



Department of Electrical and Electronics Engineering

The Department follows a structured Guidelines handbook for Outcome evaluation followed commonly across the institution

Overall CO attainment is calculated by considering CO attainment (IA+SEE)

In order to obtain the CO attainment of the respective course:

Direct attainment is based on performance of the students in the Internal Assessment (30%) and semester end Examinations (70%)

HoD

Dr. PARTHASARATHY L.
Professor and HoD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysuru

Department of Electrical and Electronics Engineering

Detail procedure for Obtaining CO attainment:

STEP 1: All the faculties handling the courses will map the student performance in the internal assessment to the **excel sheet** as and when the blue books are valued.

CO-PO-PSO ATTAINMENT TOOL																												
Note 1: In case a question (Ex: 2d) is not present in QP, keep the column blank.																												
Note 2: If the student is not attempted a question, leave the cell blank. Do not fill with ZERO.																												
Note 3: Fill only the cells with YELLOW / ORANGE, AQUA, PURPLE color. Do not alter the cells with other colors.																												
Note 4: If a question maps to multiple CO's, write them separated by commas. Ex: If a question maps to CO-1 and CO-4, write CO1,4.																												
Subject : Industrial Drives and its Applications.				IA 1												Faculty Name: Prof. Vinod Kumar P												
S.No.	USN	1a	1b	1c	1d	2a	2b	2c	3a	3b	3c	4a	4b	4c	5a	5b	5c	6a	6b	6c	7a	7b	7c	<= Question No.				
		CO1	CO1	CO1	-	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	<= CO Mapping			
		1	1	8	-	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	<= Max. Marks	
1	4AD17EE001	1	1	8	-	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	49	<= IA
2	4AD17EE002	1	1	8	-	1	1	8	1	1	8	1	1	7	1	1	8	1	1	8	1	1	8	1	1	8	49	
3	4AD17EE004	1	1	8	-	1	1	8	1	1	8	1	1	7	1	1	8	1	1	8	1	1	8	1	1	8	49	
4	4AD17EE005	1	1	8	-	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	50	
5	4AD17EE006	1	1	8	-	1	1	8	1	1	8	1	1	7	1	1	8	1	1	8	1	1	8	1	1	8	49	
6	4AD17EE007	1	1	8	-	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	50	
7	4AD17EE008	1	1	8	-	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	50	
8	4AD17EE009	1	1	8	-	1	1	8	1	1	8	1	1	7	1	1	8	1	1	8	1	1	8	1	1	8	49	
9	4AD17EE011	1	1	8	-	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	50	
10	4AD17EE012	1	1	8	-	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	50	
11	4AD17EE013	1	1	8	-	1	1	8	1	1	8	1	1	7	1	1	8	1	1	8	1	1	8	1	1	8	49	
12	4AD17EE014					1	1	8	1	0	8	1	1				8				1	1				31		
13	4AD17EE015	1	1	8	-	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	50	
14	4AD17EE016	1	1	8	-	1	1	8	1	1	8	1	1	7	1	1	8	1	1	8	1	1	8	1	1	8	49	
15	4AD17EE017	1	1	8	-	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	7	49	
16	4AD17EE018					1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	50	

Fig. 1: Mapping of IA marks in excel sheet

CO-PO-PSO ATTAINMENT TOOL																											
Note 1: In case a question (Ex: 2d) is not present in QP, keep the column blank.																											
Note 2: If the student is not attempted a question, leave the cell blank. Do not fill with ZERO.																											
Note 3: Fill only the cells with YELLOW / ORANGE, AQUA, PURPLE color. Do not alter the cells with other colors.																											
Note 4: If a question maps to multiple CO's, write them separated by commas. Ex: If a question maps to CO-1 and CO-4, write CO1,4.																											
Subject : Industrial Drives and its Applications.				IA 1												Faculty Name: Prof. Vinod Kumar P											
S.No.	USN	1a	1b	1c	1d	2a	2b	2c	3a	3b	3c	4a	4b	4c	5a	5b	5c	6a	6b	6c	7a	7b	7c	<= Question No.			
		CO1	CO1	CO1	-	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	<= CO Mapping		
		1	1	8	-	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	1	1	8	<= Max. Marks
No. cleared		44	44	44		48	47	48	8	7	9	45	45	44	45	45	46	1	2	2	48	48	47	48	47	48	> 20
No. attended		44	44	44		48	48	48	8	8	9	45	45	44	45	45	46	2	2	2	48	48	47	48	47	48	> 14
%		100.00	100.00	100.00		100.00	97.92	100.00	100.00	87.50	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	< 15
Course Outcomes		CO1	CO1	CO1	-	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	
% of Contribution of each question to CO's																											
		1a	1b	1c	1d	2a	2b	2c	3a	3b	3c	4a	4b	4c	5a	5b	5c	6a	6b	6c	7a	7b	7c				
CO1		100.00	100.00	100.00		100.00	97.92	100.00	100.00	87.50	100.00	100.00	100.00	100.00												48	15 to 20
CO2																										0	Absent
CO3																										48	Total
CO4															100.00	100.00	100.00	50.00	100.00	100.00	100.00	100.00	100.00	100.00	49.04	Avg.	
CO5																										3.05	St. D.
CO6																										9.32	Coe. V.
% of Attainment		CO1	100.00	CO2	0	CO3	0	CO4	100	CO5	0	CO6												0	IA1	27	

Fig.2: Calculation over all CO attainment Question wise and Actual Average of COs in the IA-1

Department of Electrical and Electronics Engineering

STEP 2: All the three IA including the improvement test is listed and the attainment is available as shown in the below figure. Attainment is calculated in the scale of 0 to 3 based on the percentage of Overall CO attainment

CO attainment %	Attainment Level
<50	0
≥50 but <60	1
≥60 but <70	2
≥70	3

% of Attainment	CO1	0.00	CO2	100	CO3	0	CO4	100	CO5	0	CO6	0	IA3
% of Attainment	CO1	0	CO2	0	CO3	100	CO4	0	CO5	99	CO6	0	IA2
% of Attainment	CO1	100	CO2	0	CO3	0	CO4	100	CO5	0	CO6	0	IA1
AVERAGE		100		100				100		99			
CO Attainment through IA													
L1 / L2 / L3	CO1	3	CO2	3	CO3	3	CO4	3	CO5	3	CO6		

Fig.3: Overall attainment of CO through Internal Assessment

STEP 3: Attainment Level in University Examination

Attainment Level 1: 50% students scoring more than 50 % maximum marks in the final examination.

Attainment Level 2: 60% students scoring more than 50 % maximum marks in the final examination.

Attainment Level 3: 70% students scoring more than 50 % maximum marks in the final examination.

Enter the university Examination (SEE) percentage of students scored more than 50% of the maximum marks.

Example: If the maximum marks for the Course is 125, then the target marks is 63.

If the maximum marks for the course is 100, then the target marks is 50.

➤ The University result once again reduced to the scale 0 to 3.

STEP 4: The excel calculates the overall attainment of the COs by considering 30%weightage to Internal Assessment and 70% of the weightage to Sessional End Examination.

Department of Electrical and Electronics Engineering

STEP 5: Overall CO Attainment (Direct Method)

CO Attainment through IA													VTU Exam Result-%
L1 / L2 / L3	CO1	3	CO2	3	CO3	3	CO4	3	CO5	3	CO6	0.00	
CO Attainment through VTU Exam													98
L1 / L2 / L3	CO1	3	CO2	3	CO3	3	CO4	3	CO5	3	CO6	0.00	
Overall CO Attainment													
L1 / L2 / L3	CO1	3.00	CO2	3.00	CO3	3.00	CO4	3.00	CO5	3.00	CO6	0.00	

Fig 4: Overall CO Attainment Direct Method

STEP 6: Attainment of Course Outcome-In-Direct Method

CO-PO-PSO ATTAINMENT TOOL																	
Subject:Electric Motors [18EE44]				IA-I (2020-21)						Faculty Name: Dr. Shakunthala C							
S.No.	USN	PART-A								PART-B							<= Question No.
		1a,b	1c	2a,b	2c	3a,b	3c	4a,b	4c	5a,b	5c	6a,b	6c	7a,b	7c	<= CO Mapping	
		CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO2	CO2	CO2	CO2	CO2	CO2	<= Max Marks	
1	4AD18EE001	1	7	2	6	2	8	-	-	0	-	2	-	2	8	<= IA	
2	4AD18EE025	1	6	2	7	2	7	-	-	0	-	2	6	-	-		
3	4AD19EE001	2	7	2	7	2	8	-	-	2	8	-	-	2	3		
4	4AD19EE002	-	7	1	7	1	8	-	-	1	8	-	-	2	2		
5	4AD19EE004	1	7	2	7	2	8	-	-	2	7	-	-	2	2		
6	4AD19EE005	-	-	2	7	2	8	1	8	2	8	-	-	2	2		
7	4AD19EE006	-	-	2	7	2	8	1	6	2	8	-	-	2	8		
8	4AD19EE007	2	7	-	-	2	7	2	4	2	8	-	-	2	3		
9	4AD19EE008	1	7	-	-	2	8	1	7	2	8	-	-	2	2		
10	4AD19EE009	2	7	2	7	1	8	-	-	2	8	-	-	2	3		
11	4AD19EE010	1	7	2	7	2	8	-	-	2	8	-	-	1	2		
12	4AD19EE011	1	7	2	7	2	8	-	-	2	8	-	-	2	2		
13	4AD19EE014	-	7	-	8	-	8	-	-	-	-	-	-	-	-		
14	4AD19EE015	1	7	2	7	-	-	-	-	2	8	-	-	2	3		
15	4AD19EE016	2	7	-	-	2	8	1	8	2	8	-	-	2	8		
16	4AD19EE017	2	7	2	6	1	8	-	-	2	7	2	4	-	-		
17	4AD19EE018	1	8	2	7	2	8	-	-	2	8	-	-	2	3		

Fig.5: Overall CO Attainment Indirect Method

STEP 7: Calculation over all CO attainment

CO-PO-PSO ATTAINMENT TOOL																	
Subject:Electric Motors [18EE44]				IA-I (2020-21)						Faculty Name: Dr. Shakunthala C							
S.No.	USN	PART-A								PART-B							<= Question No.
		1a,b	1c	2a,b	2c	3a,b	3c	4a,b	4c	5a,b	5c	6a,b	6c	7a,b	7c	<= CO Mapping	
		CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO2	CO2	CO2	CO2	CO2	CO2	<= Max Marks	
No. cleared		49	49	49	48	51	50	11	9	44	42	21	16	43	11	0	≥40
No. attended		49	51	49	49	51	52	11	9	46	44	21	19	43	41	0	≥30, <840
%		100.00	96.08	100.00	97.96	100.00	96.15	100.00	100.00	95.65	95.45	100.00	84.21	100.00	26.83	0	<30
Course Outcomes		CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO2	CO2	CO2	CO2	CO2	CO2		
% of Contribution of each question to CO's																0	0 to 23
		1a,b	1c	2a,b	2c	3a,b	3c	4a,b	4c	5a,b	5c	6a,b	6c	7a,b	7c	0	24 to 32
CO1		100.00	96.08	100.00	97.96	100.00	96.15	100.00	100.00							0	33 to 40
CO2										95.65	95.45	100.00	84.21	100.00	26.83	0	Absent
CO3																0	Total
CO4																0	Avg.
CO5																0	St. D.
CO6																#DIV/0!	Coe. V.
% of Attainment		CO1	98	CO2	83	CO3	0	CO4	0	CO5	0	CO6	0	IAI			Actual Average

Fig 6: Calculation over all CO attainment Question wise & Actual Average of COs in the IA-I

Department of Electrical and Electronics Engineering

CO-PO-PSO ATTAINMENT TOOL													
Subject: Electric Motors[18EE44]											Assignment- 2020-21		
S.No.	USN	Assignment-I (Quizz-1)				Assignment-II (Quizz-2)				Assignment- 3			
		01 to15		16-30		1 to15		16-30		01 to 6(writup)			
		CO1		CO2		CO3		CO3		CO4			
		Marks	Level	Marks	Level	Marks	Level	Marks	Level	Marks	Level		
		15	3	15	3	15	3	15	3	10	3		
1	4AD18EE001	5	2	5	2	6	2	6	2	3	1		
2	4AD18EE025	9	3	9	3	6	2	6	2	5	2		
3	4AD19EE001	10	3	10	3	10	3	10	3	10	3		
4	4AD19EE002	9	3	9	3	6	2	6	2	6	2		
5	4AD19EE004	10	3	10	3	8	3	8	3	8	3		
6	4AD19EE005	10	3	10	3	10	3	10	3	10	3		
7	4AD19EE006	10	3	10	3	10	3	10	3	10	3		
8	4AD19EE007	9	3	9	3	10	3	10	3	10	3		
9	4AD19EE008	10	3	10	3	10	3	10	3	10	3		
10	4AD19EE009	10	3	10	3	10	3	10	3	10	3		

Fig 7: Faculty Assessment of each COs Statements by Evaluating Students

Course Exit Survey Format:

Table 3:

Branch	18EE44 Electric Motors [CO1]	18EE44 Electric Motors [CO2]	18EE44 Electric Motors [CO3]	18EE44 Electric Motors [CO4]
AVG	2.87	2.83	2.83	2.89

Fig 8: Overall attainment of CO through Internal Assessment

CO-PO-PSO ATTAINMENT TOOL																	
Subject:Electric Motors [18EE44]											IA-III (2020-21)				Faculty Name: Dr. Shakunthala C		
S.No.	USN	PART-A								PART-B							<= Question No.
		1a,b	1c	2a,b	2c	3a,b	3c	4a,b	4c	5a,b	5c	6a,b	6c	7a,b	7c	<= CO Mapping	
		CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4		
% of Attainment		CO1	0	CO2	0	CO3	0	CO4	100	CO5	0	CO6	0	IA3			
% of Attainment		CO1	0	CO2	0	CO3	100	CO4	98	CO5	0	CO6	0	IA2			
CO - PO - PSO Mapping																	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2		
CO1		3	-	-	-	-	-	-	-	-	-	-	2	-	2	CO1	
CO2		3	3	-	-	-	-	-	-	-	-	-	2	-	2	CO2	
CO3		3	3	-	-	-	-	-	-	-	-	-	2	-	2	CO3	
CO4		3	3	-	-	-	-	-	-	-	-	-	2	-	2	CO4	
Course-PO-PSO		3	3	-	-	-	-	-	-	-	-	-	2	-	2		
Direct CO Attainment																	
L1 /L2 /L3		CO1	3	CO2	3	CO3	3	CO4	3	CO5	0	CO6	-				
Indirect CO attainment: Faculty Assessment of each COs Statements by Evaluating Students (Rubrics)																	
A	L1 /L2 /L3	CO1	3	CO2	3	CO3	3	CO4	3	CO5		CO6					
	Average	CO1	2.92	CO2	2.92	CO3	2.68	CO4	2.51	CO5		CO6	-				
Indirect CO attainment: student feedback on Course COs through Course Exit Survey																	
	L1 /L2 /L3	CO1	2.87	CO2	2.83	CO3	2.83	CO4	2.89	CO5		CO6					
Overall CO attainment																	
	L1 /L2 /L3	CO1	2.98	CO2	2.97	CO3	2.92	CO4	2.9	CO5	0						

Page 1

Department of Electrical and Electronics Engineering

PO & PSO Attainment															
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	-	PSO1	PSO2
CO1	2.98	-	-	-	-	-	-	-	-	-	-	1.99	-	-	1.99
CO2	2.97	2.97	-	-	-	-	-	-	-	-	-	1.98	-	-	1.98
CO3	2.92	2.92	-	-	-	-	-	-	-	-	-	1.95	-	-	1.95
CO4	2.90	2.90	-	-	-	-	-	-	-	-	-	1.93	-	-	1.93
% Attainment	2.94	2.93	-	-	-	-	-	-	-	-	-	1.96	-	-	1.96
PO & PSO Attainment - Direct Assessment															
	2.94	2.93	-	-	-	-	-	-	-	-	-	1.96	-	-	1.96
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	-	PSO1	PSO2

Fig 9: CO – PO – PSO Direct Assessment

Setting Target & Gap Analysis

The CO attainments are compared with targets for the gap analysis.

Case(i)

- Targets for CO attainments are drawn from the averages of COs attainment of the previous year.
- The maximum sealing limit of target for any course is set to 2.0. This can be better understood with the following example.


