



BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

(Approved by AICTE, Permanently Affiliated to JNTUK, Kakinada, Accredited by NAAC with 'A' Grade)

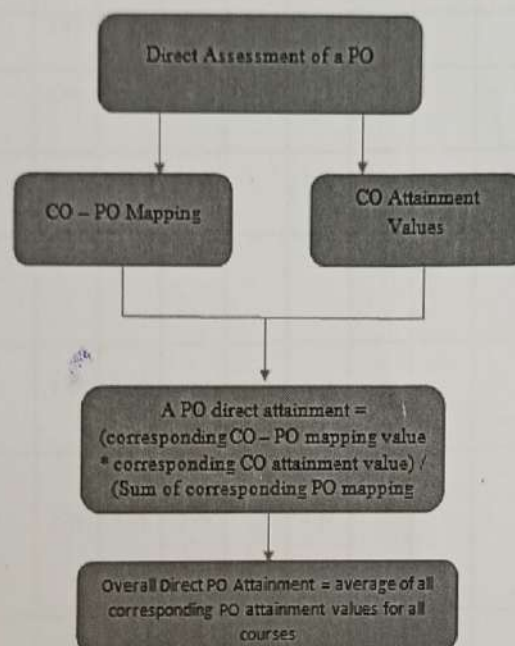
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

3.3.2. Provide results of evaluation of PO & PSO

PO/PSO Attainment Process:



PO Attainment having more than 50% courses contributed to PO / PSO

1	Assessment of COs & their contribution to PO Attainment	80 %
2	Indirect Assessment (Students Exit Feedback, Alumni Feedback, Employer Feedback)	20 %

PO Attainment having less than 50% courses contributed to PO / PSO

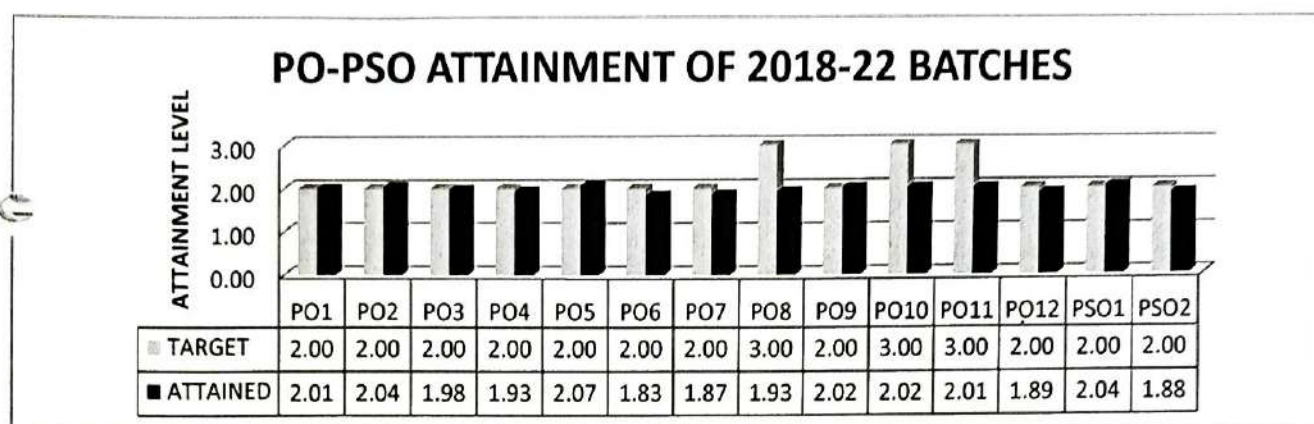
1	Assessment of COs & their contribution to PO Attainment	60%
3	Students Exit Feedback	20 %
2	Alumni Feedback	
3	Employer Feedback	
4	Assessment of student participation in Co/Extra-curricular Activities & contribution to PO Attainment	20%

