C113	0.6	0.933333	0.84	-	-	0.933333	0.793333	0.7	-	-	-	0.7	-	-
C114	0.84	1.466667	1.6	1.466667	1.066667	-	-	-	-	-	0.8	0.733333	-	-
C115	2	1	1.4	-	-	-	-	-	-	-	-	-	-	-
C116	-	-	-	-	-	-	-	-	-	3	-	3	-	-
C117	1.8	2	2.3	1.8	-	2	1.7	-	1.5	1.5	-	-	-	-
C118	1.75	2.2	2.4	1.8	2.2	-	-	-	-	-	1	2	1	1
C121	3	2	-	-	-	-	-	-	-	-	-	2.4	-	-
C122	3	2	1	-	-	-	-	-	-	-	-	1	-	-
C123	1.6	1.6	1.066667	-	-	-	1.066667	-	-	-	-	1.066667	1.066667	1.066667
C124	1	0.933333	-	0.666667	1	-	-	-	0.666667	0.666667	-	0.666667	0.666667	0.666667
C125	-	-	-	-	-	-	-	-	-	-	-	-	1.92	-
C126	3	2.8	-	2	3	0	-	-	-	-	2	2	2	2
C127	3	1.4	-	-	-	-	-	-	-	-	-	-	-	-
C128	-	-	-	-	-	-	-	-	3	3	-	3	-	-
C211	0.6	0.666667	0.333333	0.466667	-	-	-	-	-	-	-	0.466667	0.666667	0.333333
C212	0.5	0.556667	0.666667	-	-	-	-	-	-	-	-	0.556667	0.533333	0.666667
C213	1.4	1.558667	1.866667	-	-	-	-	-	-	-	-	1.558667	1.493333	1.866667
C214	0.8	0.6	-	-	-	0.333333	-	-	-	-	-	0.4	0.8	0.466667
C215	2.4	1.6	-	-	-	-	-	-	-	-	-	1.6	-	-
C216	2	3	2.6	2.6	3	-	-	-	2	2	-	2.75	3	3
C217	2.2	2.6	2.2	1	1	-	-	-	-	-	-	2.4	2.4	2
C218	2	1.67	2.25	-	-	-	-	-	-	-	-	1.5	1.6	2.2
C221	0.56	0.933333	0.84	0.466667	1.213333	-	-	-	-	-	0.933333	0.746667	0.84	1.026667
C222	0.6	0.933333	0.733333	-	-	-	-	-	-	-	-	0.6	0.733333	0.666667
C223	0.666667	1.6	1.6	-	1.333333	-	-	-	-	-	-	1.2	1.466667	1.733333
C224	0.933333	0.746667	0.466667	-	-	-	-	-	-	-	-	-	0.933333	0.466667
C225	1.6	1.386667	1.066667	-	-	-	-	-	-	-	-	1.066667	1.6	1.066667
C226	-	-	-	-	-	2	-	2.5	3	3	2.67	-	-	-
C227	2.4	2.4	-	2.8	2	-	-	-	-	-	-	2.4	1.8	2.4
C228	1	-	1	2	1	-	-	-	1	-	-	1	1.5	1.4
C311	-	-	-	1.6	3	-	-	-	-	-	-	1.6	1.2	2.4
C312	-	-	-	-	-	-	-	-	1.4	1.4	-	1.4	-	-
C313	-	-	-	-	-	2.4	-	2.4	-	-	-	2.4	-	-
C314	1.2	1.8	2.4	2	1	-	1	-	-	-	-	1.5	2	1
C315	1.2	1.8	1.75	-	-	-	-	-	-	-	-	2.4	2.2	1.4
C316	1.6	2.4	1	-	-	-	-	-	-	-	-	1.4	2	2
C317	2	2.2	2.6	2	3	-	-	-	-	-	-	1.8	2	2
C318	2.2	2	1.6	-	-	-	-	-	-	-	-	2.2	2.2	1.8
C321	0.4	0.4	0.72	0.72	-	-	0.4	-	-	-	0.4	0.4	0.72	0.4
C322	1.386667	1.733333	2.08	2.6	-	-	-	-	1.733333	1.733333	0.866667	-	1.733333	2.253333
C323	1.6	1.386667	0.96	0.853333	1.493333	-	-	-	-	-	-	1.6	1.6	1.066667
C324	0.666667	0.666667	0.666667	-	0.666667	0.666667	0.666667	0.666667	-	0.666667	0.666667	0.666667	-	-
C325	0.620667	0.7	1.166667	0.466667	0.933333	0.933333	-	-	-	-	-	0.933333	0.746667	0.746667
C326	1.2	1.8	2.4	2	1	-	1	-	-	-	-	1.5	2	1
C327	2.4	2.4	2.2	-	2.33	-	-	-	-	-	-	1.6	2.6	2.4
C328	1.4	1.8	2.4	2	1	-	1	-	-	-	-	1.5	2	2.2
C411	0.96	1.08	1.08	-	-	0.75	-	-	-	-	-	-	1.32	1.32
C412	2.016667	1.76	1.833333	1.613333	2.2	-	-	-	-	-	2.2	1.76	2.016667	2.2
C413	0.866667	0.866667	1.733333	0.866667	2.253333	-	-	-	-	-	0.866667	1.386667	1.733333	1.733333
C414	1	1.4	1.4	2	2.4	-	-	-	1.4	-	1	2	2	1.4
C415	1.1	1.466667	1.466667	1.76	2.2	-	-	-	-	-	-	1.466667	1.32	1.32
C415	1.76	1.6	1.6	2.08	1.76	-	-	-	-	-	-	1.6	2.08	2.24
C421	2.4	2.8	2.8	3	3	2.4	2.6	-	-	-	-	3	2	3
AVERAGE	1.52	1.56	1.54	1.64	1.80	1.40	1.32	1.85	1.87	2.00	1.31	1.56	1.58	1.52