Dr. PARTHASARATHY L.
 Professor and HOD
 Dept. of Electrical & Electronics Engineering
 ATME College of Engineering, Mysuru



A T M E

College of Engineering



NBA
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Department of Electrical and Electronics Engineering


Course Outcome Attainment of Academic 2020-2021

Department of Electrical and Electronics Engineering

Course Outcome Attainment of Academic Year 2020-2021

III Semester

Course Name : Electric Circuit Analysis (18EE32)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C201.1	1.50	1.6	0.1	All COs achieved the target level
C201.2		1.7	0.2	
C201.3		1.8	0.3	
C201.4		1.7	0.2	
C201.5		1.7	0.2	
C201.6		1.7	0.2	
Course Name : Transformers and Generators (18EE33)				
Course Outcomes	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C202.1	2.00	1.4	-0.6	All COs not achieved the target level
C202.2		1.5	-0.5	
C202.3		1.4	-0.6	
C202.4		1.2	-0.8	
C202.5		1.2	-0.8	
Course Name : Analog Electronic Circuits (18EE34)				
Course Outcomes	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C203.1	2.00	2.96	0.96	All COs achieved the target level
C203.2		2.96	0.96	
C203.3		2.93	0.93	
C203.4		2.96	0.96	
C203.5		2.99	0.99	
Course Name : Digital System Design (18EE35)				
Course Outcomes	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C204.1	2.00	2.96	0.96	All COs achieved the target level
C204.2		2.96	0.96	
C204.3		2.93	0.93	
C204.4		2.96	0.96	
C204.5		2.99	0.99	


Dr. PARTHASARATHY L.
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Course Name : Electrical & Electronics Measurements (18EE36)				
Course Outcomes	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C205.1	2.00	3.00	1.00	All COs achieved the target level
C205.2		3.00	1.00	
C205.3		3.00	1.00	
C205.4		3.00	1.00	
C205.5		3.00	1.00	
Course Name : Electrical Machines Laboratory – I (18EEL37)				
Course Outcomes	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C206.1	2.00	3.00	1.00	All COs achieved the target level
C206.2		3.00	1.00	
C206.3		3.00	1.00	
C206.4		3.00	1.00	
C206.5		3.00	1.00	
Course Name : Electronics Laboratory (18EEL38)				
Course Outcomes	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C207.1	2.00	3.00	1.00	All COs achieved the target level
C207.2		3.00	1.00	
C207.3		3.00	1.00	
C207.4		3.00	1.00	
C207.5		3.00	1.00	
C207.6		3.00	1.00	


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 Professor and HOD
 Dept. of Electrical & Electronics Engineering
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IV Semester

Course Name : Power Generation & Economics (18EE42)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C209.1	2.00	2.97	0.97	All COs achieved the target level
C209.2		2.97	0.97	
C209.3		2.96	0.96	
C209.4		2.97	0.97	
C209.5		2.97	0.97	
Course Name : Transmission & Distribution (18EE43)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C210.1	2.00	2.96	0.96	All COs achieved the target level
C210.2		2.96	0.96	
C210.3		2.95	0.95	
C210.4		2.95	0.95	
C210.5		2.95	0.95	
Course Name : Electric Motors (18EE44)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C211.1	2.00	2.98	0.98	All COs achieved the target level
C211.2		2.97	0.97	
C211.3		2.92	0.92	
C211.4		2.92	0.92	
Course Name : Electromagnetic Field Theory (18EE45)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C212.1	2.00	2.94	0.94	All COs achieved the target level
C212.2		2.92	0.92	
C212.3		2.94	0.94	
C212.4		2.94	0.94	
C212.5		2.51	0.51	
Course Name : Operational Amplifiers & Linear ICs (18EE46)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C213.1	2.00	2.97	0.97	All COs achieved the target level
C213.2		2.97	0.97	
C213.3		2.96	0.96	
C213.4		2.97	0.97	
C213.5		2.97	0.97	

Department of Electrical and Electronics Engineering

Course Name : Electrical Machines Laboratory – II (18EEL47)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C214.1	2.00	3.00	1.00	All COs achieved the target level
C214.2		3.00	1.00	
C214.3		3.00	1.00	
C214.4		3.00	1.00	
C214.5		3.00	1.00	
Course Name : Operational Amplifiers & Linear ICs Laboratory (18EEL48)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C215.1	2.00	3.00	1.00	All COs achieved the target level
C215.2		3.00	1.00	
C215.3		3.00	1.00	
C215.4		3.00	1.00	
C215.5		3.00	1.00	


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Department of Electrical and Electronics Engineering

V Semester

Course Name : Management and Entrepreneurship (18EE51)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C300.1	2.00	2.00	0.00	All COs achieved the target level
C300.2		2.30	0.70	
C300.3		2.30	0.70	
C300.4		2.30	0.70	
C300.5		2.30	0.70	
Course Name : Microcontrollers (18EE52)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C301.1	2.00	3.00	1.00	All COs achieved the target level
C301.2		3.00	1.00	
C301.3		3.00	1.00	
C301.4		3.00	1.00	
C301.5		3.00	1.00	
Course Name : Power Electronics (18EE53)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C302.1	2.00	3.00	1.00	All COs achieved the target level
C302.2		3.00	1.00	
C302.3		3.00	1.00	
C302.4		3.00	1.00	
C302.5		3.00	1.00	
Course Name : Signals & Systems (18EE54)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C303.1	2.00	0.90	-1.1	All COs not achieved the target level
C303.2		0.90	-1.1	
C303.3		0.90	-1.1	
C303.4		0.90	-1.1	
C303.5		0.90	-1.1	

Department of Electrical and Electronics Engineering

Course Name : Electrical Machine Design (18EE55)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C304.1	2.00	3.00	1.00	All COs achieved the target level
C304.2		3.00	1.00	
C304.3		2.70	0.70	
C304.4		3.00	1.00	
C304.5		3.00	1.00	
C304.6		3.00	1.00	
Course Name : High Voltage Engineering (18EE56)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C305.1	2.00	3.00	1.00	All COs achieved the target level
C305.2		3.00	1.00	
C305.3		3.00	1.00	
C305.4		3.00	1.00	
C305.5		3.00	1.00	
Course Name : Microcontrollers Laboratory (18EEL57)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C306.1	2.00	3.00	1.00	All COs achieved the target level
C306.2		3.00	1.00	
C306.3		3.00	1.00	
C306.4		3.00	1.00	
C306.5		3.00	1.00	
Course Name : Power Electronics Laboratory (18EEL58)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C307.1	2.00	3.00	1.00	All COs achieved the target level
C307.2		3.00	1.00	
C307.3		3.00	1.00	
C307.4		3.00	1.00	
C307.5		3.00	1.00	


Dr. PARTHASARATHY L.
 Professor and HOD
 Dept. of Electrical & Electronics Engineering
 ATME College of Engineering, Mysuru

Department of Electrical and Electronics Engineering

VI Semester

Course Name : Control Systems (18EE61)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C308.1	2.00	3.00	1.00	All COs achieved the target level
C308.2		3.00	1.00	
C308.3		3.00	1.00	
C308.4		3.00	1.00	
C308.5		3.00	1.00	
Course Name : Power System Analysis – I (18EE62)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C309.1	2.00	3.00	1.00	All COs achieved the target level
C309.2		3.00	1.00	
C309.3		3.00	1.00	
C309.4		3.00	1.00	
C309.5		3.00	1.00	
Course Name : Digital Signal Processing (18EE63)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C310.1	2.00	3.00	1.00	All COs achieved the target level
C310.2		3.00	1.00	
C310.3		3.00	1.00	
C310.4		3.00	1.00	
C310.5		3.00	1.00	
Course Name : Computer Aided Electrical Drawing (Professional Elective) (18EE643)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C311.1	2.00	3.00	1.00	All COs achieved the target level
C311.2		3.00	1.00	
C311.3		2.70	0.70	
C311.4		3.00	1.00	
C311.5		3.00	1.00	

Course Name : Open Elective (18EE65X)

Department of Electrical and Electronics Engineering

Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C312X.1	2.00	3.00	1.00	All COs achieved the target level
C312X.2		3.00	1.00	
C312X.3		3.00	1.00	
C312X.4		3.00	1.00	
C312X.5		3.00	1.00	
Course Name : Control Systems Laboratory (18EEL66)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C313.1	2.00	3.00	1.00	All COs achieved the target level
C313.2		3.00	1.00	
C313.3		3.00	1.00	
C313.4		3.00	1.00	
C313.5		3.00	1.00	
Course Name : Digital Signal Processing Laboratory (18EEL67)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C314.1	2.00	3.00	1.00	All Cos achieved the target level
C314.2		3.00	1.00	
C314.3		3.00	1.00	
C314.4		3.00	1.00	
C314.5		3.00	1.00	
Course Name : Mini Project (18EEMP68)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C315.1	2.00	3.00	1.00	All COs achieved the target level
C315.2		3.00	1.00	
C315.3		3.00	1.00	
C315.4		3.00	1.00	
C315.5		3.00	1.00	


Dr. PARTHASARATHY L.
 Professor and HOD
 Dept. of Electrical & Electronics Engineering
 ATME College of Engineering, Mysuru

Department of Electrical and Electronics Engineering

VII Semester

Course Name : Power System Analysis – II (17EE71)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C400.1	2.00	2.30	0.70	All Cos achieved the target level
C400.2		2.30	0.70	
C400.3		2.30	0.70	
C400.4		2.30	0.70	
C400.5		2.00	1.00	
C400.5		2.30	0.70	
Course Name : Power System Protection (17EE72)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C401.1	2.00	2.70	0.30	All COs achieved the target level
C401.2		3.00	1.00	
C401.3		3.00	1.00	
C401.4		3.00	1.00	
C401.5		3.00	1.00	
Course Name : High Voltage Engineering (17EE73)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C402.1	2.00	3.00	1.00	All COs achieved the target level
C402.2		3.00	1.00	
C402.3		3.00	1.00	
C402.4		3.00	1.00	
C402.5		3.00	1.00	
Course Name : Utilization of Electrical Power (17EE742)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C403.1	1.60	3.00	1.40	All COs achieved the target level
C403.2		3.00	1.40	
C403.3		3.00	1.40	
C403.4		3.00	1.40	
C403.5		3.00	1.40	

Department of Electrical and Electronics Engineering

Course Name : Testing & Commissioning of Electrical Apparatus (17EE752)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C404.1	2.00	3.00	1.00	All COs achieved the target level
C404.2		3.00	1.00	
C404.3		3.00	1.00	
C404.4		3.00	1.00	
C404.5		3.00	1.00	
Course Name : Power System & Simulation Lab (17EEL76)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C405.1	2.00	3.00	1.00	All COs achieved the target level
C405.2		3.00	1.00	
C405.3		3.00	1.00	
C405.4		3.00	1.00	
C405.5		3.00	1.00	
Course Name : Relay & High Voltage Lab(17EEL77)				
Course Outcomes	Target for current academic Year m	Attainment Level of current exam	Gap	Gap Analysis
C406.1	2.00	3.00	1.00	All COs achieved the target level
C406.2		3.00	1.00	
C406.3		3.00	1.00	
C406.4		3.00	1.00	
C406.5		3.00	1.00	
Course Name : Project Work Phase – I (17EEP78)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C407.1	2.00	3.00	1.00	All COs achieved the target level
C406.2		3.00	1.00	
C406.3		3.00	1.00	
C406.4		3.00	1.00	
C406.5		3.00	1.00	

Department of Electrical and Electronics Engineering

VIII Semester

Course Name : Power System Operation & Control (17EE81)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C407.1	2.00	3.00	1.00	All COs achieved the target level
C407.2		3.00	1.00	
C407.3		3.00	1.00	
C407.4		3.00	1.00	
C407.5		3.00	1.00	
Course Name : Industrial Drives & Applications (17EE82)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C408.1	2.00	3.00	1.00	All COs achieved the target level
C408.2		3.00	1.00	
C408.3		3.00	1.00	
C408.4		3.00	1.00	
C408.5		3.00	1.00	
Course Name : Integration of Distributed Generation (17EE833)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C409.1	2.00	3.00	0.30	All COs achieved the target level
C409.2		3.00	0.30	
C409.3		3.00	0.30	
C409.4		3.00	0.30	
Course Name : Internship/Professional Practice (17EE84)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C410.1	2.00	3.00	1.00	All COs achieved the target level
C410.2		3.00	1.00	
C410.3		3.00	1.00	
C410.4		3.00	1.00	
Course Name : Project Work Phase - II (17EEP85)				
Course Outcomes	Target for current academic Year	Attainment Level of current exam	Gap	Gap Analysis
C411.1	2.00	3.00	1.00	All COs achieved the target level
C411.2		3.00	1.00	
C411.3		3.00	1.00	
C411.4		3.00	1.00	
C411.5		3.00	1.00	



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Course Name : Seminar (17EES86)				
Course Outcomes	Attainment Level for last exam	Attainment Level of current exam	Gap	Gap Analysis
C412.1	2.00	3.00	1.00	All COs achieved the target level
C412.2		3.00	1.00	
C412.3		3.00	1.00	
C412.4		3.00	1.00	

HoD

Dr. PARTHASARATHY L.
Professor and HoD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysuru



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Attainment of Program Outcomes and Program Specific Outcomes

Department of Electrical and Electronics Engineering

Program shall set Program Outcome attainment levels for all POs & PSOs.
(The attainment levels by direct (student performance) and indirect (surveys) are to be presented through Program level Course – PO & PSO matrix as indicated).

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101												
C102												

C409												
Direct attainment												
Indirect Attainment												
Over all PO attainment												

Note: Similar table is to be prepared for PSOs

C101, C102 are indicative courses in the first year. Similarly, C409 is final year course. First numeric digit indicates year of study and remaining two digits indicate course nos. in the respective year of study.

1. Direct attainment level of a PO & PSO is determined by taking average across all courses addressing that PO and/or PSO. Fractional numbers may be used up to two decimal places.
2. Indirect attainment level of PO & PSO is determined based on the student exit surveys, employer surveys and Alumni survey.

Calculation of PO attainment:

Following are the steps need to be followed to obtain the PO attainment.

Step 1: Course coordinator should enter the Course articulation matrix as per the course module in Sheet 4 of the CO-PO-PSO assessment tool.

Step 2: CO attainment from the Internal assessment is multiplied with the CAM and reduced percentage in the subsequent table and based on the target level set the percentage are converted to the scale 1 to 3.

Step 3: PO attainment through University Examination results is also considered and reduced to level points 1 to 3.

Step 4: PO and PSO attainment through direct assessment is thus calculated by putting the weightage 70% to attainment through University Exams and 30% to attainment through IA.

Step 5: Indirect Assessment of PO and PSO is calculated by considering the surveys such as Alumni Survey, Program Exit Survey and Employer Survey.

- In each survey the average values of individual POs and PSOs of all the courses in the program are taken.
- Then the overall average of PO1-PO12 and PSOs are taken. Then the final average value is converted and represented in percentage.

Step 6: Above step is carried out for all the three surveys and the final average value of the percentage obtained is converted to Level 1 to 3.

Department of Electrical and Electronics Engineering

Step 1: Course coordinator should enter the Course articulation matrix(CAM) as per the course module in Sheet 4 of the CO-PO-PSO assessment tool.

		CO - PO - PSO Mapping															
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	-	pso1	pso2	pso3
C703.1		3	2	-	-	-	2	-	-	-	-	-	-	-	3	-	
C703.2		3	2	-	-	-	2	-	-	-	-	-	-	-	3	-	
C703.3		3	2	-	-	-	2	-	-	-	-	-	-	-	3	-	
C703.4		3	2	-	-	-	2	-	-	-	-	-	-	-	3	-	
C703.5		3	2	-	-	-	2	-	-	-	-	-	-	-	3	-	
Course-PO-pso		3	2	-	-	-	2	-	-	-	-	-	-	-	3	-	-

Fig.1: CAM of the respective Course

Step 2: CO attainment from the Internal assessment is multiplied with the CAM and reduced percentage in the subsequent table and based on the target level set the percentage are converted to the scale 1 to 3.

Step 3: PO attainment through University Examination results is also considered and reduced to level points 1 to 3.

CO Attainment		
COs	%	L1/L2/L3
C703.1	73	3.00
C703.2	87	3.00
C703.3	94	3.00
C703.4	92	3.00
C703.5	93	3.00

Step 4: PO and PSO attainment through direct assessment is thus calculated by putting the weightage 70% to attainment through University Exams and 30% to attainment through IA.

		PO & PSO Attainment															CO Attainment : 70% of Exam + 30 % of IA.		
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	-	pso1	pso2	pso3		
C703.1		73	49	-	-	-	49	-	-	-	-	-	-	-	73	-		Alumni Survey-%	86
C703.2		87	58	-	-	-	58	-	-	-	-	-	-	-	87	-		Course Feedback-%	0
C703.3		94	63	-	-	-	63	-	-	-	-	-	-	-	94	-		G. Exit Survey-%	84
C703.4		92	61	-	-	-	61	-	-	-	-	-	-	-	92	-		Employer Feedback-%	79
C703.5		93	62	-	-	-	62							-	93				83.00
% Attainment		88	59	-	-	-	59	-	-	-	-	-	-	-	88	-	-	FC & FCD in UNV. Exam (%)	97.00

Fig 2:PO-PSO attainment reduced to percentage

Department of Electrical and Electronics Engineering

Attainment through IA															Attainments	IA	UNV.		
L1 / L2 / L3	3	1	-	-	-	1	-	-	-	-	-	-	-	3	-	0	L1	>=50%	>=50%
Attainment through VTU Exam															L2	>=60%	>=60%		
L1 / L2 / L3	3	3	-	-	-	3	-	-	-	-	-	-	-	3	-	-	L3	>=70%	>=70%
PO & PSO Attainment - Direct Assessment															Direct = 70 % of VTU Exam + 30% of IA				
-	3.00	2.40	-	-	-	2.40	-	-	-	-	-	-	-	3.00	-	-			

Fig 3: PO-PSO attainment through Direct Assessment

Step 5: Indirect Assessment of PO and PSO is calculated by considering the surveys such as Alumni Survey, Program Exit Survey and Employer Survey.