	Chemistry Lab															
18	English Communications Skills Lab II	C128					2.00				2.00	2.00		2.00		2.00
19	Computer Programming Lab	C129	2.55	2.04	2.52	2.54	1.56							2.55		2.51
20	Electronic Devices and Circuits	C211	1.64	1.67	1.70											1.67
21	Switching Theory and Logic Design	C212	1.79	1.81	1.82	1.78	1.82						1.82		1.80	
22	Signals and Systems	C213	1.72	1.77	1.75		1.78									1.74
23	Network Analysis	C214	1.45	1.44												1.45
24	Random Variables and Stochastic Process	C215	1.45	1.45	1.45	1.46										1.46
25	Managerial Economics and Financial Analysis	C216	1.96	1.94	2.02				1.84			1.94				
26	Electronic Devices and Circuits Lab	C217	2.49	2.49												2.49
27	Networks and Electrical Technology Lab	C218	2.16	2.17						2.16	2.17					
28	Electronic Circuit Analysis	C221	1.60	1.64	1.67											1.63
29	Control Systems	C222	1.94	2.04	2.07											1.99
30	Electromagnetics Waves and Transmission Lines	C223	2.03	2.03	2.03	2.10								2.04		2.02
31	Analog Communications	C224	1.88	1.90	1.78		1.78							1.90		1.90
32	Pulse and Digital Circuits	C225	1.74	1.75	1.78		1.73									1.76
33	Management Science	C226		1.82					1.81	1.63	1.78		1.96			

52	Digital Communications Lab	C328	1.86	1.02	2.11		2.15								1.70	
53	IPR & Patents	C329			1.92			1.92								
54	Radar Systems	C415	2.17	2.14	2.18										2.17	
55	Digital Image Processing	C412	1.83	1.87	2.80										2.00	
56	Computer Network	C413	1.97	1.98	1.83	1.95									1.95	
57	Optical Communications	C416	2.18	2.11	1.97		1.97							2.31	2.14	
58	Electronic Switching Systems	C415	2.03	2.04	1.97										2.00	
59	Embedded Systems	C423	2.05	2.02	2.07										2.04	
60	Micro Wave Engineering & Optical Lab	C417	2.62	2.62			2.61								2.62	
61	Digital Signal Processing Lab	C418	2.77	2.76	2.76										2.77	
62	Cellular Mobile Communications	C421	1.85	1.90	1.78	1.96	1.94								1.87	
63	Electronic Measurements and Instrumentation	C422	2.12	2.12											2.12	
64	Satellite Communications	C423	1.76	1.78	1.79		1.65							1.78	1.76	
65	Wireless Sensors and Networks	C424	1.72	1.88	1.77	1.52	1.67								1.70	
66	Seminar	C425		2.25		2.25	2.08	2.25	2.25	2.00		1.75		1.75	2.05	2.08
67	Project	C426		2.25	2.25	2.25	2.25	1.75	1.75	2.25	2.25	1.75	2.25	1.75	2.05	2.08
No of Courses Contributing to each PO-PSO			60	59	49	21	33	8	7	8	11	12	3	12	49	14
% of Courses Contributing to each PO-PSO			90%	88%	73%	31%	49%	12%	10%	12%	16%	18%	4%	18%	73%	21%
PO ATTAINMENT LEVEL:			1.98	1.98	2.02	1.94	1.98	1.91	1.88	1.94	1.98	1.97	2.05	1.95	1.98	1.98
DIRECTATTAINMENT			1.58	1.58	1.62	1.55	1.58	1.53	1.50	1.55	1.58	1.58	1.64	1.56	1.58	1.58

INDIRECT ATTAINMENT	2.11	2.28	1.82	1.89	2.45	1.53	1.83	1.87	2.18	2.20	1.84	1.51	2.29	1.47
	0.42	0.46	0.36	0.38	0.49	0.31	0.37	0.37	0.44	0.44	0.37	0.30	0.46	0.29
TARGET	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	2.00	3.00	3.00	2.00	2.00	2.00
ATTAINED	2.01	2.04	1.98	1.93	2.07	1.83	1.87	1.93	2.02	2.02	2.01	1.86	2.04	1.88

Bar Chart Representing PO-PSO ATTAINMENT OF 2018-22 BATCHES



PO – ASSESSMENT ANALYSIS (2018-22)

Contribution of Courses to each PO:

ENGINEERING KNOWLEDGE										
PO Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.										
S.N O.	ASSESSMENT HOD	COUSES/ ACTIVITIES CONTRIBUTING TO PO1					OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION	
1	Direct	C111	C125	C222	C318	C415	1.98	80 %	1.58	
		C112	C126	C223	C321	C423				
		C113	C127	C224	C322	C417				
		C114	C129	C225	C323	C418				
		C115	C211	C227	C324	C421				
		C116	C212	C228	C325	C422				

		C118 C213 C311 C326 C423			
		C119 C214 C312 C327 C424			
		C1110 C215 C313 C328			
		C121 C216 C314 C415			
		C122 C217 C315 C412			
		C123 C218 C316 C413			
		C124 C221 C317 C416			
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback	2.11	20%	0.42
Overall PO Attainment (On a Scale of 3)					2.01
Target Level					2.00
Target Achieved					YES