GAYATRI VIDYA PARISHAD COLLEGE OF ENGINEERING FOR WOMEN
MADHURAWADA, VISAKHAPATNAM -48
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
2021 batch PO Attainment with Direct Assessment

Course Code	Program Outcomes (POs) and Program Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO 12	PSO1	PSO2
C111	-	-	-	-	-	3	3	3	3	3	3	3	-	-
C112	2	1.333	-	-	-	-	-	-	-	-	-	1.3333	-	-
C113	0.6	0.933	0.84	-	-	0.9333	0.7933	0.7	-	-	-	0.7	-	-
C114	0.84	1.467	1.6	1.467	1.067	-	-	-	-	-	0.8	0.7333	-	-
C115	2	1	1.4	-	-	-	-	-	-	-	-	-	-	-
C116	-	-	-	-	-	-	-	-	-	3	-	3	-	-
C117	1.8	2	2.3	1.8	-	2	1.7	-	1.5	1.5	-	-	-	-
C118	1.75	2.2	2.4	1.8	2.2	-	-	-	-	-	1	2	1	1
C121	3	2	-	-	-	-	-	-	-	-	-	2.4	-	-
C122	3	2	1	-	-	-	-	-	-	-	-	1	-	-
C123	1.6	1.6	1.067	-	-	-	1.0667	-	-	-	-	1.0667	1.0667	1.067
C124	1	0.933	-	0.667	1	-	-	-	0.667	0.6667	-	0.6667	0.6667	0.667
C125	-	-	-	-	-	-	-	-	-	-	-	-	1.92	-
C126	3	2.8	-	2	3	0	-	-	-	2	-	2	2	2
C127	3	1.4	-	-	-	-	-	-	-	-	-	-	-	-
C128	-	-	-	-	-	-	-	-	3	3	-	3	-	-
C211	0.6	0.667	0.333	0.467	-	-	-	-	-	-	-	0.4667	0.6667	0.333
C212	0.5	0.557	0.667	-	-	-	-	-	-	-	-	0.5567	0.5333	0.667
C213	1.4	1.559	1.867	-	-	-	-	-	-	-	-	1.5587	1.4933	1.867
C214	0.8	0.6	-	-	-	0.3333	-	-	-	-	-	0.4	0.8	0.467
C215	2.4	1.6	-	-	-	-	-	-	-	-	-	1.6	-	-
C216	2	3	2.6	2.6	3	-	-	-	2	2	-	2.75	3	3
C217	2.2	2.6	2.2	1	1	-	-	-	-	-	-	2.4	2.4	2
C218	2	1.67	2.25	-	-	-	-	-	-	-	-	1.5	1.6	2.2
C221	0.56	0.933	0.84	0.467	1.213	-	-	-	-	-	0.933	0.7467	0.84	1.027
C222	0.6	0.933	0.733	-	-	-	-	-	-	-	-	0.6	0.7333	0.667
C223	0.6666667	1.6	1.6	-	1.333	-	-	-	-	-	-	1.2	1.4667	1.733