- In each survey the average values of individual POs and PSOs of all the courses in the program are taken.
- Then the overall average of PO1-PO12 and PSOs are taken. Then the final average value is converted and represented in percentage.

Step 6: Above step is carried out for all the three surveys and the final average value of the percentage obtained is converted to Level 1 to 3.

Attainment through VTU Exam															L3	>=70%			
L1 / L2 / L3	3	3	-	-	-	3	-	-	-	-	-	-	-	3	-	-			
PO & PSO Attainment - Direct Assessment															Direct = 70 % of VTU Exam of IA				
-	3.00	2.40	-	-	-	2.40	-	-	-	-	-	-	-	3.00	-	-			
PO & PSO Attainment - Indirect Assessment																			
-	3	3	-	-	-	3	-	-	-	-	-	-	-	3	-	-			
Overall PO & PSO Attainment															Overall = 70 % of Direct + 30 % of Indirect.				
-	3.00	2.58	-	-	-	2.58	-	-	-	-	-	-	-	3.00	-	-			

Fig 4: Overall PO-PSO attainment (Direct+ Indirect)

Department of Electrical and Electronics Engineering

SL No.	USN	Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	AD15EE042	YASHWANTH N	3	3	2	2	3	2	2	3	3	3	3	2	3	2
2	4AD15EE025	PREETHI JESWITA	3	3	2	2	3	2	2	3	3	3	3	2	3	2
3	4AD15EE030	SHARADH S	3	3	3	3	3	3	3	3	3	3	3	3	2	2
4	4AD15EE033	SHAZIM SHARIFF S	3	3	2	2	3	2	2	3	3	3	1	2	3	2
5	4AD15EE035	SIDDHARTHA H S	3	3	3	3	3	3	3	3	3	3	3	3	3	3
6	4AD16EE002	AKHILA SHARMA M D	3	3	2	2	3	2	2	3	3	3	1	2	3	3
7	4AD16EE003	AMRUTESH H K	3	3	2	2	3	2	2	3	3	3	3	2	3	2
8	4AD16EE004	AMRUTHA S	3	3	2	2	3	2	2	3	3	3	1	2	3	3
9	4AD16EE005	ASHWINI M N	3	3	2	2	3	2	2	3	3	3	1	2	2	3
10	4AD16EE006	BHAVYA G	3	3	3	3	3	3	3	3	3	3	3	3	3	3
11	4AD16EE007	CAROL SUSAN ANIL	3	3	3	3	3	3	3	3	3	3	3	3	3	3
12	4AD16EE008	CHANDAN V	3	3	3	3	3	3	3	3	3	3	3	3	2	2
13	4AD16EE009	DARSHAN KUMAR S	3	3	1	2	3	2	2	3	3	3	3	2	3	2
14	4AD16EE010	FALKIYA TAHAREEM	2	2	2	2	2	2	2	2	2	2	2	2	3	3
15	4AD16EE012	HARSHAN M	3	3	2	2	3	2	2	3	3	3	1	2	3	3
16	4AD16EE013	HARSHITHA S	3	3	2	2	3	2	2	3	3	3	2	2	3	2
17	4AD16EE016	KARTHIK H R	3	3	2	2	3	2	2	3	3	3	2	2	3	2
18	4AD16EE018	MAHADEVA PRASAD C K	3	3	2	2	3	2	3	3	3	3	2	2	3	1
19	4AD16EE021	MOHAMED IMADUDDIN	3	3	3	3	3	3	3	3	3	3	3	3	3	3
20	4AD16EE022	MOHAMMED ASSIM	3	3	2	2	3	2	2	3	3	3	3	2		
21	4AD16EE023	MOHITH R	2	2	2	2	2	2	3	2	2	2	2	2	3	3
22	4AD16EE026	NIKITHA M E	3	3	2	2	3	2	2	3	3	3	2	2	2	2
23	4AD16EE027	PALLAVI K R	3	3	3	3	3	3	3	3	3	3	3	3	2	2

Fig 5: Exit survey



HoD
Dr. PARTHASARATHY L.
Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysore

Department of Electrical and Electronics Engineering

Dear Alumni,

For each of the Program Outcomes (PO1-PO12) given below, indicate the level / strength to which it has contributed to your understanding. Please include any comments.

Q1: Before each statement, indicate the answer 1 through 5 which most closely fit this statement for you:

1	2	3	4	5
No contribution	Poor contribution	Some contribution	Average contribution	Strong contribution

PO	Programme Outcomes Description	Answer
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.	
PO2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.	
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.	
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.	
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.	
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.	
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.	
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.	
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	
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, and give and receive clear instructions.	
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.	
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.	

Fig 6: Alumni survey Template



HoD
Dr. PARTHASARATHY
Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysore

Department of Electrical and Electronics Engineering

ATME College of Engineering, Mysuru, Karnataka

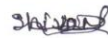
EMPLOYERS: SURVEY QUESTIONNAIRE

Dear Sir,

The Institute is applying for Accreditation of various Programmes which is outcome based in conformity with the International practices. The assessment of the outcomes has to be through a survey. The following questions need your valued consideration. Please find some time and send us your answers to these questions. This response will be kept confidential.

Company Name: GENPACT		
Mailing Address:		
City, HYDERABAD	State, TS	Pin code: 500019
Employment details: Year 2020	Email:	
Questions	Answers	
1. What are the strengths of our under graduates?	DISCIPLINED	
2. What are the weaknesses of our undergraduates?	INTROVERT	
3. What areas are most/least important to your company? Following Departments are under assessment.	ALL	
1. Computers 2. Civil 3. Electronics		
4. Electrical 5. Mechanical ...		
Is consideration being given to addition of other programs? If so, what area(s)?		
4. What additional experiences / preparations do you expect/value?		
5. What on-the-job training do you provide?	BUSINESS PROCESS	
6. Do you see any changes that may need to be made or considered with the <u>program Specific outcomes</u> ? If so, what would be your suggestion?	COMMUNICATION TRAINING	
7. Do you see any changes that may need to be made or considered with the <u>program Educational objectives</u> ? If so, what would be your suggestion??		
8. Do you see any other issues that may need to be discussed?		

Name & Signature



HR DEPT

Fig 7: Employer survey Template



HoD
Dr. PARTHASARATHY L.
Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysuru



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Department of Electrical and Electronics Engineering

SAMPLE OVERALL PO ATTAINMENT

Department of Electrical and Electronics Engineering

BATCH ATTAINMENT: 2017-2021

Overall attainment of PO and PSO *course wise* is obtained by considering Direct and Indirect Attainment with the weightage of 70% and 30% respectively.

Direct PO-PSO Attainment of Batch 2020-21 Passed out Students (2017-2021)																
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
17MAT11	2.85	2.89	2.92	2.88	2.87	2.60	2.92		2.93	2.82	2.90	2.85	2.85	2.86		
17PHY12	2.84	2.84	2.86	2.86	2.86	2.85	2.85	2.84	2.84	2.86	2.83	2.85	2.84	2.84	2.84	
17CHE12	2.96	2.97	3.00	2.98		2.99	2.97				2.95	2.97	2.97	2.97	2.98	
17CIV13	2.97	2.97	2.97	2.97	2.96	2.97	2.96	2.96	2.97	2.97	2.98	2.95	2.97	2.96	2.97	
17PCD13	3.00	3.00	3.00	3.00	3.00	3.00	3.00		3.00	3.00		3.00		3.00	3.00	
17EME14	3.00	3.00	3.00	3.00		3.00	3.00					3.00	3.00	3.00	3.00	
17CED14	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	3.00	3.00	
17ELE15	2.47	2.47	2.48					2.47					2.47	2.47	2.47	
17ELN15	3.00	3.00	3.00	3.00	3.00							3.00	3.00	3.00		
17WSL16	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	
17CPL16	3.00	3.00	3.00	3.00	3.00		3.00		3.00	3.00		3.00	3.00	3.00	3.00	
17PHYL17	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	3.00	3.00	
17CHEL17	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	
17MAT31	0.70	0.70		0.70	0.70				0.70	0.70	0.70	0.70	0.70	0.70	0.70	
17EE32	1.80	1.80	1.50	3.00	2.10								1.80	1.35		
17EE33	1.80	1.20	1.20	2.40								1.50	2.40			
17EE34	1.80	1.50	1.50		2.10			2.10				1.50	1.65			
17EE35	3.00	3.00	2.55		3.00			2.10				2.10	3.00	2.70		
17EE36	2.50	1.75			2.50			1.75				1.75	1.75	1.75	1.75	2.50
17EEL37	3.00	2.70							3.00	3.00		2.10	2.70			2.70
17EEL38	3.00	3.00	0.60					3.00		3.00		2.10	3.00			2.70
17MAT41	0.49	0.49		0.49	0.49				0.49	0.49	0.49	0.49	0.49	0.49		
17EE42	2.30	2.15				1.85	1.40					1.70	1.40		1.40	1.40
17EE43	1.80	1.95	2.10			2.10		2.10				2.10	2.40		2.10	
17EE44	3.00	2.55	2.25	2.10	2.10			2.10				2.10	2.55	1.50		
17EE45	1.80	1.80				2.10		2.10					2.40		2.10	
17EE46	1.80	2.40	2.40	2.10								2.10	2.40	2.10		
17EEL47	3.00	3.00		0.60					3.00	3.00		2.70	2.10			2.70
17EEL48	3.00	3.00	0.60						3.00	3.00			3.00			2.70
17EE51	2.40					2.40					3.00		2.10		2.10	
17EE52		3.00			2.40							3.00	2.10	2.10		2.10
17EE53	3.00	3.00										3.00				2.10
17EE54	1.40	1.40										1.40				1.40
17EE552	3.00												2.10			
17EE563	3.00	2.10				2.40	2.40	2.10				2.40	2.10		2.10	2.10
17EEL57					3.00							3.00		2.40		2.10
17EEL58	3.00	2.70							2.70	2.70		2.70	2.10			2.40
17EE61	3.00	3.00	2.70		3.00							3.00	3.00	2.10		2.10
17EE62	3.00	2.70											2.40			
17EE63	2.70	3.00	2.70		2.70							2.70	2.40	2.10		2.10
17EE64	3.00	3.00	3.00	-		3.00	2.70	2.70	-	-	-	3.00	3.00		3.00	2.10
17EE651	3.00	3.00		-	3.00	3.00	-	-	-	-	-		2.40	2.40	2.10	
17EE662	3.00	3.00		-	-	-	-	-	-	-	-		2.40	-		
17EEL67	3.00	2.70			3.00				2.70	2.70	2.70	2.70	2.40	2.40		2.70
17EEL68	3.00	3.00			3.00				3.00	3.00			2.10	2.40		2.40
17EE71	3.00	3.00	2.10		2.70							2.40	2.40	2.10		2.10
17EE72	3.00	2.10	2.10	-	-	-	-	2.10	-	-	-		2.10	2.10		2.10
17EE73	3.00	2.70	-	-	-	2.70	-	-	-	-	-		2.70	2.40		2.70
17EE742	3.00	3.00	-	-	-	3.00	-	-	-	-	-		2.10	2.10		
17EE752	3.00							2.70					3.00	2.10		2.10
17EEP76	3.00	3.00			3.00				3.00	3.00			3.00	2.40	2.40	2.70
17EEL77	3.00	-	-	-	-	-	-	-	3.00	3.00			3.00			3.00
17EEP78			3.00	3.00	2.70				3.00	3.00	3.00	3.00	2.10	3.00		3.00
17EE81	3.00	3.00	-	-	-	-	-	-	-	-	-		2.58	2.58		2.37
17EE82	3.00	2.10	2.10											2.10		
17EE833	2.40		2.70				2.10						2.10	2.10		2.10
17EE84	-	-	-	-	-	-	-	-	3.00	3.00			3.00			3.00
17EEP85	-	-	3.00	3.00	2.79		2.37	3.00	3.00	3.00			-	2.37	2.58	2.37
17EES86	-	-	-	-	-	-	-	-	3.00	3.00			3.00	3.00	3.00	3.00
Average	2.68	2.56	2.46	2.53	2.64	2.73	2.73	2.48	2.74	2.76	2.546	2.492	2.422	2.408	2.504	2.381

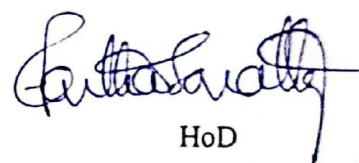
Department of Electrical and Electronics Engineering

Indirect PO-PSO Attainment of Batch 2020-21 Passed out Students (2017-2021)																
PO & PSO Attainment - Indirect Assessment																
2019-20 Passed out Batch	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
Program Exit Survey	2.77	2.75	2.48	2.49	2.49	2.57	2.51	2.48	2.77	2.63	2.28	2.47	2.77	2.45	2.18	2.41
Alumni Survey	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.00	1.00	0.00	0.00
Employer Survey	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Average Values	2.92	2.92	2.83	2.83	2.83	2.86	2.84	2.83	2.92	2.88	2.76	2.82	2.26	2.15	1.73	1.80

Overall PO-PSO Attainment of Batch 2020-21 Passed out Students (2017-2021)																
PO & PSO Attainment - Indirect Assessment																
2020-21 Passed out Batch	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
Direct Attainment	2.68	2.56	2.46	2.53	2.64	2.73	2.73	2.48	2.74	2.76	2.55	2.49	2.42	2.41	2.50	2.38
Indirect Attainment	2.92	2.92	2.83	2.83	2.83	2.86	2.84	2.83	2.92	2.88	2.76	2.82	2.26	2.15	1.73	1.80
Overall Attainment (70% Direct + 30% Indirect)	2.75	2.67	2.57	2.62	2.70	2.77	2.76	2.58	2.80	2.79	2.61	2.59	2.37	2.33	2.27	2.21

Overall attainment of the POs and PSOs is obtained by considering the overall PO & PSO attainment of all the courses of the batch under consideration and taking the average of them. The values thus obtained are the attainment of POs and PSOs for that batch.

The attainment values of the POs are then compared with the set target levels. If the targets are met by the POs and PSOs then, the PO and PSO is said to be attained for that batch. If not then the respective PO and PSO is not attained for the batch and need to be addressed.



HoD

Dr. PARTHASARATHY L.
Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysuru



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PAC and DAB Committee Sample Report



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Department of Electrical and Electronics Engineering

Ref: AV/2019-20/PAC/02

03/07/2019

To
The Principal
ATME College of Engineering, Mysuru

From
The HoD
Department of EEE

Respected Sir,

Subject: Formation of Program Assessment Committee: 2019-20

With reference to above subject, the department wishes to nominate the following Faculty members as Program Assessment Committee members

SL.No	PAC Members	Role
1	Dr.Parthasarathy L HoD, Dept. of EEE	Chairman & Program Coordinator
2	Mrs.Lakshmi K Assistant Professor	Member
3	Mr.Shreeshayana R Assistant Professor	Member Secretary
4	Mr.Rajesh K S Assistant Professor	Member

Request your good office to approve the formation of PAC and kindly do the needful.

1. Roles and Responsibilities of PAC members
 - a) Collect Course module from Course Coordinators
 - b) Submission of Program Articulation Matrix for Curriculum Gap Identification.
 - c) Submission of CO, PO & PSO attainment report to DAB.

Handwritten signature and date: 3/7/20

Handwritten signature of Dr. Parthasarathy L.

HoD
Dr. PARTHASARATHY L.
Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysuru

- CC:
1. IQAC
 2. DAB
 3. Faculty members

ATME COLLEGE OF ENGINEERING

13th Kilometer, Mysore-Kanakapura-Bangalore Road, Mysore – 570 028
Email: eee.atme@gmail.com Web : www.atme.in



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Department of Electrical and Electronics Engineering

14/07/2019

CIRCULAR

Subject: PSO statements

The following Faculty members are informed about new Program Specific Outcomes.

PSO Statements:

Graduates will develop for abilities to

PSO1: Apply the concepts of Electrical & Electronics Engineering to evaluate the performance of power systems and also to control industrial drives using power electronics.

PSO2: Demonstrate the concepts of process control for industrial Automation, design models for environmental and social concerns and also exhibit continuous self-learning.

HoD
DR. PARTHASARATHY L.
Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysuru

CC:

LK	SSR	RKS

ATME COLLEGE OF ENGINEERING

13th Kilometer, Mysore-Kanakapura-Bangalore Road, Mysore – 570 028

Email: eee.atme@gmail.com

Web : www.atme.in

Department of Electrical and Electronics Engineering

Department of Electrical and Electronics Engineering

AY:2019-2020/PAC/04

30/08/2019

Meeting Proceedings

Agenda:

- 1) Submission of CO-PO attainment [AY:2018-2019(Even)]
- 2) BAM:2015-2019 Batch

1. Course Outcome (COs) Attainments of Academic Year 2018-2019, EVEN Semester

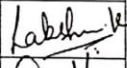


Semester	Course Name	Remarks on COs Attainment	Batch
6 th	Control Systems (15EE61)	All Cos not achieved the target level	4AD15EE
	Computer Aided Electrical Drawing (15EE651)		

2. Batch Articulation Matrix :2015-2019 Batch

Target Level set by Department Advisory Board is 1.95


Method	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
Direct Method	2.59	2.56	2.56	2.70	2.71	2.55	2.81	2.37	2.80	2.79	2.63	2.63	2.61	2.71	2.68	2.79
Indirect Method	2.46	2.04	1.90	1.81	2.28	2.11	2.05	2.10	2.10	2.23	1.94	2.06	2.37	1.86	1.93	2.17
Overall Attainment (Direct*80%+indirect*20%)	2.57	2.45	2.43	2.52	2.62	2.46	2.66	2.47	2.66	2.68	2.49	2.52	2.56	2.54	2.53	2.67
Remarks	All POs & PSOs have attained the target.															