PO2 PROBLEM ANALYSIS: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.									
S.NO.	ASSESSMENT METHOD	COUSES/ ACTIVITIES CONTRIBUTING TO PO1				OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION	
1	Direct	C112	C127	C224	C322	C418	1.98	80 %	1.58
		C113	C129	C225	C323	C421			
		C114	C211	C226	C324	C422			
		C115	C212	C227	C325	C423			
		C116	C213	C228	C326	C424			
		C118	C214	C311	C328	C425			
		C119	C215	C312	C415	C426			
		C1110	C216	C314	C412				
		C122	C217	C315	C413				
		C123	C218	C316	C416				
		C124	C221	C317	C415				
		C125	C222	C318	C423				
		C126	C223	C321	C417				

3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback	2.28	20%	0.46
Overall PO Attainment (On a Scale of 3)					2.04
Target Level					2.00
Target Achieved					YES

PO3	DESIGN/DEVELOPMENT OF SOLUTIONS: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.								
S.NO.	ASSESSMENT METHOD	COURSES/ ACTIVITIES CONTRIBUTING TO PO1				OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION	
1	Direct	C111	C212	C312	C328	C426	2.02	80 %	1.62
		C112	C213	C313	C329				
		C113	C215	C314	C415				
		C114	C216	C315	C412				
		C116	C221	C316	C413				
		C119	C222	C317	C416				
		C122	C223	C321	C415				
		C123	C224	C322	C423				
		C125	C225	C323	C418				
		C126	C227	C325	C421				
		C129	C228	C326	C423				
		C211	C311	C327	C424				
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback				1.82	20%	0.36	
Overall PO Attainment (On a Scale of 3)								1.98	
Target Level								2.00	
Target Achieved								NO	

PO4	CONDUCT INVESTIGATIONS OF COMPLEX PROBLEMS: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.							
S.NO.	ASSESSMENT METHOD	COURSES/ACTIVITIES CONTRIBUTING TO PO1				OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C112	C215	C317	C424	1.94	80 %	1.55
		C115	C223	C324	C425			
		C123	C311	C325	C426			
		C126	C314	C327				
		C129	C315	C413				
		C212	C316	C421				
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback				1.89	20%	0.38
Overall PO Attainment (On a Scale of 3)								1.93
Target Level								2.00
Target Achieved								NO

PO5	MODERN TOOL USAGE: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.							
S.NO.	ASSESSMENT METHOD	COURSES/ACTIVITIES CONTRIBUTING TO PO1				OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C111	C129	C313	C417	1.98	80 %	1.58
		C115	C212	C314	C421			
		C116	C213	C318	C423			
		C118	C224	C321	C424			
		C119	C225	C324	C425			
		C121	C227	C326	C426			

		C123 C228 C327 C127 C311 C328 C128 C312 C416			
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback	1.89	20%	0.49
Overall PO Attainment (On a Scale of 3)					2.07
Target Level					2.00
Target Achieved					YES

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PO6 THE ENGINEER AND SOCIETY: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.					
S.NO.	ASSESSMENT METHOD	COUSES/ ACTIVITIES CONTRIBUTING TO PO1	OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C121 C311 C425 C123 C325 C426 C125 C329	1.91	60 %	1.15
2	Direct	Extra / Co-Curricular Activities	3	20%	0.60
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback	1.53	20%	0.31
Overall PO Attainment (On a Scale of 3)					2.05
Target Level					2.00
Target Achieved					YES

PO7 ENVIRONMENT AND SUSTAINABILITY: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.							
S.NO.	ASSESSMENT METHOD	COURSES/ACTIVITIES CONTRIBUTING TO PO1			OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C111 C121 C123	C125 C226	C425 C426	1.88	60 %	1.13
2	Direct	Extra / Co-Curricular Activities			2.75	20%	0.55
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback			1.83	20%	0.37
Overall PO Attainment (On a Scale of 3)							2.04
Target Level							2.00
Target Achieved							YES

PO8 ETHICS: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.							
S.NO.	ASSESSMENT METHOD	COURSES/ACTIVITIES CONTRIBUTING TO PO1			OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C111 C116 C125	C216 C226 C319	C425 C426	1.94	80 %	1.55

2	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback	1.87	20%	0.37
Overall PO Attainment (On a Scale of 3)					1.93
Target Level					3.00
Target Achieved					NO