C224	0.9333333	0.747	0.467	-	-	-	-	-	-	-	-	-	0.9333	0.467
C225	1.6	1.387	1.067	-	-	-	-	-	-	-	-	1.0667	1.6	1.067
C226	-	-	-	-	-	2	-	2.5	3	3	2.67	-	-	-
C227	2.4	2.4	-	2.8	2	-	-	-	-	-	-	2.4	1.8	2.4
C228	1	-	1	2	1	-	-	-	1	-	-	1	1.5	1.4
C311	-	-	-	1.6	3	-	-	-	-	-	-	1.6	1.2	2.4
C312	-	-	-	-	-	-	-	-	1.4	1.4	-	-	1.4	-
C313	-	-	-	-	-	2.4	-	2.4	-	-	-	2.4	-	-
C314	1.2	1.8	2.4	2	1	-	1	-	-	-	-	1.5	2	1
C315	1.2	1.8	1.75	-	-	-	-	-	-	-	-	2.4	2.2	1.4
C316	1.6	2.4	1	-	-	-	-	-	-	-	-	1.4	2	2
C317	2	2.2	2.6	2	3	-	-	-	-	-	-	1.8	2	2
C318	2.2	2	1.6	-	-	-	-	-	-	-	-	2.2	2.2	1.8
C321	0.4	0.4	0.72	0.72	-	-	0.4	-	-	-	0.4	0.4	0.72	0.4
C322	1.3866667	1.733	2.08	2.6	-	-	-	-	1.733	1.7333	0.867	-	1.7333	2.253
C323	1.6	1.387	0.96	0.853	1.493	-	-	-	-	-	-	1.6	1.6	1.067
C324	0.6666667	0.667	0.667	-	0.667	0.6667	0.6667	0.67	-	0.6667	0.667	0.6667	-	-
C325	0.6206667	0.7	1.167	0.467	0.933	0.9333	-	-	-	-	-	0.9333	0.7467	0.747
C326	1.2	1.8	2.4	2	1	-	1	-	-	-	-	1.5	2	1
C327	2.4	2.4	2.2	-	2.33	-	-	-	-	-	-	1.6	2.6	2.4
C328	1.4	1.8	2.4	2	1	-	1	-	-	-	-	1.5	2	2.2
C411	0.96	1.08	1.08	-	-	0.75	-	-	-	-	-	-	1.32	1.32
C412	2.0166667	1.76	1.833	1.613	2.2	-	-	-	-	-	2.2	1.76	2.0167	2.2
C413	0.8666667	0.867	1.733	0.867	2.253	-	-	-	-	-	0.867	1.3867	1.7333	1.733
C414	1	1.4	1.4	2	2.4	-	-	-	1.4	-	1	2	2	1.4
C415	1.1	1.467	1.467	1.76	2.2	-	-	-	-	-	-	1.4667	1.32	1.32
C416	1.76	1.6	1.6	2.08	1.76	-	-	-	-	-	-	1.6	2.08	2.24
C421	2.4	2.8	2.8	3	3	2.4	2.6	-	-	-	-	3	2	3
Direct	1.52	1.57	1.55	1.64	1.81	1.41	1.33	1.86	1.87	2	1.31	1.56	1.58	1.53