Members:

Sl. No.	Name	Designation	Role	Sign
1	Mrs.Lakshmi K	Assistant Professor	Member	
2	Mr.Shreeshayana R	Assistant Professor	Member Secretary	
3	Mr.Rajesh K S	Assistant Professor	Member	

CC:

1. IQAC
2. DAB


HbD
Dr. PARTHASARATHY L.
Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysuru

ATME COLLEGE OF ENGINEERING

13th Kilometer, Mysore-Kanakapura-Bangalore Road, Mysore – 570 028
Email: eee.atme@gmail.com Web : www.atme.in



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Department of Electrical and Electronics Engineering

AY:2019-2020/PAC/05

3/03/2020

Meeting Proceedings

Agenda: Submission of CO-PO attainment [AY: 2019-2020 (ODD)]

1. Course Outcome (COs) Attainments of Academic Year 2019-2020, ODD Semester

Semester	Course Name	Remarks on COs Attainment	Batch
3 rd	Transform Calculus, Fourier Series and Numerical Techniques (18MAT31)	All COs not achieved the target level	4AD18EE
	Electric Circuit Analysis (18EE32)		
5 th	Signals & Systems (17EE54)	CO2 not achieved the target level	4AD17EE
7 th	Utilization of Electrical Power (15EE742)	All COs not achieved the target level	4AD15EE

Members:

Sl. No.	Name	Designation	Role	Sign
1	Mrs.Lakshmi K	Assistant Professor	Member	
2	Mr.Shreeshayana R	Assistant Professor	Member Secretary	
3	Mr.Rajesh K S	Assistant Professor	Member	

CC:

1. IQAC
2. DAB

HoD

Dr. PARTHASARATHY L.
 Professor and HOD
 Dept. of Electrical & Electronics Engineering
 ATME College of Engineering, Mysuru

ATME COLLEGE OF ENGINEERING

13th Kilometer, Mysore-Kanakapura-Bangalore Road, Mysore – 570 028

Email: eee.atme@gmail.com Web : www.atme.in

Department of Electrical and Electronics Engineering



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Department of Electrical and Electronics Engineering

09/07/2019

To
The Principal
ATMECE, Mysuru

From
The HoD
Department of EEE
ATMECE, Mysuru

Respected Sir,

Subject: Formation of Department Advisory Board: 2019-20

With reference to above subject, the department wishes to induct new members for Department Advisory Board (DAB) for the effective curriculum process & its implementations. The Department Advisory Board (DAB) members are as follows:

SL. No.	Name	Designation	Role
1	Dr. Parthasarathy L	Professor & Head, Department of EEE	Chairman and Program Coordinator
2	Mr. Raghavendra L	Associate Professor	Member
3	Mr. Praveen Kumar M	Assistant Professor	Member
4	Mr. Vinod Kumar P	Assistant Professor	Member Secretary
5	Ms. Swapna H	Assistant Professor	Member
6	Mr. Ravi Kumar K	Manager Techno Power Corporation(TPC), Bengaluru	Industry Expert
7	Ms. Amurtha R	Software Engineer, Wipro Ltd, Alumna of the Department	
8	Mrs. Kavya R	Alumna of the Department	
9	Mrs. Susanna Margreat K S	Employed as Teacher, Parent of ward-Mr.Joshua H Rayapuri	

Request your good office to approve DAB committee members and do the needful.

Page 1/2



Department of Electrical and Electronics Engineering



Department of Electrical and Electronics Engineering

Roles and Responsibilities of Department Advisory Board (DAB):

1. Redefine of Vision and Mission for the department.
2. Redefining of Program Specific Outcomes (PSO's).
3. Scrutinizing and approving of CO-PO and CO-PSO matrices for each course.
4. Advices the assessment process and assessment tools for COs, POs and PSOs attainments.
5. Identifying the compliance of university curriculum for COs, POs and PSOs attainments.
6. Identifying the curricular gaps and suggesting the department for academic activities for program outcome attainment.
7. Evaluating the quality of teaching and learning process.
8. DAB will meet bi-annually and submit report to Internal Quality Assurance Cell (IQAC).

HoD
Dr. PARTHASARATHY L.
Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysuru

Copy to:

1. IQAC
2. Faculties
3. Industry Expert
4. Alumna
5. Parent
6. PAC

Department of Electrical and Electronics Engineering



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Department of Electrical and Electronics Engineering

Department Advisory Board (DAB)

14/07/2019

Minutes of Meeting

The 13th meeting of DAB is held on 14th July 2019 in the Department meeting room for addressing on the following Agenda.

Agenda: Redefining Program Specific Outcomes (PSOs)

Discussed on redefining of Program Specific Outcomes (PSO's) for the Department.

Considering the suggestions from NBA program evaluators feedback on previous PSO's, the following PSO's were redefined.

Program Specific Outcomes (PSOs) are statements that describe what the graduates of a specific engineering program should be able to do.

Indicators for PSO formation:

I. Course composition:

1. Different courses that Program offers includes Basic Science, Multidisciplinary, programming and Core
2. The courses are categorised into:
 - a) Electrical Utility under which different courses are covered like-BEE, EPG, T&D, PSA-1, PSA-2, PSOC, UEP, SGP, HVE, IDG, T&C, RES, EEM- 13/48
 - b) Motor operation & its control through power electronics controllers -(TAG, EM, CS, EMD, PE,AEC, IDA, CAED,EEM,OLIC) -10/48
 - c) Industrial Automation (Process control) & IoT using electrical circuits- (ECA, DSD, MC,S&T, EEM,S&S, DSP)- 7/48

II. Higher studies

III. Career Inclination: CORE/IT/ Non IT Sector

Core-53%; IT-23%; Non-IT-21%; Government-0.59% :Data provided for previous years

IV. Training offered by the department/College through MoU for skill specific training, Self-learning

PSO-1	PSO-2
Courses under Electrical Utility is mapped to PSO-1	Courses under: <ol style="list-style-type: none"> a) Motor operation & its control through power electronics controllers b) Industrial Automation (Process control) & IoT using electrical circuits c) Higher studies/Self learning <p>Is mapped under PSO-2</p>

Department of Electrical and Electronics Engineering

Department of Electrical and Electronics Engineering









PSO statement

Graduates will develop the abilities to:

PSO1: Apply the concepts of Electrical & Electronics Engineering to evaluate the performance of power systems and also to control industrial drives using power electronics.

PSO2: Demonstrate the concepts of process control for Industrial Automation, design models for environmental and social concerns and also exhibit continuous self-learning.

Signature of DAB Members




Sl. No.	Name	Designation	Role	Sign
1	Dr. Parthasarathy L	HoD	Chairman and Program Coordinator	
2	Mr. Raghavendra L	Associate Professor	Member	
3	Mr. Praveen Kumar M	Assistant Professor	Member	
4	Mr. Vinod Kumar P	Assistant Professor	Member Secretary	
5	Ms. Swapna H	Assistant Professor	Member	
6	Mr. Ravi Kumar	Manager, Techno Power Corporation, Bangalore	Industry Expert	
7	Ms. Amurtha R	Software Engineer, Wipro Ltd,	Alumna of the Department	
8	Mrs. Kavya R	-	Alumna of the Department	
9	Mrs. Susanna Margreat K S	Teacher	Parent of ward- Mr. Joshua H Rayapuri	



HOD,
Dr. PARTHASARATHY L
Professor and HOD
Dept. of Electrical & Electronics Engineer
ATME College of Engineering, Mysuru

Copy to

1. The Principal
2. Internal Quality Assurance Cell (IQAC)
3. Programme Assessment Committee
4. Circulate among Faculty Members

	Signature
Principal	
IQAC	
PAC Members	
Faculty members	



HoD
Dr. PARTHASARATHY L
Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysuru

Department of Electrical and Electronics Engineering

Department of Electrical and Electronics Engineering

Department Advisory Board (DAB)

07/09/2019

Minutes of Meeting

The 14th meeting of DAB is held on 7th September 2019 in the Department office for addressing the curriculum gap and Advices to fulfill the gaps.

Agenda: DAB Meeting

1. To review Course Outcome (COs) Attainments of Academic Year: 2018-19 Even Semester
2. To review Batch Articulation Matrix (BAM) and produce PO and PSO attainment after the University examination for 2018-19 pass out Batch.
3. To Identify the curricular gaps for Academic Year: 2019-20 and suggesting the department for academic activities in support of the attainment of the POs & PSOs.

The following points were discussed during the meeting and the minutes were recorded as below:

- 1) The DAB Member secretary was presented the curriculum gaps for academic year 2019-20.
- 2) The curriculum Gap was observed for PO8.
- 3) As per the Batch Articulation Matrix of 2018-19 passed out batch, all the POs and PSOs has attained set target.
- 4) The committee members suggested Industry Institute interactions in support of attainment of selected POs & PSOs.
- 5) The committee suggested including tutorials for course Control Systems and Computer Aided Electrical Drawings.
- 6) The committee members suggested few points for ongoing semester
- Suggested to provide Tutorials for the identified courses

Sl. No	Semester	Subject with code
1.	3 rd	ECA- 18EE32
2.	5 th	S&S – 17EE54

- 7) The committee members gave valuable suggestions to bridge the Curriculum Gaps & compliance of PO attainments to conduct workshops/Technical Talk/ Industry Institute Interactions on Concurrent Technologies & issues and also discussed about previous activities suggested for bridging gap.
- 8) The committee members suggested publishing research work of faculty members in journal.
- 9) The committee suggested setting target level for CO attainment as 1.85 for all courses in academic year 2019-20 with increment of 0.05 for next academic years.
- 10) The CO attainment for any course fails to attain set target level and target level can be addressed based on historical data of previous years.
- 11) Suggested to provide the Assignments that induce self-learning .
- 12) Informed to Program Assessment Committee for the preparation of CO Attainments of the ongoing Semester.

Department of Electrical and Electronics Engineering



ATME
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Signature of DAB Members

SL No.	Name	Designation	Role	Sign
1	Dr. Parthasarathy L	HoD	Chairman and Program Coordinator	<i>[Signature]</i>
2	Mr. Raghavendra L	Associate Professor	Member	<i>[Signature]</i>
3	Mr. Praveen Kumar M	Assistant Professor	Member	<i>[Signature]</i>
4	Mr. Vinod Kumar P	Assistant Professor	Member Secretary	<i>[Signature]</i>
5	Ms. Swapna H	Assistant Professor	Member	<i>[Signature]</i>
6	Mr. Ravi Kumar	Manager, Techno Power Corporation, Bangalore	Industry Expert	<i>[Signature]</i>
7	Ms. Amurtha R	Software Engineer, Wipro Ltd,	Alumna of the Department	<i>[Signature]</i>
8	Mrs. Kavya R	-	Alumna of the Department	<i>[Signature]</i>
9	Mrs. Susanna Margreat K S	Teacher	Parent of ward- Mr. Joshua H Rayapuri	<i>[Signature]</i>

[Signature]

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Dr. PARTHASARATHY L
Professor and HOD
Dept. of Electrical & Electronics Engineer
ATME College of Engineering, Mysuru

Copy to

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2. Internal Quality Assurance Cell (IQAC)
3. Programme Assessment Committee
4. Circulate among Faculty Members

	Signature
Principal	<i>[Signature]</i>
IQAC	<i>[Signature]</i>
PAC Members	<i>[Signatures]</i>
Faculty members	<i>[Signatures]</i>

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Department of Electrical and Electronics Engineering

Department Advisory Board (DAB)

07/03/2020

Minutes of Meeting

The 15th meeting of DAB is held on 7th March 2020 in the Department office for addressing the curriculum gap and Advices to fulfill the gaps.

Agenda: DAB Meeting

1. Discussion on CO Attainments of previous Semester 2019-20 ODD
2. Preparation of Batch Articulation Matrix (BAM) and produce PO and PSO attainment after the University examination of 2019-20 pass out Batch.
3. CO Assessment
4. Suggestion for the preparation of PAM and curriculum Gap of Academic year 2020-21

The following points were discussed during the meeting and the minutes were recorded as below:

The following points were discussed during the meeting and the minutes were recorded as below:

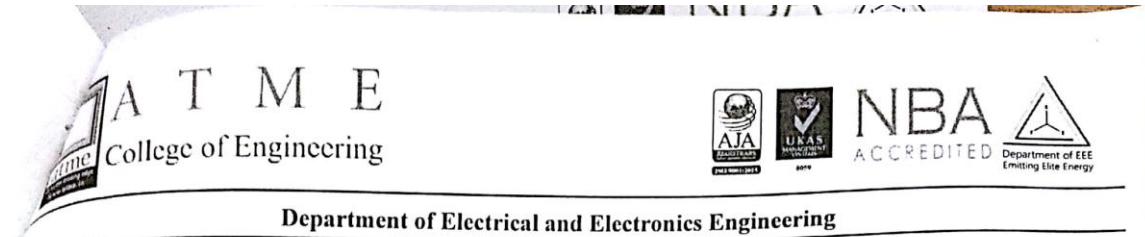
- 1) The member secretary explained the minutes of meeting of PAC for recently completed semester and discussed shortfall of course with less attainment.
- 2) The committee suggested including tutorials for course Electric circuit analysis, signals & systems and Utilization of Electrical Power for next year.
- 3) The committee members suggested few points for ongoing semester
- Suggested to provide Tutorials for the identified courses

Sl. No	Semester	Subject with code
1.	4 th	EFT- 18EE45
2.	6 th	DSP – 17EE63










- The committee suggested enhancing counselling for slow learners to improve their academic performance, personality & identify their domain of interest.
- 4) The committee suggested enhancing Industry Institute Interaction through MOUs in support of fulfilling the Curriculum Gaps.
- 5) The PAC members suggested to prepare a PAM Matrix and to identify curriculum gap for academic year 2020-21.
- 6) Dr. Parthasarathy L insisted the members of PAC can get into other survey in forthcoming days which lead to checking of attainment level.

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 ATME College of Engineering, Mysuru

Department of Electrical and Electronics Engineering





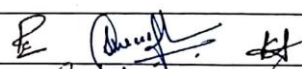
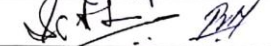
Signature of DAB Members

Sl. No.	Name	Designation	Role	Sign
1	Dr. Parthasarathy L	HoD	Chairman and Program Coordinator	
2	Mr. Raghavendra L	Associate Professor	Member	
3	Mr. Praveen Kumar M	Assistant Professor	Member	
4	Mr. Vinod Kumar P	Assistant Professor	Member Secretary	
5	Ms. Swapna H	Assistant Professor	Member	
6	Mr. Ravi Kumar	Manager, Techno Power Corporation, Bangalore	Industry Expert	
7	Ms. Amurtha R	Software Engineer, Wipro Ltd,	Alumna of the Department	
8	Mrs. Kavya R	-	Alumna of the Department	
9	Mrs. Susanna Margreat K S	Teacher	Parent of ward- Mr. Joshua H Rayapuri	

Copy to

1. The Principal
2. Internal Quality Assurance Cell (IQAC)
3. Programme Assessment Committee
4. Circulate among Faculty Members


HOD
Dr. PARTHASARATHY L
Professor and HOD
Dept. of Electrical & Electronics Engineeri
ATME College of Engineering, Mysuru

	Signature
Principal	
IQAC	
PAC Members	
Faculty members	


HoD
Dr. PARTHASARATHY L
Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysuru

Department of Electrical and Electronics Engineering

Department of Electrical and Electronics Engineering

13/07/2020

To
The Principal
ATMECE

From
The HoD
Department of EEE

Respected Sir,

Subject: Formation of Department Advisory Board:2020-21

With reference to above subject, the department wishes to continue Department Advisory Board (DAB) members for the effective curriculum process & its implementations. The Department Advisory Board (DAB) members are as follows:

SL. No.	Name	Designation	Role
1	Dr. Parthasarathy L	Professor & Head, Department of EEE	Chairman and Program Coordinator
2	Mr. Raghavendra L	Associate Professor	Member
3	Mr. Praveen Kumar M	Assistant Professor	Member
4	Mr. Vinod Kumar P	Assistant Professor	Member Secretary
5	Ms. Swapna H	Assistant Professor	Member
6	Mr. Ravi Kumar K	Manager Techno Power Corporation(TPC), Bengaluru	Industry Expert
7	Ms. Amurtha R	Software Engineer, Wipro Ltd, Alumna of the Department	
8	Mrs. Kavya R	Alumna of the Department	
9	Mrs. Susanna Margreat K S	Employed as Teacher, Parent of ward-Mr.Joshua H Rayapuri	

Request your good office to approve DAB committee members and do needful.