PO9	INDIVIDUAL AND TEAM WORK: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.				
S.NO.	ASSESSMENT METHOD	COUSES/ ACTIVITIES CONTRIBUTING TO PO1	OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C116 C121 C226 C326 C117 C128 C316 C426 C1110 C218 C317	1.98	80 %	1.58
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback	2.18	20%	0.44
Overall PO Attainment (On a Scale of 3)					2.02
Target Level					2.00
Target Achieved					YES

PO10	COMMUNICATION: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, give and receive clear instructions.				
S.NO.	ASSESSMENT METHOD	COUSES/ ACTIVITIES CONTRIBUTING TO PO1	OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION

1	Direct	C111	C1110	C319	1.97	80 %	1.58
		C114	C121	C326			
		C116	C128	C425			
		C117	C218	C426			
2	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback			2.20	20%	0.44
Overall PO Attainment (On a Scale of 3)							2.02
Target Level							3.00
Target Achieved							NO

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PO11 PROJECT MANAGEMENT AND FINANCE: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.							
S.NO.	ASSESSMENT METHOD	COUSES/ ACTIVITIES CONTRIBUTING TO PO1	OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION		
1	Direct	C216	2.05	80 %	1.64		
		C226					
		C426					
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback			1.84	20%	0.37
Overall PO Attainment (On a Scale of 3)					2.01		
Target Level					3.00		
Target Achieved					NO		

PO12 LIFE-LONG LEARNING: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.							
S.NO.	ASSESSMENT METHOD	COURSES/ACTIVITIES CONTRIBUTING TO PO1			OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C116	C212	C416	1.94	60 %	1.16
		C117	C223	C423			
		C121	C224	C425			
		C128	C315	C426			
2	Direct	Extra / Co-Curricular Activities			2.60	20%	0.52
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback			1.51	20%	0.33
Overall PO Attainment (On a Scale of 3)							2.01
Target Level							2.00
Target Achieved							YES

PSO – ASSESSMENT PROCESS (2018-22)

Contribution of Courses to each PSO:

PSO1 Professional Skills: An ability to design, analyze and implement Analog and Digital Electronics systems, Communication, Signal processing, VLSI, Embedded and IoT systems using hardware and software.							
S.NO.	ASSESSMENT METHOD	COURSES/ACTIVITIES CONTRIBUTING TO PO1			OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION

1	Direct	C115	C222	C318	C415	1.98	80 %	1.58
		C116	C223	C321	C423			
		C117	C224	C322	C417			
		C124	C225	C323	C418			
		C126	C227	C324	C421			
		C129	C228	C325	C422			
		C211	C311	C326	C423			
		C212	C312	C327	C424			
		C213	C313	C328	C425			
		C214	C314	C415	C426			
		C215	C315	C412				
		C217	C316	C413				
		C221	C317	C416				
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback			2.29	20%	0.46	
Overall PO Attainment (On a Scale of 3)							2.04	
Target Level							2.00	
Target Achieved							YES	

PSO2		Soft-Skills & Ethics: Ability to communicate effectively and practice professional ethics for societal benefit.					
S.NO.	ASSESSMENT METHOD	COURSES/ ACTIVITIES CONTRIBUTING TO PO1			OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C111	C118	C129	1.98	80 %	1.58
		C114	C121	C311			
		C115	C124	C425			
		C116	C125	C426			
		C117	C128				
3	Indir	Exit Survey, Alumni Feedback			1.47	20%	0.29

ect	Survey, Industry Personnel Feedback		
Overall PO Attainment (On a Scale of 3)			1.88
Target Level			2.00
Target Achieved			NO

IMPACT ANALYSIS [2018-22 BATCHES]

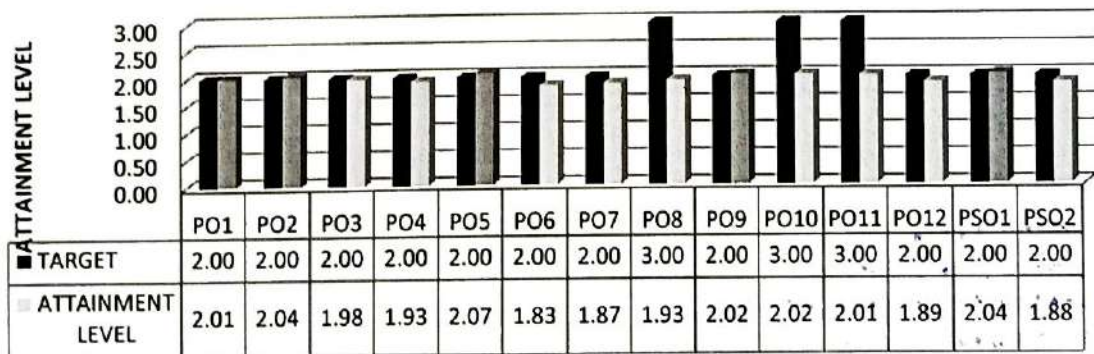
PO/PSO ATTAINMENT WITHOUT CO/EXTRA CURRICULAR ACTIVITIES

PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
TARGET	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	2.00	3.00	3.00	2.00	2.00	2.00
ATTAINMENT LEVEL	2.01	2.04	1.98	1.93	2.07	1.83	1.87	1.93	2.02	2.02	2.01	1.89	2.04	1.88