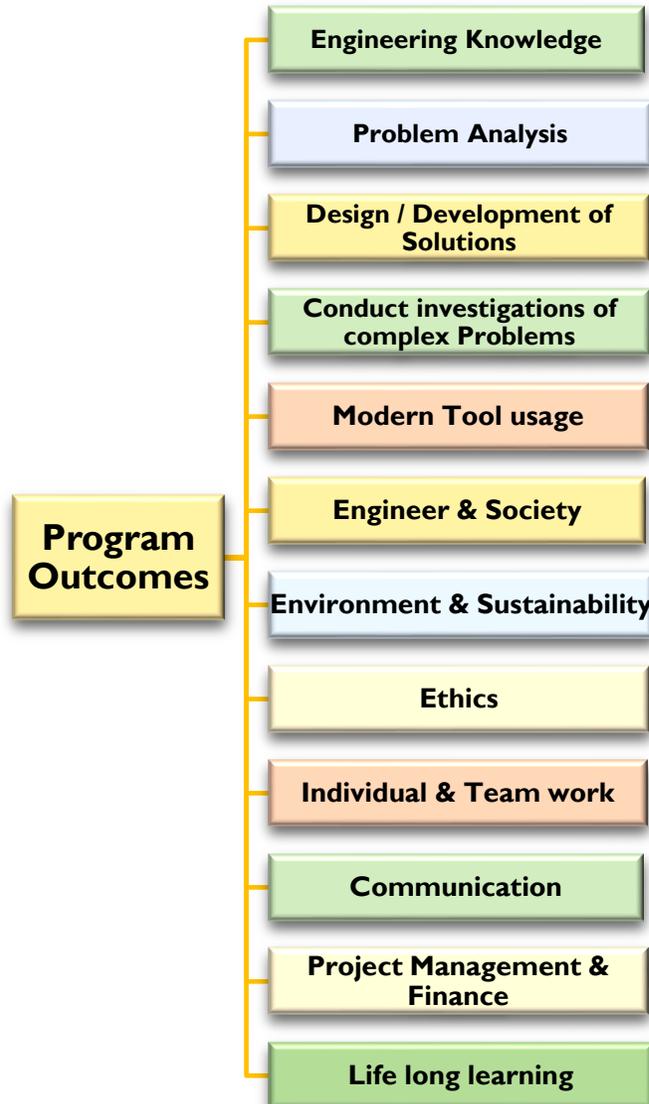
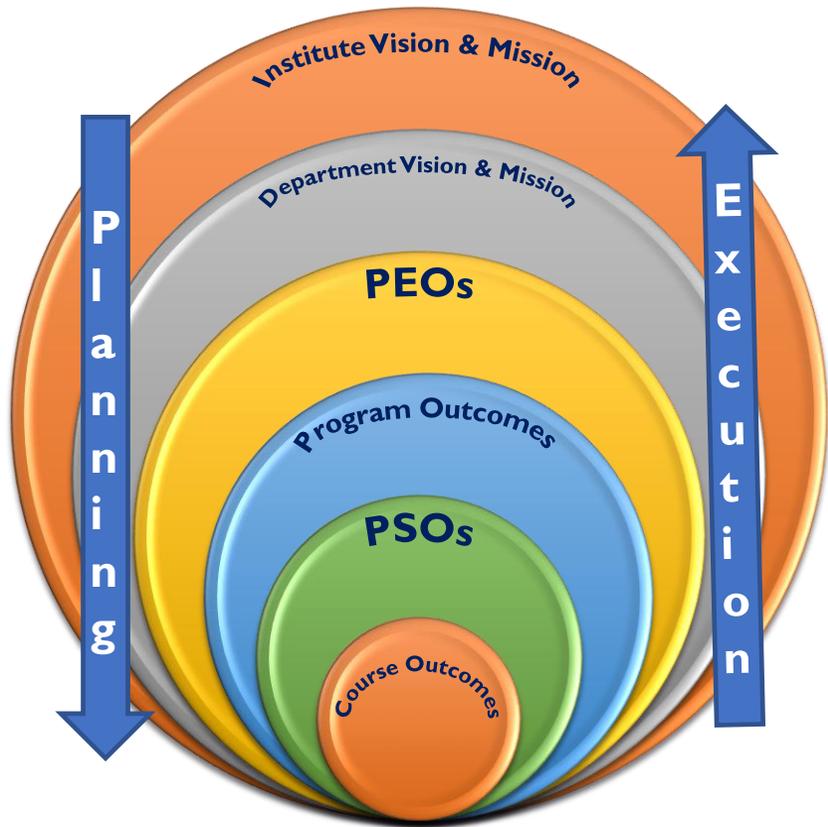