Page1/2

ATME COLLEGE OF ENGINEERING

13th Kilometer, Mysore-Kanakapura-Bangalore Road, Mysore – 570 028

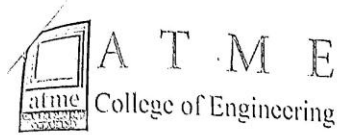
Email: eee.atme@gmail.com Web : www.atme.in



HoD
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Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysore



Department of Electrical and Electronics Engineering



Department of Electrical and Electronics Engineering

Roles and Responsibilities of Department Advisory Board (DAB):

1. Redefine of Vision and Mission for the department.
2. Redefining of Program Specific Outcomes (PSO's).
3. Scrutinizing and approving of CO-PO and CO-PSO matrices for each course.
4. Advices the assessment process and assessment tools for COs, POs and PSOs attainments.
5. Identifying the compliance of university curriculum for COs, POs and PSOs attainments.
6. Identifying the curricular gaps and suggesting the department for academic activities for program outcome attainment.
7. Evaluating the quality of teaching and learning process.
8. DAB will meet bi-annually and submit report to Internal Quality Assurance Cell (IQAC).

HoD
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Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysuru

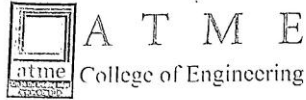
Copy to:

1. IQAC
2. Faculties
3. Industry Expert
4. Alumna
5. Parent
6. PAC

13/7/20



Department of Electrical and Electronics Engineering




Department of Electrical and Electronics Engineering

25/10/2020


CIRCULAR

All the faculties of DAB Members are informed to attend a meeting on 28/10/2020 at 3:00 P.M at Department office. The agenda of the meeting is

1. To review Course Outcome (COs) Attainments of Academic Year: 2019-20 Even Semester
2. To review Batch Articulation Matrix (BAM) and produce PO and PSO attainment after the University examination for 2019-20 pass out Batch.
3. To Identify the curricular gaps for Academic Year: 2020-21 and suggesting the department for academic activities to the attainment of the POs & PSOs.


HOD
Dr. PARTHASARATHY L.
Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysuru




HoD
Dr. PARTHASARATHY L.
Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysuru



Department of Electrical and Electronics Engineering



Department of Electrical and Electronics Engineering

Department Advisory Board (DAB)

28/10/2020

Minutes of Meeting

The 16th meeting of DAB is held on 28th October 2020 in the Department office for addressing the curriculum gap and Advices to fulfill the gaps.

Agenda: DAB Meeting

1. To review Course Outcome (COs) Attainments of Academic Year: 2019-20 Even Semester
2. To Identify the curricular gaps for Academic Year: 2020-21 and suggesting the department for academic activities to the attainment of the POs.
3. To review Batch Articulation Matrix (BAM) and produce PO and PSO attainment after the University examination for 2019-20 pass out Batch.

The following points were discussed during the meeting and the minutes were recorded as below:

- 1) HoD, welcomed all the members of the committee who had assembled for the meeting.
- 2) The committee members were presented the curriculum gaps for academic year 2020-21.
- 3) The curriculum Gap was observed for PO7.
- 4) As per the Batch Articulation Matrix of 2019-20 passed out batch PO8, PSO3 has not attained set target level of 2.
- 5) The committee members suggested for Industry Institute interactions in order to attain the POs.
- 6) The committee members gave valuable suggestions to bridge the Curriculum Gaps & compliance of PO attainments to conduct workshops/Webinars/Industry Institute Interactions on Concurrent Technologies & issues and also discussed about previous activities suggested for bridging gap.
- 7) The DAB members suggested faculty members to publish their research / qualified work in journal to update to latest technology.
- 8) The Committee members suggested course coordinators to provide the Assignments for their courses.
- 9) Concentrate on students to reduce the backlogs and to improve No of FCs and FCDs in their respective courses.
- 10) Informed to Program Assessment Committee for the preparation of CO Attainments of the ongoing Semester.
- 11) Chairman, thanked all the members of the committee who had assembled for meeting and forum dispersed.

HoD
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Professor and HOD
Dept. of Electrical & Electronics Engineering
ATME College of Engineering, Mysore



ATME

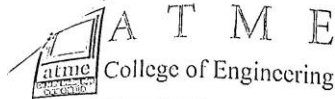
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Department of Electrical and Electronics Engineering

Signature of DAB Members

Sl. No.	Name	Designation	Role	Sign
1	Dr. Parthasarathy L	HoD	Chairman and Program Coordinator	<i>[Signature]</i>
2	Mr. Raghavendra L	Associate Professor	Member	<i>[Signature]</i>
3	Mr. Praveen Kumar M	Assistant Professor	Member	<i>[Signature]</i>
4	Mr. Vinod Kumar P	Assistant Professor	Member Secretary	<i>[Signature]</i>
5	Ms. Swapna H	Assistant Professor	Member	<i>[Signature]</i>
6	Mr. Ravi Kumar	Manager, Techno Power Corporation, Bangalore	Industry Expert	
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8	Mrs. Kavya R	-	Alumna of the Department	<i>[Signature]</i>
9	Mrs. Susanna Margreat K S	Teacher	Parent of ward- Mr. Joshua H Rayapuri	<i>[Signature]</i>

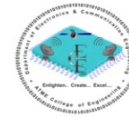
[Signature]
 Dr. PARTHASARATHY L.
 Professor and HOD
 Dept. of Electrical & Electronics Engineering
 ATME College of Engineering, Mysuru

Copy to

1. The Principal
2. DEAN office
3. Circulate among Faculty Members
4. Program Assessment Committee
5. Internal Quality Assurance Cell (IQAC)

	Signature
Principal	<i>[Signature]</i>
Dean Academics	<i>[Signature]</i>
IQAC	
PAC Members	<i>[Signature]</i>

[Signature]
 HoD
 Dr. PARTHASARATHY L.
 Professor and HOD
 Dept. of Electrical & Electronics Engineering
 ATME College of Engineering, Mysuru



The Department follows a structured guidelines handbook for outcome evaluation followed commonly across the institution

Overall CO attainment is calculated by considering CO attainment (IA+SEE)

In order to obtain the CO attainment of the respective course:

Direct attainment is based on performance of the students in the Internal Assessment (30%) and Semester End Examination (70%).


HoD
Professor & Head
Dept. of Electronics & Communication
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Mysuru - 570 028

Detail Procedure for obtaining the CO attainment:

STEP 1: All the faculties handling the courses will map the student performance in the internal assessment to the excel sheet as and when the blue books are valued.

CO-PO-PSO ATTAINMENT TOOL																
Note 1: In case a question (Ex: 2d) is not present in QP, keep the column blank.																
Note 2: If the student is not attempted a question, leave the cell blank. Do not fill with ZERO.																
Note 3: Fill only the cells with ORANGE & AQUA color. Do not alter the cells with other colors.																
Note 4: If a question maps to multiple CO's, write them separated by commas. Ex: If a question maps to CO-1 and CO-4, write CO1,4.																
Subject: Multimedia Communications (17EC741)					IA-I (2020-21)											
S.No.	USN	1	2	3	4	-	-	-	-	5	6	7	-	-	-	<= Question No.
		CO1,4	CO1	CO1	CO1,4	CO	CO	CO	CO	CO1	CO1	CO1	CO	CO	CO	<= CO Mapping
		10	10	10	10	-	-	-	-	10	10	10	-	-	-	<= Max. Marks
1	4AD13EC080	8	10		10					8						<= IA
2	4AD14EC350	10	10	6						10		10				
3	4AD16EC017	10	10		9					10		10				
4	4AD17EC001	10	2	7	9						7	10				
5	4AD17EC002	10	7		8					8		9				
6	4AD17EC004	10	10	8							6	10				
7	4AD17EC005	10	6		9						10	8				
8	4AD17EC006	10	10	7						10		10				
9	4AD17EC008	10		10	8					10	6	9				
10	4AD17EC009	9		7	8						9	9				
11	4AD17EC010	10	10		9					7		9				
12	4AD17EC011	10	9	7						10		10				
13	4AD17EC012	9	10	7						8	9	9				
14	4AD17EC013	10	10	7						8		10				
15	4AD17EC014	10	10		9					10		9				

Fig. 1: Mapping of IA marks in excel sheet

No. cleared	73	76	54	60	0	0	0	0	69	35	67	0	0	0	0	≥40
No. attended	76	79	54	60	0	0	0	0	70	39	74	0	0	0	0	≥30,<840
%	96.05	96.20	100.00	100.00					98.57	89.74	90.54					<30
Course Outcomes	CO1,4	CO1	CO1	CO1,CO4	CO	CO	CO	CO	CO1	CO1	CO1	CO	CO	CO	CO	
% of Contribution of each question to CO's																
	1	2	3	4	-	-	-	-	5	6	7	-	-	-	0	0 to 23
CO1	96.05	96.20	100.00	100.00					98.57	89.74	90.54					24 to 32
CO2																33 to 40
CO3																Absent
CO4	96.05			100.00												Total
CO5																Avg.
CO6																St. D.
																Coe. V.
% of Attainment	CO1	96	CO2	0	CO3	0	CO4	98	CO5	0	CO6	0	IA1	Actual Average		

Fig.2: Calculation over all CO attainment Question wise and Actual Average of COs in the IA-1

STEP 2: All the three IA including the improvement test is listed and the attainment is available as shown in the below figure. Attainment is calculated in the scale of 0 to 3 based on the percentage of Overall CO attainment

CO attainment %	Attainment Level
<50	0
≥50 but <60	1
≥60 but <70	2
≥70	3

% of Attainment	CO1	0	CO2	0	CO3	92	CO4	92	CO5	0	CO6	0	IA3
% of Attainment	CO1	93	CO2	92	CO3	0	CO4	0	CO5	0	CO6	0	IA2
% of Attainment	CO1	96	CO2	0	CO3	0	CO4	98	CO5	0	CO6	0	IA1
AVERAGE		95		92		92		95		0		0	
CO Attainment through IA													
L1 / L2 / L3	CO1	3	CO2	3	CO3	3	CO4	3	CO5	0	CO6	0	

Fig.3.Overall attainment of CO through Internal Assessment

STEP 3: Attainment Level in University Examination

Attainment Level 1: 50% students scoring more than 50 % maximum marks in the final examination.

Attainment Level 2: 60% students scoring more than 50 % maximum marks in the final examination.

Attainment Level 3: 70% students scoring more than 50 % maximum marks in the final examination.

Enter the university Examination (SEE) percentage of students scored more than 50% of the maximum marks.

Example: If the maximum marks for the Course is 125, then the target marks is 63.

If the maximum marks for the course is 100, then the target marks is 50.

➤ The University result once again reduced to the scale 0 to 3.

STEP 4: Then calculates the overall attainment of the COs by considering 30%weightage to Internal Assessment and 70% of the weightage to Sessional End Examination.

CO Attainment through IA											% Students above 50% in VTU Exam	
L1/L2/L3	CO1	3	CO2	3	CO3	3	CO4	3	CO5	0		CO6
CO Attainment through VTU Exam											97	
L1/L2/L3	CO1	3	CO2	3	CO3	3	CO4	3	CO5	3	CO6	-
Overall CO Attainment												
L1/L2/L3	CO1	3	CO2	3	CO3	3	CO4	3	CO5	X	CO6	-

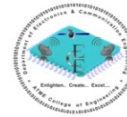
Fig.4: Overall CO Attainment Method

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Professor & Head
Dept. of Electronics & Communication
ATME COLLEGE OF ENGINEERING
Mysuru - 570 028



A T M E
College of Engineering

**Department of Electronics &
Communication Engineering**



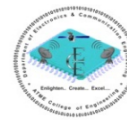
(Accredited by NBA, New Delhi. Validity 01.07.2019 to 30.06.2022)

Course Outcome Attainment of Academic Year 2020-2021

Course Outcomes Attainment AY: 2020-21

Course Name: 17EC71				
Course Outcomes	Target for Current AY	Attainment Level of Current Exam	Gap	Gap Analysis
C401.1	1.8	3	1.2	All COs achieved the target
C401.2	1.8	3	1.2	
C401.3	1.8	3	1.2	
C401.4	1.8	3	1.2	
Course Name: 17EC72				
Course Outcomes	Target for Current AY	Attainment Level of Current Exam	Gap	Gap Analysis
C402.1	1.8	3	1.2	All COs achieved the target
C402.2	1.8	3	1.2	
C402.3	1.8	3	1.2	
C402.4	1.8	3	1.2	
C402.5	1.8	3	1.2	
Course Name: 17EC73				
Course Outcomes	Target for Current AY	Attainment Level of Current Exam	Gap	Gap Analysis
C403.1	1.8	3	1.2	All COs achieved the target
C403.2	1.8	3	1.2	
C403.3	1.8	3	1.2	
C403.4	1.8	3	1.2	
Course Name: 17EC741				
Course Outcomes	Target for Current AY	Attainment Level of Current Exam	Gap	Gap Analysis
C404.1	1.8	3	1.2	All COs achieved the target
C404.2	1.8	3	1.2	
C404.3	1.8	3	1.2	
C404.4	1.8	3	1.2	
Course Name: 17EC755				
Course Outcomes	Target for Current AY	Attainment Level of Current Exam	Gap	Gap Analysis
C405.1	1.8	3	1.2	All COs achieved the target
C405.2	1.8	3	1.2	
C405.3	1.8	3	1.2	
C405.4	1.8	3	1.2	

Course Name: 17ECL76				
Course Outcomes	Target for Current AY	Attainment Level of Current Exam	Gap	Gap Analysis
C406.1	1.8	3	1.2	All COs achieved the target
C406.2	1.8	3	1.2	
C406.3	1.8	3	1.2	
C406.4	1.8	3	1.2	
Course Name: 17ECL77				
Course Outcomes	Target for Current AY	Attainment Level of Current Exam	Gap	Gap Analysis
C407.1	1.8	3	1.2	All COs achieved the target
C407.2	1.8	3	1.2	
C407.3	1.8	3	1.2	
C407.4	1.8	3	1.2	
Course Name: 17EC81				
Course Outcomes	Target for Current AY	Attainment Level of Current Exam	Gap	Gap Analysis
C409.1	1.8	3	1.2	All COs achieved the target
C409.2	1.8	3	1.2	
C409.3	1.8	3	1.2	
C409.4	1.8	3	1.2	
Course Name: 17EC82				
Course Outcomes	Target for Current AY	Attainment Level of Current Exam	Gap	Gap Analysis
C410.1	1.8	2.7	0.9	All COs achieved the target
C410.2	1.8	3	1.2	
C410.3	1.8	3	1.2	
C410.4	1.8	2.7	0.9	
C410.5	1.8	3	1.2	
Course Name: 17EC835				
Course Outcomes	Target for Current AY	Attainment Level of Current Exam	Gap	Gap Analysis
C411.1	1.8	3	1.2	All COs achieved the target
C411.2	1.8	3	1.2	
C411.3	1.8	3	1.2	
C411.4	1.8	3	1.2	
Course Name: 17EC84				
Course Outcomes	Target for Current AY	Attainment Level of Current Exam	Gap	Gap Analysis
C412.1	1.8	3	1.2	All COs achieved the target
C412.2	1.8	3	1.2	



C412.3	1.8	3	1.2	target
C412.4	1.8	3	1.2	
Course Name: 17ECP85				
Course Outcomes	Target for Current AY	Attainment Level of Current Exam	Gap	Gap Analysis
C413.1	1.8	3	1.2	All COs achieved the target
C413.2	1.8	3	1.2	
C413.3	1.8	3	1.2	
C413.4	1.8	3	1.2	
Course Name: 17ECS86				
Course Outcomes	Target for Current AY	Attainment Level of Current Exam	Gap	Gap Analysis
C414.1	1.8	3	1.2	All COs achieved the target
C414.2	1.8	3	1.2	
C414.3	1.8	3	1.2	
C414.4	1.8	3	1.2	


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Attainment of Program Outcomes and Program Specific Outcomes

Program shall set Program Outcome attainment levels for all POs & PSOs.

(The attainment levels by direct (student performance) and indirect (surveys) are to be presented through Program level Course – PO & PSO matrix as indicated).

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101												
C102												

C409												
Direct attainment												
Indirect Attainment												
Over all PO attainment												

Note: Similar table is to be prepared for PSOs

C101, C102 are indicative courses in the first year. Similarly, C409 is final year course. First numeric digit indicates year of study and remaining two digits indicate course nos. in the respective year of study.

1. Direct attainment level of a PO & PSO is determined by taking average across all courses addressing that PO and/or PSO. Fractional numbers may be used up to two decimal places.
2. Indirect attainment level of PO & PSO is determined based on the student exit surveys, employer surveys and Alumni survey.

Calculation of PO attainment:

Following are the steps need to be followed to obtain the PO attainment.

Step 1: Course coordinator should enter the Course articulation matrix as per the course module in Sheet 4 of the CO-PO-PSO assessment tool.

Step 2: CO attainment from the Internal assessment is multiplied with the CAM and reduced percentage in the subsequent table and based on the target level set the percentage are converted to the scale 1 to 3.

Step 3: PO attainment through University Examination results is also considered and reduced to level points 1 to 3.

Step 4: PO and PSO attainment through direct assessment is thus calculated by putting the weightage 70% to attainment through University Exams and 30% to attainment through IA.

Step 5: Indirect Assessment of PO and PSO is calculated by considering the surveys such as Alumni Survey, Program Exit Survey and Employer Survey.

- In each survey the average values of individual POs and PSOs of all the courses in the program are taken.
- Then the overall average of PO1-PO12 and PSOs are taken. Then the final average value is converted and represented in percentage.

Step 6: Above step is carried out for all the three surveys and the final average value of the percentage obtained is converted to Level 1 to 3.