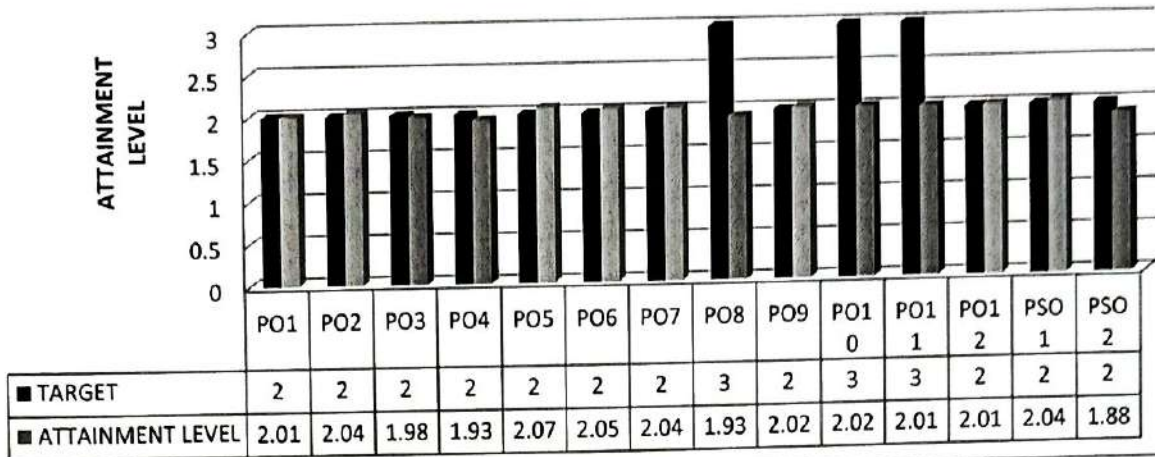
PO/PSO ATTAINMENT WITH CO/EXTRA CURRICULAR ACTIVITIES

PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
TARGET	2	2	2	2	2	2	2	3	2	3	3	2	2	2
OVERALL ATTAINMENT	2.01	2.04	1.98	1.93	2.07	2.05	2.04	1.93	2.02	2.02	2.01	2.01	2.04	1.88

PO/PSO ATTAINMENT WITHOUT CO/EXTRA CURRICULAR ACTIVITIES



PO/PSO ATTAINMENT WITH CO/EXTRA CURRICULAR ACTIVITIES




Coordinator


Head of Department
Electronics & Communication Engineering
B.V.C. Institute of Technology and Science
Battipalem, Amalapuram - 533 201

55	Intellectual Property Rights (IPR) & Patents	C329	-	-	2.80	-	-	2.80	-	-	-	-	-	-	-	-
56	Microwave and Optical Communication Engineering	C411	2.54	2.54	2.47	2.67	2.40	2.40	2.67	-	-	-	-	-	2.56	-
57	Data Communications & Computer networks	C412	2.78	2.80	-	2.80	-	-	-	-	-	-	-	-	2.79	-
58	Digital Image and Video Processing	C413	2.32	2.09	2.22	2.21	1.86	-	-	-	-	-	1.86	-	2.32	-
59	Communication Standards and Protocols	C414	1.75	1.71	1.79				1.75						1.75	
60	Embedded Systems	C415	2.65	2.60	2.57	-	-	-	-	-	-	-	-	-	2.64	-
61	Internet of Things Lab	C423	2.80	2.80	2.80	2.80	2.80	2.80	-	-	-	-	2.80	-	2.80	-
62	Microwave and Optical Communication Engineering LAB	C417	3.00	3.00	-	-	3.00	-	-	-	-	-	-	-	3.00	-
63	Project - Part I	C418	3.00	3.00	3.00		3.00		3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
64	Wireless Communication	C421	2.73	2.73	2.73	-	-	-	-	-	-	-	-	-	2.73	-
65	Cyber Security & Cryptography	C422	2.51	2.50	2.53	-	-	-	-	-	-	-	-	-	2.50	-
66	Project - Part II	C423	3.00	3.00	3.00	3.00	3.00	3.00	3.00	-	3.00	3.00	3.00	3.00	3.00	3.00
No of Courses Contributing to each PO- PSO			59	54	47	22	29	11	9	7	11	12	9	13	48	13
% of Courses Contributing to each PO- PSO			88%	81%	70%	33%	43%	16%	13%	10%	16%	18%	13%	19%	72%	19%
PO ATTAINMENT LEVEL:			2.48	2.45	2.50	2.55	2.66	2.77	2.67	2.78	2.88	2.75	2.69	2.66	2.53	2.66