**GAYATRI VIDYA PARISHAD COLLEGE OF ENGINEERING FOR WOMEN
MADHURAWADA, VISAKHAPATNAM -48
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

Indirect Assessment (2021 batch)

PO#	POs/PSOs	Exit	Alumni	Employer	Parent	Indirect
PO1	Engineering Knowledge	3.35	3.26	2.00		2.63
PO2	Problem Analysis	3.37	3.20	2.00		2.94
PO3	Design/ Development of	3.35	3.26	2.00		2.97
PO4	Conduct investigations of	3.35	3.26	2.00		2.97
PO5	Modern Tool Usage	3.27	3.26	2.00		2.96
PO6	The Engineer and Society	3.34	3.10	2.00		2.88
PO7	Environment and	3.29	3.26	2.00		2.96
PO8	Ethics	3.35	3.53	2.00	3.00	3.19
PO9	Individual and Team Work	3.29	3.20	2.00		2.93
PO10	Communication	3.31	3.40	2.00	3.00	3.15
PO11	Project Management and	3.29	3.56	2.00		3.11
PO12	Life-long Learning	3.37	3.33	2.00		3.00
PSO1	Acquire knowledge required	3.42	3.33	2.00		3.01
PSO2	Design, simulate and	3.41	3.23	2.00		2.96