Step 1: Course coordinator should enter the Course articulation matrix (CAM) as per the course module in Sheet 4 of the CO-PO-PSO assessment tool.

CO - PO - PSO Mapping																	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	-	PSO1	PSO2	PSO3	PSO4
C310.1	3	1	1	3	1	1	-	-	-	-	1	1	-	3	1	-	-
C310.2	3	1	1	2	1	1	-	-	-	-	-	1	-	3	1	-	-
C310.3	3	1	1	1	1	1	-	-	-	-	1	1	-	3	2	-	-
C310.4	1	1	1	3	1	1	-	-	-	-	1	3	-	3	2	-	-
C310.5																	
Course-PO-PSO	2.5	1	1	2.25	1	1	X	X	X	X	1	1.5	-	3	1.5	X	X

Fig.1: CAM of the respective Course

Step 2: CO attainment from the Internal assessment is multiplied with the CAM and reduced percentage in the subsequent table and based on the target level set the percentage are converted to the scale 1 to 3.

Step 3: PO attainment through University Examination results is also considered and reduced to level points 1 to 3.

CO Attainment		
COs	%	L1/L2/L3
C310.1	71	3.00
C310.2	48	2.10
C310.3	85	3.00
C310.4	86	3.00
C310.5	0	X

Step 4: PO and PSO attainment through direct assessment is thus calculated by putting the weightage 70% to attainment through University Exams and 30% to attainment through IA

PO & PSO Attainment														CO Attainment = 70 % of VTU Exam + 30 % of IA.				
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4		
C310.1	71	24	24	71	24	24	-	-	-	-	24	24	71	24			Alumni Survey-%	60
C310.2	48	16	16	32	16	16	-	-	-	-	-	16	48	16			Course Feedback-%	91
C310.3	85	28	28	28	28	28	-	-	-	-	28	28	85	56			G. Exit Survey-%	80
C310.4	29	29	29	86	29	29	-	-	-	-	29	86	86	57			Employer Feedback-%	75
C310.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0				76.50
																	FC & FCD in UNV. Exam (%)	
% Attainment	58	24	24	54	24	24	0	0	0	0	27	38	72	38	0	0		82

Fig 2: PO-PSO attainment reduced to percentage

Attainment through IA														Attainments				
L1 / L2 / L3	1	0	0	1	0	0	X	X	X	X	0	0	3	0	X	X	IA	UNV.
L1																	>=50%	>=50%
L2																	>=60%	>=60%
L3																	>=70%	>=70%

Attainment through VTU Exam														Attainments				
L1 / L2 / L3	3	3	3	3	3	3	X	X	X	X	3	3	3	3	X	X	IA	UNV.
L1																	>=50%	>=50%
L2																	>=60%	>=60%
L3																	>=70%	>=70%

PO & PSO Attainment - Direct Assessment														Direct = 70 % of VTU Exam + 30% of IA				
70% weightage	2.4	2.1	2.1	2.4	2.1	2.1	X	X	X	X	2.1	2.1	3	2.1	X	X		
L1																	>=50%	>=50%
L2																	>=60%	>=60%
L3																	>=70%	>=70%

Fig 3: PO-PSO attainment through Direct Assessment

Step 5: Indirect Assessment of PO and PSO is calculated by considering the surveys such as Alumni Survey, Program Exit Survey and Employer Survey.

- In each survey the average values of individual POs and PSOs of all the courses in the program are taken.
- Then the overall average of PO1-PO12 and PSOs are taken. Then the final average value is converted and represented in percentage.

Step 6: Above step is carried out for all the three surveys and the final average value of the percentage obtained is converted to Level 1 to 3.

PO & PSO Attainment - Direct Assessment														Direct = 70 % of VTU Exam + 30% of IA				
70% weightage	2.4	2.1	2.1	2.4	2.1	2.1	X	X	X	X	2.1	2.1	3	2.1	X	X		
L1																	>=50%	>=50%
L2																	>=60%	>=60%
L3																	>=70%	>=70%

PO & PSO Attainment - Indirect Assessment														Direct = 70 % of VTU Exam + 30% of IA				
30% Weightage	3	3	3	3	3	3	X	X	X	X	3	3	3	3	X	X		
L1																	>=50%	>=50%
L2																	>=60%	>=60%
L3																	>=70%	>=70%

Overall PO & PSO Attainment														Overall = 70 % of Direct + 30% Indirect				
Final Attainment	2.58	2.37	2.37	2.58	2.37	2.37	X	X	X	X	2.37	2.37	3	2.37	X	X		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4		

Fig 4: Overall PO-PSO attainment (Direct+ Indirect)

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Survey data are as follows:

USN Number	Namein SSLC	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
4AD16EC070	SNEHA HM	3	3	3	3	3	3	3	3	3	3	3	3
4AD16EC085	YASHASWINI L	3	3	3	3	3	3	3	3	3	3	3	3
4AD16EC041	NEHA D	3	3	3	3	3	3	3	3	3	3	3	3
4AD17EC404	DARSHAN B S	3	3	3	3	3	3	3	3	3	3	3	3
4AD16EC073	SUHAS P	3	3	3	2	3	3	3	2	3	3	3	3
4AD16EC078	TEJAS KUMAR M	3	3	3	3	3	3	3	3	3	3	3	3
4AD16EC063	SANJANA N	3	3	3	3	3	3	3	3	3	3	3	3
4AD17EC411	MEGHASAJAN P R	2	2	2	2	2	2	2	2	2	2	2	2
4AD16EC020	Gowthami H K	3	3	3	3	2	3	2	3	3	3	3	3
4AD15EC003	AISHWARYA V KUMAR	3	2	3	2	2	3	2	2	3	3	1	3
4AD17EC424	SHIVA S	2	2	2	3	2	2	2	2	2	2	2	3
4AD16EC006	ANUSHA B E	3	3	2	3	3	3	2	2	2	3	3	3
4AD16EC010	BHOOMIKA M S	3	3	3	3	3	3	3	3	3	3	3	3

Fig 5: Exit survey

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Dear Alumni,

For each of the Program Outcomes (PO1-PO12) given below, indicate the level / strength to which it has contributed to your understanding. Please include any comments.

Q1: Before each statement, indicate the answer 1 through 5 which most closely fits this statement for you:

1	2	3	4	5
No contribution	Poor contribution	Some contribution	Average contribution	Strong contribution

PO	Programme Outcomes Description	Answer
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.	
PO2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.	
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.	
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.	
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.	
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.	
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.	
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.	
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	
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, and give and receive clear instructions.	
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.	
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.	

Fig 6: Alumni Survey Template

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Professor & Head
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ATME College of Engineering, Mysuru, Karnataka

EMPLOYERS: SURVEY QUESTIONNAIRE

Dear Sir,

The Institute is applying for Accreditation of various Programmes which is outcome based in conformity with the International practices. The assessment of the outcomes has to be through a survey. The following questions need your valued consideration. Please find some time and send us your answers to these questions. This response will be kept confidential.

Company Name: CIENPACT		
Mailing Address:		
City, HYDERABAD	State, TS	Pin code: 500019
Employment details: Year 2020		Email:
Questions	Answers	
1. What are the strengths of our under graduates?	DISCIPLINED	
2. What are the weaknesses of our undergraduates?	INTROVERT	
3. What areas are most/least important to your company? Following Departments are under assessment.	ALL	
1. Computers/ 2. Civil	3. Electronics	
4. Electrical	5. Mechanical	
6. Is consideration being given to addition of other programs? If so, what area(s)?		
4. What additional experiences / preparations do you expect/value?		
5. What on-the-job training do you provide?	BUSINESS PROCESS	
6. Do you see any changes that may need to be made or considered with the <u>program Specific outcomes</u> ? If so, what would be your suggestion?	COMMUNICATION TRAINING	
7. Do you see any changes that may need to be made or considered with the <u>program Educational objectives</u> ? If so, what would be your suggestion?		
8. Do you see any other issues that may need to be discussed?		

Name & Signature

SHWETA

HR DEPT

Dull
HoD

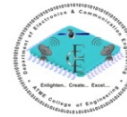
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Dept. of Electronics & Communication
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Mysuru - 570 028



A T M E
College of Engineering

**Department of Electronics &
Communication Engineering**

(Accredited by NBA, New Delhi. Validity 01.07.2019 to 30.06.2022)



OVERALL PO ATTAINMENT

Overall attainment of PO and PSO course wise is obtained by considering Direct and Indirect Attainment with the weightage of 70% and 30% respectively.

PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
Direct Attainment	2.2	1.9	2.0	1.9	2.0	1.8	1.6	1.4	1.8	2.2	1.8	2.0	2.0	1.9	2.4	0
Indirect Attainment	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	3.00	3.00	3.00
Overall Attainment	2.41	2.25	2.27	2.24	2.28	2.16	2.00	1.87	2.19	2.42	2.17	2.31	2.24	2.56	0.00	2.31

Sample Calculation:

$$\text{Overall PO1 attainment} = 0.7 * \text{Direct Attainment} + 0.3 * \text{Indirect Attainment}$$

$$\text{Overall PO1 attainment} = 0.7 * 2.29 + 0.3 * 3$$

$$\text{Overall PO1 attainment} = 2.51$$

Overall attainment of the POs and PSOs is obtained by considering the overall PO & PSO attainment of all the courses of the batch under consideration and taking the average of them. The values thus obtained are the attainment of POs and PSOs for that batch.

The attainment values of the POs are then compared with the set target levels. If the targets are met by the POs and PSOs then, the PO and PSO is said to be attained for that batch. If not then the respective PO and PSO is not attained for the batch and need to address.

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Dept. of Electronics & Communication
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DEPARTMENT OF CIVIL ENGINEERING

The Department follows a structured Guidelines handbook for Outcome evaluation followed commonly across the institution

Overall CO attainment is calculated by considering CO attainment (IA+SEE)

In order to obtain the CO attainment of the respective course:

Direct attainment is based on performance of the students in the Internal Assessment (30%) and semester end Examinations (70%)

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ATME College of Engineering
Mysuru-570028

DEPARTMENT OF CIVIL ENGINEERING

Detail procedure for Obtaining CO attainment:

STEP 1: All the faculties handling the courses will map the student performance in the internal assessment to the **excel sheet** as and when the blue books are valued.

CO-PO-PSO ATTAINMENT TOOL																
Note 1: In case a question (Ex: 2d) is not present in QP, keep the column blank.																
Note 2: If the student is not attempted a question, leave the cell blank. Do not fill with ZERO.																
Note 3: Fill only the cells with ORANGE & AQUA color. Do not alter the cells with other colors.																
Note 4: If a question maps to multiple CO's, write them separated by commas. Ex: If a question maps to CO-1 and CO-4, write CO1,4.																
Subject: 18CV61			IA-I (2020-21)						Course Coordinator: Srivathsa H U							
S.No.	USN	1a	1b	2a	2b	3a	3b	1a	1b	2a	2b	3a	3b	4a	4b	<= Question No.
		CO1	CO1	CO1	CO1	CO1	CO1	CO2	CO2	CO2	CO2	CO2	CO2	CO2	CO2	
		2	8	2	8	2	8	2	8	2	8	2	8	2	8	<= Max. Marks
1	4AD18CV002	2	8	2	8					2	8	2	8	2	8	50
2	4AD18CV003	2	8			2	8			2	8	2	8	1	8	49
3	4AD18CV004	2	8	2	8					2	8	2	8	1	8	49
4	4AD18CV006	2	8	2	8					2	8	2	8	2	8	50
5	4AD18CV007	2	8	2	8					2	8	2	8		8	48
6	4AD18CV008	2	8	2	8					2	8	2	8	1	8	49
7	4AD18CV009	2	8	2	8	0	8			2	8	2	8	1	8	50
8	4AD18CV010	2	8	2	8					2	8	2	8	1	8	49
9	4AD18CV012	2	8	2	8			2	5	2	8	2	8			47
10	4AD18CV013	1	8	1	8						8	0	8	0	8	42
11	4AD18CV014	2	8	2	8	0	8			1	8	2	8	1	8	50
12	4AD18CV015	2	8	2	8	2	8			2	8	2	8	2	8	50
13	4AD18CV016	2	8			2	8			2	8	2	8	1	8	49
14	4AD18CV017	2	8	2	8					2	8	2	8	0	8	48
15	4AD18CV019	1	8	1	8					2	8	2	8	1	8	47
16	4AD18CV020	1	8	1	8					1	8	1	8	1	8	45
17	4AD18CV021	1	8	1	8					2	8	2	8	1	8	47
18	4AD18CV022	1	8	1	8					2	8	2	8	1	8	47

Fig. 1: Mapping of IA marks in excel sheet

CO-PO-PSO ATTAINMENT TOOL																	
Note 1: In case a question (Ex: 2d) is not present in QP, keep the column blank.																	
Note 2: If the student is not attempted a question, leave the cell blank. Do not fill with ZERO.																	
Note 3: Fill only the cells with ORANGE & AQUA color. Do not alter the cells with other colors.																	
Note 4: If a question maps to multiple CO's, write them separated by commas. Ex: If a question maps to CO-1 and CO-4, write CO1,4.																	
Subject: 18CV61			IA-I (2020-21)						Course Coordinator: Srivathsa H U								
S.No.	USN	1a	1b	2a	2b	3a	3b	1a	1b	2a	2b	3a	3b	4a	4b	<= Question No.	
		CO1	CO1	CO1	CO1	CO1	CO1	CO2	CO2	CO2	CO2	CO2	CO2	CO2	CO2		<= CO Mapping
		2	8	2	8	2	8	2	8	2	8	2	8	2	8	<= Max. Marks	
No. cleared		58	58	49	50	9	15	6	7	56	57	53	54	50	55	58	≥40
No. attended		58	58	49	50	14	15	7	7	56	58	56	55	54	55	58	≥30, <840
%		100.00	100.00	100.00	100.00	64.29	100.00	85.71	100.00	100.00	98.28	94.64	98.18	92.59	100.00	0	<30
Course Outcomes		CO1	CO1	CO1	CO1	CO1	CO1	CO2	CO2	CO2	CO2	CO2	CO2	CO2	CO2		
% of Contribution of each question to CO's																	
		1a	1b	2a	2b	3a	3b	1a	1b	2a	2b	3a	3b	4a	4b	0	0 to 23
CO1		100.00	100.00	100.00	100.00	64.29	100.00									58	24 to 32
CO2								85.71	100.00	100.00	98.28	94.64	98.18	92.59	100.00	0	Absent
CO3																58	Total
CO4																48.02	Avg.
CO5																2.72	St. D.
CO6																7.39	Coe. V.
% of Attainment		CO1	98	CO2	97	CO3	0	CO4	0	CO5	0	CO6	0	IA1			Actual Average

Fig.2: Calculation over all CO attainment Question wise and Actual Average of COs in the IA-1

DEPARTMENT OF CIVIL ENGINEERING

STEP 2: All the three IA including the improvement test is listed and the attainment is available as shown in the below figure. Attainment is calculated in the scale of 0 to 3 based on the percentage of Overall CO attainment

CO attainment %	Attainment Level
<50	0
≥50 but <60	1
≥60 but <70	2
≥70	3

% of Attainment	CO1	97	CO2	0	CO3	92	CO4	0	CO5	0	CO6	0	IA3
% of Attainment	CO1	0	CO2	0	CO3	0	CO4	96	CO5	99	CO6	0	IA2
% of Attainment	CO1	98	CO2	97	CO3	0	CO4	0	CO5	0	CO6	0	IA1
AVERAGE		98		97		92		96		99		0	
CO Attainment through IA													
L1 /L2 /L3	CO1	3	CO2	3	CO3	3	CO4	3	CO5	3	CO6	0	

Fig.3: Overall attainment of CO through Internal Assessment

STEP 3: Attainment Level in University Examination

Attainment Level 1: 50% students scoring more than 50 % maximum marks in the final examination.

Attainment Level 2: 60% students scoring more than 50 % maximum marks in the final examination.

Attainment Level 3: 70% students scoring more than 50 % maximum marks in the final examination.

Enter the university Examination (SEE) percentage of students scored more than 50% of the maximum marks.

Example: If the maximum marks for the Course is 125, then the target marks is 63.

If the maximum marks for the course is 100, then the target marks is 50.

➤ The University result once again reduced to the scale 0 to 3.