PO – ASSESSMENT ANALYSIS (2019-23)

Contribution of Courses to each PO:

ENGINEERING KNOWLEDGE								
PO1	Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.							
S.NO.	ASSESSMENT METHOD	COURSES/ ACTIVITIES CONTRIBUTING TO PO1				OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C112	C1210	C228	C326	2.48	80%	1.98
		C113	C211	C311	C327			
		C114	C212	C312	C328			
		C115	C213	C313	C411			
		C117	C214	C314	C412			
		C118	C215	C315	C413			
		C119	C216	C316	C414			
		C121	C217	C317	C415			
		C122	C218	C318	C416			
		C123	C221	C319	C417			

		C124	C222	C321	C418			
		C125	C223	C322	C421			
		C126	C224	C323	C422			
		C127	C225	C324	C423			
		C128	C227	C325				
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback				2.35	20%	0.47
Overall PO Attainment (On a Scale of 3)								2.45
Target Level								2.24
Target Achieved								YES

PO2		PROBLEM ANALYSIS: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.						
S.NO.	ASSESSMENT METHOD	COURSES/ ACTIVITIES CONTRIBUTING TO PO1				OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C112	C125	C218	C314	C411	80%	1.97
		C113	C126	C221	C316	C412		
		C114	C127	C222	C317	C413		
		C115	C128	C223	C318	C414		
		C117	C211	C224	C319	C415		
		C118	C212	C225	C321	C415		
		C119	C213	C227	C322	C417		
		C121	C214	C228	C323	C418		
		C122	C215	C311	C324	C421		
		C123	C216	C312	C327	C422		
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback				2.45	20%	0.49
Overall PO Attainment (On a Scale of 3)								2.46
Target Level								2.18
Target Achieved								YES

PO3	DESIGN/DEVELOPMENT OF SOLUTIONS: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the
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public health and safety, and the cultural, societal, and environmental considerations.

S.NO.	ASSESSMENT METHOD	COURSES/ACTIVITIES CONTRIBUTING TO PO1				OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C112	C213	C313	C327	2.50	80%	2.00
		C114	C215	C314	C328			
		C115	C216	C315	C329			
		C118	C221	C316	C411			
		C119	C222	C317	C413			
		C121	C223	C318	C414			
		C122	C224	C319	C415			
		C125	C225	C321	C416			
		C126	C227	C322	C418			
		C1210	C228	C323	C421			
		C211	C311	C324	C422			
		C212	C312	C326	C423			
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback				1.86	20%	0.37
Overall PO Attainment (On a Scale of 3)							2.36	
Target Level							2.10	
Target Achieved							YES	

PO4 CONDUCT INVESTIGATIONS OF COMPLEX PROBLEMS: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.							
S.NO.	ASSESSMENT METHOD	COURSES/ ACTIVITIES CONTRIBUTING TO PO1			OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C125	C319		2.55	60%	1.53
		C1210	C321				
		C212	C324				
		C214	C325				
		C215	C326				
		C218	C327				
		C222	C411				
		C223	C412				
		C313	C413				
		C316	C416				
		C317	C423				
2	Indirect	Extra / Co-Curricular Activities			0	20%	0
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback			1.97	20%	0.30
Overall PO Attainment (On a Scale of 3)							1.92
Target Level							1.88
Target Achieved							YES

PO5 MODERN TOOL USAGE: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.							
S.NO.	ASSESSMENT METHOD	COURSES/ ACTIVITIES CONTRIBUTING TO PO1			OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION

1	Direct	C111	C227	C326	2.66	60%	1.60
		C117	C228	C327			
		C126	C311	C328			
		C127	C312	C411			
		C128	C313	C413			
		C1210	C315	C416			
		C213	C317	C417			
		C215	C318	C418			
		C217	C319	C423			
		C224	C322				
2	Direct	Extra / Co-Curricular Activities			1	20%	0.20
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback			2.50	20%	0.50
Overall POA Attainment (On a Scale of 3)							2.30
Target Level							2.12
Target Achieved							YES