PROGRAM OUTCOMES & PROGRAM SPECIFIC OUTCOMES



PSO-1

PSO-2

COs, POs & PSOs ARTICULATION MATRIX

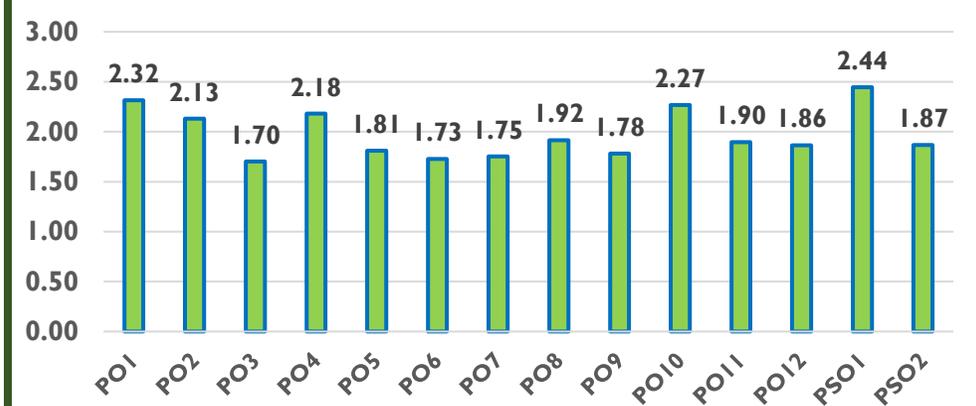


Program Articulation Matrix

Course Code	Program Outcomes (POs) and Program Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO 12	PSO1	PSO2
C321	2.17	2.83	2	-	-	-	-	-	-	-	2	2	2.67	2
C322	3	3	2	-	2	2	2	-	-	-	-	2	3	2
C323	1	1.25	1.5	-	1.5	-	-	-	-	-	-	-	1.17	1.67
C324	2.17	2.17	-	-	2.33	-	-	-	2	-	-	1.83	-	2
C325	3	2.33	2	2	-	2.67	2.33	3	3	2.5	2.5	2.2	3	-
C326	3	2	1.8	3	1.4		1			2	2	1.2	2.2	2.8
C327	1	1.5	1.5	2	2.25	-	-	-	1.75	-	1	2	2	1.5
C328	2	2	-	-	2.2	-	-	-	2	-	-	1.6	-	2

$$\text{Avg} = \frac{\sum \text{COs Mapped to the POs}}{\text{Number of COs Mapped to POs}}$$

Average PO Mapping



Course Articulation Matrix

Course Outcomes	Program Outcomes (POs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO 12	PSO1	PSO2
C322	CO1	3	3	2	-	2	-	-	-	-	-	-	3	2
	CO2	3	3	2	-	2	2	-	-	-	-	2	3	2
	CO3	3	3	2	-	-	-	-	-	-	-	-	3	2
	CO4	3	3	-	-	-	2	2	-	-	-	2	3	2
	CO5	3	3	-	-	-	2	2	-	-	-	2	3	2
	CO6	3	3	-	-	-	2	2	-	-	-	-	3	2
	Avg	3	3	2	-	2	2	2	-	-	-	-	2	3

CO - PO / PSO MAPPING JUSTIFICATION



Course Outcomes	Program Outcomes (POs)														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO 12	PSO1	PSO2	
C322	CO1	3	3	2	-	2	-	-	-	-	-	-	-	3	2
	CO2	3	3	2	-	2	2	-	-	-	-	-	2	3	2
	CO3	3	3	2	-	-	-	-	-	-	-	-	-	3	2
	CO4	3	3	-	-	-	2	2	-	-	-	-	2	3	2
	CO5	3	3	-	-	-	2	2	-	-	-	-	2	3	2
	CO6	3	3	-	-	-	2	2	-	-	-	-	-	3	2

CO-1

- **PO1:** Application of knowledge of mathematics, and engineering fundamentals are used in the formation of matrices, formation of Y-Bus etc.
- **PO2:** The analysis is done with respect to the impedance diagram, formation of the admittance matrix by adopting complex engineering problems
- **PO3:** The analysis is done with respect to the configuration of the power system which is designed based on the societal needs in terms of power sector
- **PO5:** Modern Tools are used for the formation of Y-Bus of a power system
- **PSO1:** Design the power systems for transmitting the power efficiently
- **PSO2:** Software tools are also used for design and analysis of the power systems

CO-2

- **PO1:** Knowledge of mathematics in terms of iterative methods are used for load flow analysis .
- **PO2:** Formulation and complex engineering concepts are applied for load flow analysis
- **PO3:** Design of a system for the consideration of societal needs
- **PO5:** MATLAB is also used for study the load flows
- **PO6:** Contextual knowledge is used to meet the safety and legal issues
- **PO12:** Based on context of technological changes, analysis is performed for load flows for the need of the society
- **PSO1:** Load flows are necessary for design the interconnected power system
- **PSO2:** MATLAB is also used to run the load flows of power systems

CO-3

- **PO1:** Application of knowledge of mathematics, engineering fundamentals are used in the formation of matrices, formation of Z-Bus etc.
- **PO2:** Analysis is done with respect formation of an impedance matrix by adopting complex engineering problems
- **PO3:** Design the lines in the impedance diagram that meet the specified needs with appropriate considerations
- **PSO1:** Step by Step procedure is adopted for determining the Z-Bus of a system
- **PSO2:** MATLAB is also used to build the impedance matrix of an interconnected power system