STEP 4: The excel calculates the overall attainment of the COs by considering 30%weightage to Internal Assessment and 70% of the weightage to Sessional End Examination

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STEP 5: Overall CO Attainment (Direct Method)

CO Attainment through IA											% Students above 50% in VTU Exam	
L1/L2/L3	CO1	3	CO2	3	CO3	3	CO4	3	CO5	3		CO6
CO Attainment through VTU Exam											100	
L1/L2/L3	CO1	3	CO2	3	CO3	3	CO4	3	CO5	3		CO6
Overall CO Attainment												
L1/L2/L3	CO1	3	CO2	3	CO3	3	CO4	3	CO5	3	CO6	-

Fig.4: Overall CO Attainment Method Direct Method

STEP 6: Attainment of Course Outcome-In-Direct Method

CO-PO-PSO ATTAINMENT TOOL																	
Subject: Building Materials & Construction [18CV34]			IA-I (2020-21)							Faculty Name: Prof. Srivathsa H U							
S.No.	USN	PART-A								PART-B						<= Question No.	
		1a	1b	2a	2b	3a	3b	4a	4b	1a	1b	2a	2b	3a	3b		<= CO Mapping
		CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO2	CO2	CO2	CO2	CO2	CO2		<= Max. Marks
1	4AD19CV001	1	8			1	8	2	8	1	6			0	6	41	<= IA
2	4AD19CV002	2	8	2	8	1	8							0	8	37	
3	4AD19CV003	2	8	2	8	0	8			1		2		2		33	
4	4AD19CV004	2	8	2	8	1	5			1	8			2	8	45	
5	4AD19CV005	2	8	1	8	0	8			1				2	8	38	
6	4AD19CV006	2	8	2	4	1	8			1	8			2	8	44	
7	4AD19CV007	2	8			0	8	2	4	1	8			0	8	41	
8	4AD19CV008	2	8	1	8	0	8			1				2	8	38	
9	4AD19CV009	2	8	1	8	1	8					1	5	1	8	43	
10	4AD19CV010	2	8			0	8	2	4	1	8			0	3	36	
11	4AD19CV011	2	8			0	8	2	4	1	4			0	0	29	
12	4AD19CV012		8	2	8					1	8			2	5	34	
13	4AD19CV013	2	8			2	8	2	4			2	8	2	8	46	
14	4AD19CV014	2	8			0	0	0	2	1	8			0	8	29	
15	4AD19CV015	2	8			0	8	0	7	1	6			0	8	40	
16	4AD19CV016	2	8	1	5	0	8					2	8	0	8	42	
17	4AD19CV017	2	8	2	8	1	8					1	8	1	8	47	
18	4AD19CV018	2	8	1	8	1	6					2	8	0	8	44	

Fig.5: Overall CO Attainment Indirect Method

STEP 7: Calculation of overall CO attainment

CO-PO-PSO ATTAINMENT TOOL																	
Subject: Building Materials & Construction [18CV34]			IA-I (2020-21)							Faculty Name: Prof. Srivathsa H U							
S.No.	USN	PART-A								PART-B						<= Question No.	
		1a	1b	2a	2b	3a	3b	4a	4b	1a	1b	2a	2b	3a	3b		<= CO Mapping
		CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO2	CO2	CO2	CO2	CO2	CO2		<= Max. Marks
No. cleared		57	58	35	36	26	47	19	21	46	42	19	15	22	37	28	≥40
No. attended		57	58	37	38	55	53	21	22	48	42	19	15	43	39	58	≥30, <840
%		100.00	100.00	94.59	94.74	47.27	88.68	90.48	95.45	95.83	100.00	100.00	100.00	51.16	94.87	1	<30
Course Outcomes		CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO2	CO2	CO2	CO2	CO2	CO2		
% of Contribution of each question to CO's																	
		1	2	3	4	5	-	-	-	5	6	7	-	-	7b	1	0 to 23
		30	30	24 to 32													
	CO1	100.00	100.00	94.59	94.74	47.27	88.68	90.48	95.45							28	33 to 40
	CO2									95.83	100.00	100.00	100.00	51.16	94.87	0	Absent
	CO3															59	Total
	CO4																Avg.
	CO5																St. D.
	CO6																Coe. V.
% of Attainment		CO1	88	CO2	88	CO3	0	CO4	0	CO5	0	CO6	0	IAI	Actual Average		

Fig 6: Calculation over all CO attainment Question wise & Actual Average of COs in the IA-1

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CO-PO-PSO ATTAINMENT TOOL																			
Subject: Building Materials & Construction [18CV34]										Assignment- 2020-21			Faculty Name: Prof. Srivathsa H U						
S.No.	USN	Assignment-I (Quizz-1)				Assignment-II (Quizz-2)				Assignment-III (Quizz-3)				PART-B					
		CO1		CO2		CO3		CO3		CO4		-	-	-	-	-	-	<= Question No.	
		Marks	Level	Marks	Level	Marks	Level	Marks	Level	Marks	Level	CO	CO	CO	CO	CO	CO	<= CO Mapping	
		6	3	4	3	10		3	3	3	7	3	-	-	-	-	-	<= Max. Marks	
1	4AD19CV001	6	3	4	3	10		3	3	3	7	3	-	-	-	-	-	<= IA	
2	4AD19CV002	0	0	0	0	10		3	3	3	7	3							
3	4AD19CV003	0	0	0	0	0		0	0	0	0	0							
4	4AD19CV004	5	2.5	4	3	9		2.7	3	3	7	3							
5	4AD19CV005	6	3	4	3	10		3	3	3	7	3							
6	4AD19CV006	4	2	3	2.25	9		2.7	3	3	5	2.14							
7	4AD19CV007	5	2.5	4	3	10		3	3	3	7	3							
8	4AD19CV008	0	0	0	0	0		0	0	0	0	0							
9	4AD19CV009	5	2.5	4	3	9		2.7	3	3	7	3							
10	4AD19CV010	5	2.5	4	3	10		3	2	2	7	3							
11	4AD19CV011	6	3	4	3	10		3	3	3	7	3							
12	4AD19CV012	4	2	4	3	0		0	0	0	0	0							
13	4AD19CV013	6	3	4	3	10		3	3	3	7	3							
Average Attainment of CO		CO1	2.35	CO2	2.50	CO3	2.55	CO3	2.56	CO4	3	CO	CO	CO	CO	CO	CO		

Fig 7: Faculty Assessment of each COs Statements by Evaluating Students

Course Exit Survey Format:

Table 3:

Timestamp	Candidate USN	Candidate Name	18CV34-CO-1-Select suitable materials for buildings and adopt suitable construction techniques.	18CV34-CO-2-Decide suitable type of foundation based on soil parameters	18CV34-CO-3-Supervise the construction of different building elements based on suitability	18CV34-CO-4-Exhibit the knowledge of building finishes and form work requirements
2021/02/11 4:26:55 PM GMT+5:30	4AD19CV043	Poornesh m	1	1	1	1
2021/02/11 4:28:51 PM GMT+5:30	4AD19CV050	Sharath.N	1	2	1	1
2021/02/11 4:28:53 PM GMT+5:30	4AD19CV027	Likitha M M	3	3	3	3
2021/02/11 4:38:50 PM GMT+5:30	4AD19CV056	Tasmiya anjum	2	2	2	2
2021/02/11 4:48:19 PM GMT+5:30	4AD19CV011	Dheeraj D	3	3	2	2
2021/02/11 5:29:20 PM GMT+5:30	4AD19CV034	Mohammed Bilal Mahmood	3	3	3	3
2021/02/11 6:14:05 PM GMT+5:30	4AD19CV035	Nagendra Prasad RN	1	1	2	3
Grade of 3			2.39	2.41	2.41	2.33

Fig 8: Overall attainment of CO through Internal Assessment

CO-PO-PSO ATTAINMENT TOOL																
Subject: Building Materials & Construction [18CV34]										IA-III (2020-21)			Faculty Name: Prof. Srivathsa H U			
S.No.	USN/NAME	PART-A								PART-B						
		1a	1b	2a	2b	3a	3b	4a	4b	1a	1b	2a	2b	3a	3c	<= Question No.
		CO3	CO3	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4	CO4
		2	8	2	8	2	8	2	8	2	8	2	8	2	8	<= Max. Marks
% of Attainment		CO1	88	CO2	88	CO3	0	CO4	0	CO5	0	CO6	0	IA1		
AVERAGE			88		88		98		97		0		0			
CO Attainment through IA																
L1 / L2 / L3		CO1	3	CO2	3	CO3	3	CO4	3	CO5	0	CO6	0			% of Stu. scoring above Set Target 76.27
CO Attainment through VTU Exam																
L1 / L2 / L3		CO1	3	CO2	3	CO3	3	CO4	3	CO5	-	CO6	-			
Direct CO Attainment																
L1 / L2 / L3		CO1	3	CO2	3	CO3	3	CO4	3	CO5	0	CO6	-			
Section Indirect CO attainment: Faculty Assessment of each COs Statements by Evaluating Students (Rubrics)																
A		L1 / L2 / L3	CO1	2.35	CO2	2.5	CO3	2.56	CO4	3	CO5		CO6			
Average		CO1	2.35	CO2	2.50	CO3	2.56	CO4	3.00	CO5	-	CO6	-			
Indirect CO attainment: student feedback on Course COs through Course Exit Survey																
L1 / L2 / L3		CO1	2.39	CO2	2.41	CO3	2.41	CO4	2.33	CO5		CO6				
Overall CO attainment																
L1 / L2 / L3		CO1	2.81	CO2	2.85	CO3	2.86	CO4	2.94	CO5	-					

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CO - PO - PSO Mapping															CO Attainment				
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	-	PSO1	PSO2			COs	L1/L2/L3
C204.1	1	-	-	-	-	-	-	-	-	-	-	1	-	2				C204.1	2.81
C204.2	2	2	-	-	-	-	-	-	-	-	-	1	-	2				C204.2	2.85
C204.3	1	-	-	-	-	-	-	-	-	-	-	1	-	2				C204.3	2.86
C204.4	1	-	-	-	-	-	-	-	-	-	-	1	-	2				C204.4	2.94
Course-PO-PSO	1.25	2	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-		

PO & PSO Attainment - Direct Assessment															
1.19	1.90	-	-	-	-	-	-	-	-	-	-	0.96	-	1.91	-
PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	-	PSO1	PSO2	

Fig 9: CO – PO – PSO Direct Assessment

Setting Target & Gap Analysis

The CO attainments are compared with targets for the gap analysis.

Case(i)

- Targets for CO attainments are drawn from the averages of COs attainment of the previous year.
- The maximum sealing limit of target for any course is set to 2.0. This can be better understood with the following example



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Course Outcome Attainment of Academic Year 2020-2021



DEPARTMENT OF CIVIL ENGINEERING

Course Outcome Attainment of Academic Year 2020-21

III Semester

Strength of Materials (18CV32)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C302.1	2.00	1.47	-0.53	None of the CO's Achieved the Target Level
C302.2		1.46	-0.54	
C302.3		1.47	-0.53	
C302.4		1.48	-0.52	
C302.5		1.48	-0.52	

Fluid Mechanics (18CV33)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C303.1	2.00	2.41	0.41	All CO's Achieved the Target Level except CO2
C303.2		1.98	-0.02	
C303.3		2.41	0.41	
C303.4		2.30	0.30	
C303.5		2.61	0.61	

Building Materials & Construction (18CV34)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C304.1	2.00	2.88	0.88	All CO's Achieved the Target Level
C304.2		2.91	0.91	
C304.3		2.91	0.91	
C304.4		2.60	0.60	

Basic Surveying (18CV35)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C305.1	2.00	2.41	0.41	All CO's Achieved the Target Level
C305.2		2.17	0.17	
C305.3		2.42	0.42	
C305.4		2.37	0.37	



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Engineering Geology (18CV36)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C306.1	2.00	2.87	0.87	All CO's Achieved the Target Level
C306.2		2.84	0.84	
C306.3		2.78	0.78	
C306.4		2.75	0.75	
C306.5		2.34	0.34	

Computer Aided Building Planning & Drawing (18CVL37)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C307.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C307.2		3.00	1.00	
C307.3		3.00	1.00	

Basic Material Testing Lab (18CVL38)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C308.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C308.2		3.00	1.00	
C308.3		3.00	1.00	

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IV Semester

Analysis of Determinate Structures (18CV42)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C402.1	2.00	2.96	0.96	All CO's Achieved the Target Level
C402.2		2.97	0.97	
C402.3		2.96	0.96	
C402.4		2.97	0.97	

Applied Hydraulics (18CV43)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C403.1	2.00	2.73	0.73	All CO's Achieved the Target Level
C403.2		2.73	0.73	
C403.3		2.73	0.73	
C403.4		2.62	0.62	
C403.5		2.73	0.73	

Concrete Technology (18CV44)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C404.1	2.00	2.86	0.86	All CO's Achieved the Target Level
C404.2		2.83	0.83	
C404.3		2.87	0.87	
C404.4		2.37	0.37	
C404.5		2.87	0.87	

Basic Geotechnical Engineering (18CV45)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C405.1	2.00	2.93	0.93	All CO's Achieved the Target Level
C405.2		2.68	0.68	
C405.3		2.95	0.95	
C405.4		2.98	0.98	



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Advance Surveying (18CV46)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C406.1	2.00	2.97	0.97	All CO's Achieved the Target Level
C406.2		2.94	0.94	
C406.3		2.98	0.98	
C406.4		2.98	0.98	

Engineering Geology Lab (18CVL47)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C407.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C407.2		3.00	1.00	
C407.3		3.00	1.00	
C407.4		3.00	1.00	
C407.5		3.00	1.00	

Fluid Mechanics & Hydraulic Machines Lab (18CV46)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C408.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C408.2		3.00	1.00	

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V Semester

Construction Management and Entrepreneurship (18CV51)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C501.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C501.2		3.00	1.20	
C501.3		3.00	1.20	
C501.4		3.00	1.20	

Analysis of Indeterminate Structures (18CV52)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C502.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C502.2		3.00	1.20	
C502.3		3.00	1.20	
C502.4		3.00	1.20	
C502.5		3.00	1.20	

Design of RC Structural Elements (18CV53)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C503.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C503.2		3.00	1.20	
C503.3		3.00	1.20	
C503.4		3.00	1.20	

Basic Geotechnical Engineering (18CV54)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C504.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C504.2		3.00	1.20	
C504.3		3.00	1.20	
C504.4		3.00	1.20	
C504.5		3.00	1.20	



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Municipal Wastewater Engineering (18CV55)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C505.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C505.2		3.00	1.20	
C505.3		3.00	1.20	
C505.4		3.00	1.20	
C505.5		3.00	1.20	

Highway Engineering (18CV56)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C506.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C506.2		3.00	1.20	
C506.3		3.00	1.20	
C506.4		3.00	1.20	

Surveying Practice (18CVL57)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C507.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C507.2		3.00	1.20	
C507.3		3.00	1.20	

Concrete & Highway Material Testing Lab (18CVL58)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C508.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C508.2		3.00	1.20	
C508.3		3.00	1.20	
C508.4		3.00	1.20	
C508.5		3.00	1.20	
C508.6		3.00	1.20	

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VI Semester

Design of Steel Structural Elements (18CV61)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C601.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C601.2		3.00	1.20	
C601.3		3.00	1.20	
C601.4		3.00	1.20	
C601.5		3.00	1.20	

Applied Geotechnical Engineering (18CV62)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C602.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C602.2		3.00	1.20	
C602.3		3.00	1.20	
C602.4		3.00	1.20	
C602.5		3.00	1.20	

Hydrology and Irrigation Engineering (18CV63)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C603.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C603.2		2.70	0.90	
C603.3		3.00	1.20	
C603.4		3.00	1.20	
C603.5		3.00	1.20	

Railways, Harbour, Tunnelling and Airports (18CV645)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C604.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C604.2		3.00	1.20	
C604.3		3.00	1.20	
C604.4		3.00	1.20	



DEPARTMENT OF CIVIL ENGINEERING

Advanced Materials Technology (18ME654)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C605.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C605.2		3.00	1.20	
C605.3		3.00	1.20	
C605.4		3.00	1.20	
C605.5		3.00	1.20	

Software Application Lab (18CVL66)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C606.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C606.2		3.00	1.20	
C606.3		3.00	1.20	
C606.4		3.00	1.20	

Environmental Engineering Lab (18CVL67)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C607.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C607.2		3.00	1.20	
C607.3		3.00	1.20	
C607.4		3.00	1.20	

Extensive Survey Practice (18CVEP68)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C608.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C608.2		3.00	1.20	
C608.3		3.00	1.20	
C608.4		3.00	1.20	
C608.5		3.00	1.20	
C608.6		3.00	1.20	

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VII Semester

Municipal and Industrial Waste Water Engineering (17CV71)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C701.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C701.2		3.00	1.00	
C701.3		3.00	1.00	
C701.4		3.00	1.00	

Design of RCC & Steel Structures (17CV72)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C702.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C702.2		3.00	1.00	
C702.3		3.00	1.00	

Hydrology and Irrigation Engineering (17CV73)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C703.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C703.2		3.00	1.00	
C703.3		3.00	1.00	
C703.4		3.00	1.00	
C703.5		3.00	1.00	
C703.6		3.00	1.00	

Ground Water & Hydraulics (17CV742)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C704.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C704.2		3.00	1.00	
C704.3		3.00	1.00	
C704.4		3.00	1.00	



DEPARTMENT OF CIVIL ENGINEERING

Rehabilitation and Retrofitting of Structures (17CV753)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C705.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C705.2		3.00	1.20	
C705.3		3.00	1.20	
C705.4		3.00	1.20	

Environmental Engineering Lab (17CVL76)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C706.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C706.2		3.00	1.00	
C706.3		3.00	1.00	
C706.4		3.00	1.00	

Computer Aided Detailing of Structures Lab (17CVL77)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C707.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C707.2		3.00	1.00	
C707.3		3.00	1.00	

Project Phase-I (17CVP78)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C708.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C708.2		3.00	1.00	

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VIII Semester

Quantity Surveying and Contracts Management (17CV81)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C801.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C801.2		3.00	1.00	
C801.3		3.00	1.00	

Design of Pre Stressed Concrete Elements (17CV82)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C802.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C802.1		3.00	1.00	
C802.1		3.00	1.00	
C802.1		3.00	1.00	
C802.1		3.00	1.00	

Earthquake Engineering (17CV831)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C803.1	1.80	3.00	1.20	All CO's Achieved the Target Level
C803.2		3.00	1.20	
C803.3		3.00	1.20	
C803.4		3.00	1.20	

Internship /Professional Practice (17CV84)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C804.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C804.2		3.00	1.00	
C804.3		3.00	1.00	



DEPARTMENT OF CIVIL ENGINEERING

Project Phase-II (17CVP85)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C805.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C805.2		3.00	1.00	

Seminar (17CVS85)				
Course Outcomes	Target for Current Academic year	Attainment Level of Current Exam	Gap	Gap Analysis
C806.1	2.00	3.00	1.00	All CO's Achieved the Target Level
C806.2		3.00	1.00	

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Attainment of Program Outcomes and Program Specific Outcomes



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Program shall set Program Outcome attainment levels for all POs & PSOs.