PO6 THE ENGINEER AND SOCIETY: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.							
S.NO.	ASSESSMENT METHOD	COUSES/ ACTIVITIES CONTRIBUTING TO PO1			OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C111	C3110	C423	2.77	60%	1.66
		C119	C326				
		C1210	C329				
		C219	C411				
		C319	C416				

2	Direct	Extra / Co-Curricular Activities	2.00	20%	0.40
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback	1.91	20%	0.38
Overall PO Attainment (On a Scale of 3)					2.44
Target Level					1.93
Target Achieved					YES

PO7	ENVIRONMENT AND SUSTAINABILITY: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.						
S.NO.	ASSESSMENT METHOD	COURSES/ ACTIVITIES CONTRIBUTING TO PO1			OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C111	C1210	C414	2.67	60%	1.60
		C119	C319	C418			
		C125	C411	C423			
2	Direct	Extra / Co-Curricular Activities			2	20%	0.40
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback			2.	20%	0.40
Overall PO Attainment (On a Scale of 3)							2.40
Target Level							2.06
Target Achieved							YES

PO8 ETHICS: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.							
S.NO.	ASSESSMENT METHOD	COURSES/ ACTIVITIES CONTRIBUTING TO PO1			OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C119	C219	C418	2.78	60%	1.67
		C1210	C319				
		C216	C3110				
2	Direct	Extra / Co-Curricular Activities			1.67	20%	0.33
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback			2.04	20%	0.41
Overall PO Attainment (On a Scale of 3)							2.41
Target Level							2.29
Target Achieved							YES

PO9 INDIVIDUAL AND TEAM WORK: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.							
S.NO.	ASSESSMENT METHOD	COURSES/ ACTIVITIES CONTRIBUTING TO PO1			OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION

1	Direct	C111	C1210	C318	2.88	60%	1.67
		C116	C219	C319			
		C127	C226	C418			
		C129	C316	C423			
2	Direct	Extra / Co-Curricular Activities			1.86	20%	0.37
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback			2.31	20%	0.46
Overall PO Attainment (On a Scale of 3)							2.56
Target Level							2.08
Target Achieved							YES

PO10 COMMUNICATION: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, give and receive clear instructions.							
S.NO.	ASSESSMENT METHOD	COURSES/ACTIVITIES CONTRIBUTING TO PO1			OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C111	C1210	C3110	2.75	60%	1.65
		C115	C219	C418			
		C116	C226	C423			
		C127	C318				
		C129	C319				
2	Direct	Extra / Co-Curricular Activities			1.60	20%	0.32
3	Indirect	Exit Survey, Alumni Feedback			2.38	20%	0.48

	Survey, Industry Personnel Feedback	
Overall PO Attainment (On a Scale of 3)		2.45
Target Level		2.37
Target Achieved		YES

PO11 PROJECT MANAGEMENT AND FINANCE: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.					
NO.	ASSESSMENT METHOD	COUSES/ ACTIVITIES CONTRIBUTING TO PO1	OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C1210	2.69	60%	1.61
		C319			
		C416			
		C216			
		C326			
		C226			
		C413			
		C423			
2	Direct	Extra / Co-Curricular Activities		20%	0.30
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback	2.05	20%	0.41
Overall PO Attainment (On a Scale of 3)					2.32
Target Level					2.24
Target Achieved					YES

PO12 LIFE-LONG LEARNING: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.					
S.NO.	ASSESSMENT METHOD	COUSES/ ACTIVITIES CONTRIBUTING TO PO1	OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION

1	Direct	C111	C1210	C224	2.66	60%	1.25
		C115	C212	C319			
		C116	C219	C325			
		C129	C223	C418			
		C423					
2	Direct	Extra / Co-Curricular Activities			2	20%	0.40
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback			1.89	20%	0.40
Overall PO Attainment (On a Scale of 3)							2.37
Target Level							1.96
Target Achieved							YES

PSO – ASSESSMENT PROCESS (2019-23)

Contribution of Courses to each PSO:

PSO1	Professional Skills: An ability to design, analyze and implement Analog and Digital Electronics systems, Communication, Signal processing, VLSI, Embedded and IoT systems using hardware and software.							
S.NO.	ASSESSMENT HOD	COURSE/ACTIVITIES CONTRIBUTING TO PO1				OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C114	C218	C315	C328	2.53	60%	1.52
		C115	C221	C316	C411			
		C118	C222	C317	C412			
		C124	C223	C318	C413			
		C125	C224	C319	C414			
		C126	C225	C321	C415			
		C1210	C227	C322	C416			
		C211	C228	C323	C417			
		C212	C311	C324	C418			
		C213	C312	C325	C421			
		C214	C313	C326	C422			

1	Direct	C111	C1210	C224	2.66	60%	1.25
		C115	C212	C319			
		C116	C219	C325			
		C129	C223	C418			
				C423			
2	Direct	Extra / Co-Curricular Activities			2	20%	0.40
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback			1.89	20%	0.40
Overall PO Attainment (On a Scale of 3)							2.37
Target Level							1.96
Target Achieved							YES

PSO – ASSESSMENT PROCESS (2019-23)

Contribution of Courses to each PSO:

PSO1	Professional Skills: An ability to design, analyze and implement Analog and Digital Electronics systems, Communication, Signal processing, VLSI, Embedded and IoT systems using hardware and software.							
S.NO.	ASSESSMENT HOD	COURSES/ ACTIVITIES CONTRIBUTING TO PO1				OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C114	C218	C315	C328	2.53	60%	1.52
		C115	C221	C316	C411			
		C118	C222	C317	C412			
		C124	C223	C318	C413			
		C125	C224	C319	C414			
		C126	C225	C321	C415			
		C1210	C227	C322	C416			
		C211	C228	C323	C417			
		C212	C311	C324	C418			
		C213	C312	C325	C421			
		C214	C313	C326	C422			

		C217	C314	C327	C423			
2	Indirect	Extra / Co-Curricular Activities				0	20%	0
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback				2.46	20%	0.49
Overall PO Attainment (On a Scale of 3)							2.52	
Target Level							1.93	
Target Achieved							YES	

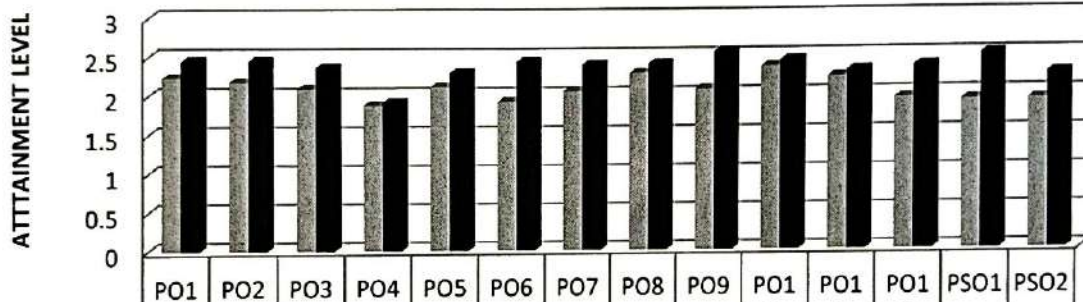
PSO2		Soft-Skills & Ethics: Ability to communicate effectively and practice professional ethics for societal benefit.						
S.NO.	ASSESSMENT METHOD	COURSES/ACTIVITIES CONTRIBUTING TO PO1				OVERALL ASSESSMENT	ASSESSMENT WEIGHTAGE	CONTRIBUTION
1	Direct	C111	C123	C1210	C423	2.66	60%	1.60
		C115	C127	C226				
		C116	C128	C319				
		C119	C129	C418				
2	Direct	Extra / Co-Curricular Activities				1.50	20%	0.30
3	Indirect	Exit Survey, Alumni Feedback Survey, Industry Personnel Feedback				1.88	20%	0.38

Overall PO Attainment (On a Scale of 3)	2.27
Target Level	1.93
Target Achieved	YES

OVERALL ATTAINMENT [2019-23 BATCH]

TARGET from Course - PO mapping (2019-23)	2.24	2.18	2.1	1.88	2.12	1.93	2.06	2.29	2.08	2.37	2.24	1.96	1.93	1.93
Final PO attainment	2.45	2.45	2.37	1.92	2.30	2.44	2.40	2.41	2.56	2.45	2.32	2.37	2.52	2.27

PO/PSO ATTAINMENT [2019-23]



■ Target	2.24	2.18	2.1	1.88	2.12	1.93	2.06	2.29	2.08	2.37	2.24	1.96	1.93	1.93
■ Final PO attainment	2.45	2.45	2.37	1.92	2.3	2.44	2.4	2.41	2.56	2.45	2.32	2.37	2.52	2.27


Coordinator


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