CO-4

- **PO1:** Engineering fundamentals and knowledge of mathematics is used to formulate the expressions for fault current under short circuit conditions.
- **PO2:** Analysis of complex engineering problems in power systems under short circuit conditions
- **PO3:** With respect to the safety issues, fault currents are analyzed for short circuit studies
- **PO7:** With respect to the sustainable development, short circuit studies are analyzed
- **PO12:** Short circuit studies are important with respect to life long learning
- **PSO1:** Fault current calculations are required for transmitting the power without any disturbances
- **PSO2:** Modern tools are used for performing the short circuit studies

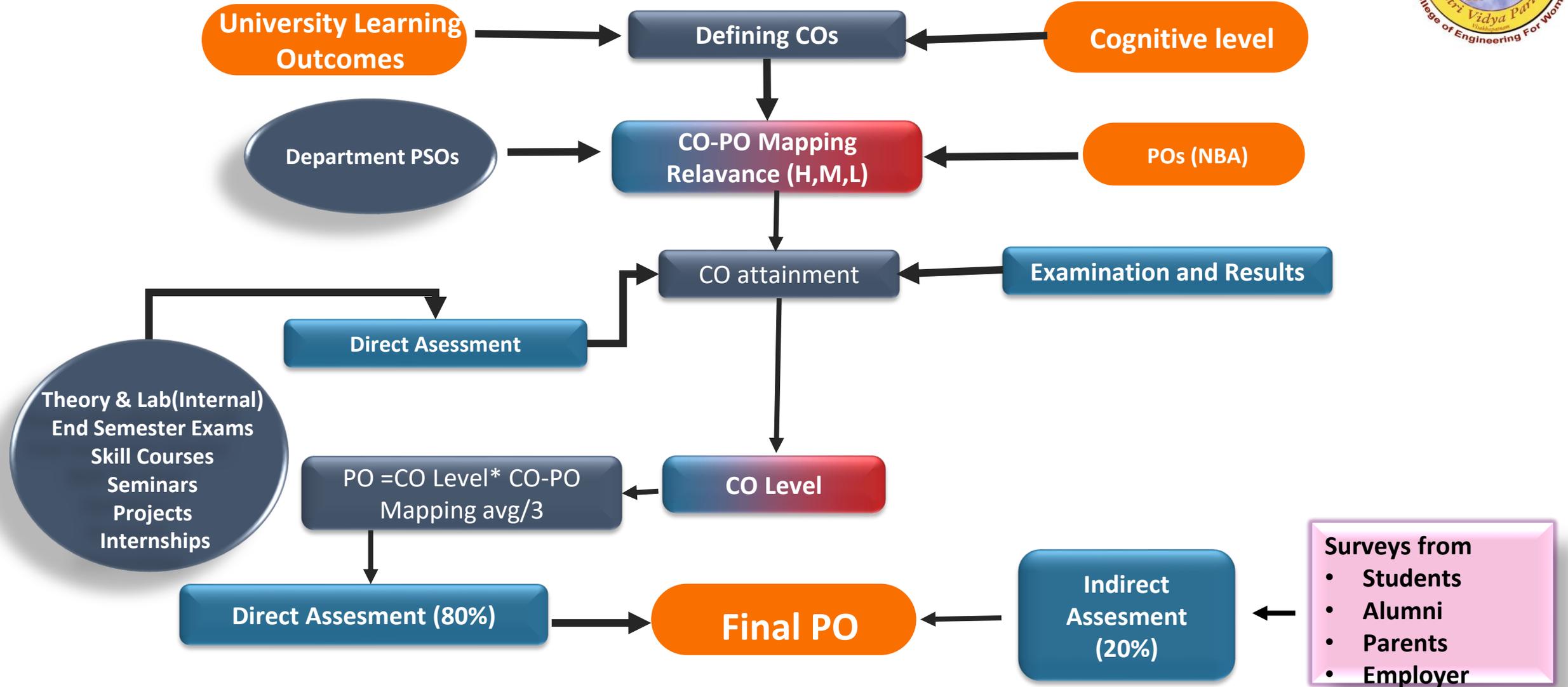
CO-5

- **PO1:** Engineering fundamentals and knowledge of mathematics are used to formulate the expressions for fault currents for different faults.
- **PO2:** Analysis of complex engineering problems in power systems for different fault conditions
- **PO6:** With respect to the safety issues, fault currents are analyzed for different faults
- **PO7:** With respect to sustainable development, fault currents are analyzed
- **PO12:** Fault current calculations are important with respect to lifelong learning
- **PSO1:** Fault current calculations are required for transmitting the power without any disturbances
- **PSO2:** Modern tools are used for performing studying the behaviour of the system under fault conditions

CO-6

- **PO1:** Engineering fundamentals and knowledge of mathematics are used in stability studies and swing equation
- **PO2:** Analysis of complex engineering problems is done in stability studies
- **PO6:** With respect to professional issues, stability studies are analyzed
- **PO7:** With respect to sustainable development, the stability of a power system is analyzed
- **PSO1:** Stability studies are required for transmitting power without any disturbances
- **PSO2:** Modern tools are used for analyzing the swing equation and equal area criteria.

CO-PO ATTAINMENT PROCESS



MARKS COMPUTATION & ATTAINMENT LEVEL



Sheet 1

Direct Assessment of COs based on Marks

Roll no	CO-1	CO-2	CO-3	A-1	CO-4	CO-5	CO-6	A-2	Q-1	Q-2	Sem End	Sem End	Internal Marks	Sem End
	10	10	10	5	10	10	10	5	10	10	Grade	Marks (100)	Marks (30)	Marks (70)
16JGIA0202	2	1	1	5	10	4	0	5	2	5	C	55	16	39
16JGIA0207	-1	-1	-1	2	-1	-1	-1	3	0	0	F	0	3	0
17JGIA0201	0	1	0	5	1	1	2	5	4	3	F	0	10	0
17JGIA0202	1	0	0	5	0	1	0	5	5	5	F	0	11	0
17JGIA0203	0	4	1	4	2	0	1	5	4	4	D	45	11	34
17JGIA0204	7	10	1	5	10	10	10	5	6	5	A	75	24	51
17JGIA0205	10	10	1	5	10	10	0	5	5	5	A	75	21	54

Sheet 3

Final CO Calculation

Course Outcomes	Overall CO Attainment	Level Attained 1/2/3
CO1	74.67	2
CO2	71.31	2
CO3	70.13	2
CO4	88.89	3
CO5	81.20	3
CO6	75.67	2

Sheet 2

Roll No	CO1	CO2	CO3	CO4	CO5	CO6	OBE based result
16JGIA0202	49.80	48.60	48.60	63.00	55.80	51.00	Cleared
17JGIA0201	10.80	12.00	10.80	10.80	10.80	12.00	Not Attained
17JGIA0202	13.20	12.00	12.00	12.00	13.20	12.00	Not Attained
17JGIA0203	43.60	48.40	44.80	47.20	44.80	46.00	Cleared
17JGIA0204	72.60	76.20	65.40	75.00	75.00	75.00	Cleared
17JGIA0205	78.00	78.00	67.20	78.00	78.00	66.00	Cleared

$$\text{Overall CO Attainment} = \frac{\text{No. of Students Attained Target Level}}{\text{Total No. of Students}} * 100$$

If **80% or more** of the students attain the set target, the attainment level is **3**.
 If **70% or more** of the students attain the set target, the attainment level is **2**.
Otherwise, the students attain the attainment level is **1**

$$\text{POs / PSOs Attainment} = \frac{\text{CO Attainment Level} \times \text{Average PO Level}}{3}$$

Course Code	Program Outcomes (POs) and Program Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C322	2.00	2.00	1.33	-	1.33	1.33	1.33	-	-	-	-	1.33	2.00	1.33