(The attainment levels by direct (student performance) and indirect (surveys) are to be presented through Program level Course – PO & PSO matrix as indicated).

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101												
C102												

C409												
Direct attainment												
Indirect Attainment												
Over all PO attainment												

Note: Similar table is to be prepared for PSOs

C101, C102 are indicative courses in the first year. Similarly, C409 is final year course. First numeric digit indicates year of study and remaining two digits indicate course nos. in the respective year of study.

1. Direct attainment level of a PO & PSO is determined by taking average across all courses addressing that PO and/or PSO. Fractional numbers may be used up to two decimal places.
2. Indirect attainment level of PO & PSO is determined based on the student exit surveys, employer surveys and Alumni survey.

Calculation of PO attainment:

Following are the steps need to be followed to obtain the PO attainment.

Step 1: Course coordinator should enter the Course articulation matrix as per the course module in Sheet 4 of the CO-PO-PSO assessment tool.

Step 2: CO attainment from the Internal assessment is multiplied with the CAM and reduced percentage in the subsequent table and based on the target level set the percentage are converted to the scale 1 to 3.

Step 3: PO attainment through University Examination results is also considered and reduced to level points 1 to 3.

Step 4: PO and PSO attainment through direct assessment is thus calculated by putting the weightage 70% to attainment through University Exams and 30% to attainment through IA.

Step 5: Indirect Assessment of PO and PSO is calculated by considering the surveys such as Alumni Survey, Program Exit Survey and Employer Survey.

- In each survey the average values of individual POs and PSOs of all the courses in the program are taken.
- Then the overall average of PO1-PO12 and PSOs are taken. Then the final average value is converted and represented in percentage.

Step 6: Above step is carried out for all the three surveys and the final average value of the

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percentage obtained is converted to Level 1 to 3.

Step 1: Course coordinator should enter the Course articulation matrix(CAM) as per the course module in Sheet 4 of the CO-PO-PSO assessment tool.

	CO - PO - PSO Mapping												PSO1	PSO2	PSO3	PSO4	PSO5	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12						
C403.1	2	-	-	-	-	-	1	-	-	-	-	1	-	1	1	-	1	-
C403.2	2	2	-	-	-	-	-	-	-	-	-	1	-	1	1	-	1	-
C403.3	2	2	1	1	-	-	-	-	-	-	-	1	-	2	1	-	1	-
C403.4	1	-	-	-	-	1	1	-	-	-	-	1	-	1	1	-	1	-
C403.5	2	-	-	-	-	1	-	-	-	-	-	1	-	2	1	-	1	-
C403.6	2	2	2	2	-	1	1	-	-	-	-	1	-	2	1	-	1	-
Course-PO-PSO	1.83	2	1.5	1.5	X	1	1	X	X	X	X	1	X	1.5	1	X	1	X

Fig.1: CAM of the respective Course

Step 2: CO attainment from the Internal assessment is multiplied with the CAM and reduced percentage in the subsequent table and based on the target level set the percentage are converted to the scale 1 to 3.

Step 3: PO attainment through University Examination results is also considered and reduced to level points 1 to 3.

CO Attainment		
COs	%	L1/L2/L3
C403.1	99	3.00
C403.2	98	3.00
C403.3	93	3.00
C403.4	88	3.00
C403.5	66	3.00
C403.6	100	3.00

Step 4: PO and PSO attainment through direct assessment is thus calculated by putting the weightage 70% to attainment through University Exams and 30% to attainment through IA.

	PO & PSO Attainment																	CO Attainment = 70 % of VTU Exam + 30 % of IA.	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	Alumni Survey-%	Course Feedback-%
C403.1	66	-	-	-	-	-	33	-	-	-	-	33	-	33	-	33	-		
C403.2	65	65	-	-	-	-	-	-	-	-	-	33	-	33	-	33	-		
C403.3	62	62	31	31	-	-	-	-	-	-	-	31	-	62	31	-	31		
C403.4	29	-	-	-	-	29	29	-	-	-	-	29	-	29	29	-	29		
C403.5	44	-	-	-	-	22	-	-	-	-	-	22	-	44	22	-	22		
C403.6	67	67	67	67	-	33	33	-	-	-	-	33	-	67	33	-	33		
% Attainment	56	65	49	49	0	28	32	0	0	0	0	30	0	45	30	0	30	0	95.16

Fig 2:PO-PSO attainment reduced to percentage

Attainment through IA																	Attainments			
L1/L2/L3	1	2	0	0	X	0	0	X	X	X	X	0	X	0	0	X	0	X	IA	UNV.
L1/L2/L3	3	3	3	3	X	3	3	X	X	X	X	3	X	3	3	X	3	X	>=50%	>=50%
Attainment through VTU Exam																	Attainments			
L1/L2/L3	3	3	3	3	X	3	3	X	X	X	X	3	X	3	3	X	3	X	IA	UNV.
L1/L2/L3	3	3	3	3	X	3	3	X	X	X	X	3	X	3	3	X	3	X	>=60%	>=60%
PO & PSO Attainment - Direct Assessment																	Attainments			
70% weightage	2.4	2.7	2.1	2.1	X	2.1	2.1	X	X	X	X	2.1	X	2.1	2.1	X	2.1	X	Direct =70 % of VTU Exam +30% of IA	UNV.
70% weightage	2.4	2.7	2.1	2.1	X	2.1	2.1	X	X	X	X	2.1	X	2.1	2.1	X	2.1	X	>=70%	>=70%

DEPARTMENT OF CIVIL ENGINEERING

Fig 3: PO-PSO attainment through Direct Assessment

Step 5: Indirect Assessment of PO and PSO is calculated by considering the surveys such as Alumni Survey, Program Exit Survey and Employer Survey.

- In each survey the average values of individual POs and PSOs of all the courses in the program are taken.
- Then the overall average of PO1-PO12 and PSOs are taken. Then the final average value is converted and represented in percentage.

Step 6: Above step is carried out for all the three surveys and the final average value of the percentage obtained is converted to Level 1 to 3.

																			L2	>=60%	>=60%
																			L3	>=70%	>=70%
	Attainment through VTU Exam																				
L1 / L2 / L3	3	3	3	3	X	3	3	X	X	X	X	3	X	3	3	X	3	X			
	PO & PSO Attainment - Direct Assessment																				
70% weightage	2.4	2.7	2.1	2.1	X	2.1	2.1	X	X	X	X	2.1	X	2.1	2.1	X	2.1	X			
	PO & PSO Attainment - Indirect Assessment																				
30% Weightage	0	0	0	0	X	0	0	X	X	X	X	0	X	0	0	X	0	X			
	Overall PO & PSO Attainment																				
Final Attainment	1.68	1.89	1.47	1.47	X	1.5	1.47	X	X	X	X	1.47	X	1.47	1.47	X	1.47	X			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5				
	Overall = 70 % of Direct + 30% Indirect																				

Fig 4: Overall PO-PSO attainment (Direct+ Indirect)

Sl. No	USN	NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	4AD17CV035	SHIVAPRASADU G M	3	3	3	3	3	3	3	3	3	3	3	3
2	4AD18CV405	DHANUSH B S	3	3	3	3	3	3	3	3	3	3	3	3
3	4AD18CV429	YATHISHKUMAR S	3	3	3	3	3	3	3	3	3	3	3	3
4	4AD18CV408	KUSHANK R	3	3	3	3	3	3	3	3	3	3	3	3
5	4AD17CV018	KAVYASHREE R	3	3	3	3	3	3	3	3	3	3	3	3
6	4AD17CV024	NAVYA L	3	3	3	3	3	3	3	3	3	3	3	3
7	4AD18CV425	SUNIL S	3	3	3	3	3	3	3	3	3	3	3	3
8	4AD17CV011	DIVYASHREE G RAJ	3	3	3	3	3	3	3	3	3	3	3	3
9	4AD17CV032	ROOPINI N	3	3	3	3	3	3	3	3	3	3	3	3
10	4AD17CV003	DEEKSHA V	3	3	3	3	3	3	3	3	3	3	3	3
11	4AD17CV006	BI BI AYIMAN	3	3	3	3	3	3	3	3	3	3	3	3
12	4AD17CV013	MEGHAN	3	3	3	3	3	3	3	3	3	3	3	3
13	4AD17CV014	HRUTHIK S	3	3	3	3	3	3	3	3	3	3	3	3
14	4AD17CV026	PAVITHRA B S	3	3	3	3	3	3	3	3	3	3	3	3
15	4AD18CV415	NAGARATHNA HT	3	3	3	3	3	3	3	3	3	3	3	3
16	4AD18CV401	ARUN A	3	3	3	3	3	3	3	3	3	3	3	3
17	4AD16CV031	S PRAJWAL	3	3	3	3	3	3	3	3	3	3	3	3
18	4AD17CV003	AKSHATHA N	3	3	3	3	3	3	3	3	3	3	3	3
19	4AD18CV418	NITHYA M V	3	3	3	3	3	3	3	3	3	3	3	3
20	4AD18CV421	RAKESH A	3	3	3	3	3	3	3	3	3	3	3	3
21	4AD17CV023	NAVEEN M	3	3	3	3	3	3	3	3	3	3	3	3
22	4AD18CV407	KAUSHAL B C	3	3	3	3	3	3	3	3	3	3	3	3
23	4AD17CV022	NAVEEN K	3	3	3	3	3	3	3	3	3	3	3	3
24	4AD16CV032	PRUTHVIJ S	3	3	3	3	3	3	3	3	3	3	3	3
25	4AD18CV426	SYED ABDUL BASEED	3	3	3	3	3	3	3	3	3	3	3	3
26	4AD17CV042	YASHWANTH B	3	3	3	3	3	3	3	3	3	3	3	3
27	4AD18CV417	NIRUPANAGOUDA	3	3	3	3	3	3	3	3	3	3	3	3

Fig 5.1: PO Exit survey

DEPARTMENT OF CIVIL ENGINEERING

SL. No	USN Number	Name in SSLC	1067	1068	1069	1070	1071
1	4AD15CV008	D P VIKAS	3	3	3	3	3
2	4AD16CV002	ADAN CLEFORD A	3	3	3	3	3
3	4AD15CV027	MAHAMMED ZAID	3	3	3	3	3
4	4AD16CV028	NISHANTH GOWDA S K	3	3	3	3	3
5	4AD15CV028	MURUGESH P	3	3	3	3	3
6	4AD15CV003	ANUSHA N	3	3	3	3	3
7	4AD17CV024	NAVYA L	3	3	3	3	3
8	4AD18CV405	DHANUSH B S	3	3	3	3	3
9	4AD17CV035	SHIVAPRASADU G M	3	3	3	3	3
10	4AD18CV429	YATHISHKUMAR S	3	3	3	3	3
11	4AD16CV043	TEJAS M	3	3	3	3	3
12	4AD17CV026	PAVITHRA B S	3	3	3	3	3
13	4AD17CV018	KAVYASHREE R	3	3	3	3	3
14	4AD17CV028	PUTTAVERE GOWDA K V	3	3	3	3	3
15	4AD17CV006	BI BI AYIMAN	3	3	3	3	3
16	4AD18CV408	KUSHANK R	3	3	3	3	3

Sl. No	USN Number	Name in SSLC	1067	1068	1069	1070	1071
17	4AD17CV014	HRUTHIK S	3	3	3	3	3
18	4AD17CV011	DIVYASHREE G RAI	3	3	3	3	3
19	4AD17CV003	AKSHATHA N	3	3	3	3	3
20	4AD18CV418	NITHYA M V	3	3	3	3	3
21	4AD17CV032	ROOPINI N	3	3	3	3	3
22	4AD17CV009	DEEKSHA V	3	3	3	3	3
23	4AD18CV415	NAGARATHNA H T	3	3	3	3	3
24	4AD18CV425	SUNIL S	3	3	3	3	3
25	4AD18CV407	KAUSHAL B C	3	3	3	3	3
26	4AD18CV401	ARUN A	3	3	3	3	3
27	4AD16CV031	S PRAJWAL	3	3	3	3	3
28	4AD18CV421	RAKESH A	3	3	3	3	3
29	4AD18CV426	SYED ABDUL BASEED	3	3	3	3	3
30	4AD18CV403	CHANDAN N	3	3	3	3	1
31	4AD17CV023	NAVEEN M	3	3	3	3	3
32	4AD17CV042	YASHWANTH B	3	3	3	3	3

5.2: PSO Exit survey



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Department of Civil Engineering



ALUMNI: SURVEY QUESTIONNAIRE

Degree Received:		Year of Graduation:		
Name:		Signature:		
Mailing Address:				
City:	State:	Pin code:		
Employment details:		Email:		
Company and Designation:				

Dear Alumni,

For each of the Program Outcomes (1-12) given below, indicate the level / strength to which it has contributed to your understanding. Please include any comments.

Q1: Before each statement, indicate the answer 1 through 5 which most closely fits this statement for you:

1: No contribution:	2: Poor contribution:	3: Some contribution:	4: Average contribution:	5: Strong contribution:
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My UG education at ATME College of Engineering has given me:

PO	Answer	Program Outcomes
PO1		Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2		Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3		Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4		Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5		Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6		Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7		Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8		Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9		Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10		Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11		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.
PO12		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.

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1

Fig 6: Alumni survey Template

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DEPARTMENT OF CIVIL ENGINEERING

ATME College of Engineering, Mysuru, Karnataka

EMPLOYERS: SURVEY QUESTIONNAIRE

Dear Sir,

The Institute is applying for Accreditation of various Programmes which is outcome based in conformity with the International practices. The assessment of the outcomes has to be through a survey. The following questions need your valued consideration. Please find some time and send us your answers to these questions. This response will be kept confidential.

Company Name: <u>ELECTIONS TECHNOLOGIES</u>	
Mailing Address: <u>nr@election.com</u>	
City: <u>PUNE</u>	State: <u>MAHARASHTRA</u> Pin code: <u>411005</u>
Employment details: Year	Email:
Questions	Answers
1. What are the strengths of our under graduates?	<u>hands on work</u>
2. What are the weaknesses of our undergraduates?	<u>Books</u>
3. What areas are most/least important to your company? Following Departments are under assessment.	<u>ME, CE</u>
1. Computers 2. Civil 3. Electronics 4. Electrical 5. Mechanical --	
3. Is consideration being given to addition of other programs? If so, what area(s)?	<u>Yes, CAE</u>
4. What additional experiences / preparations do you expect/value?	<u>SW proficiency</u>
5. What on-the-job training do you provide?	
6. Do you see any changes that may need to be made or considered with the <u>program Specific outcomes</u> ? If so, what would be your suggestion?	
7. Do you see any changes that may need to be made or considered with the <u>program Educational objectives</u> ? If so, what would be your suggestion??	
8. Do you see any other issues that may need to be discussed?	

A. Raju
Name & Signature: (Apoorva)

Fig 7: Employer survey Template



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SAMPLE OVERALL PO ATTAINMENT



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Indirect PO & PSO Attainment for the Batch 2017-21

PO & PSO Indirect Attainment																	
2020-21 Passed out	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
Course Exit Survey	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Alumni Survey	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Employer Survey	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Average values	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Overall attainment of PO and PSO *course wise* is obtained by considering Direct and Indirect Attainment with the weightage of 70% and 30% respectively.

2020-21 Passed out	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
Direct Attainment	2.49	2.25	2.17	2.04	2.24	1.95	1.87	2.07	2.32	2.11	2.04	2.21	2.46	2.24	2.81	2.13	2.05
Indirect Attainment	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	3.00	3.00	3.00	3.00
Overall PO-PSO Attainment	2.65	2.48	2.42	2.33	2.47	2.27	2.21	2.35	2.53	2.38	2.33	2.45	2.63	2.47	2.87	2.39	2.34

Sample Calculation:

$$\begin{aligned}
 \text{Overall PO1 attainment} &= 0.7 \times \text{Direct Attainment} + 0.3 \times \text{Indirect Attainment} \\
 &= 0.7 \times 2.49 + 0.3 \times 3 \\
 &= \mathbf{2.65}
 \end{aligned}$$

Overall attainment of the POs and PSOs is obtained by considering the overall PO & PSO attainment of all the courses of the batch under consideration and taking the average of them. The values thus obtained are the attainment of POs and PSOs for that batch.

The attainment values of the POs are then compared with the set target levels. If the targets are met by the POs and PSOs then, the PO and PSO is said to be attained for that batch. If not, then the respective PO and PSO is not attained for the batch and need to addressed

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DEPARTMENT OF CIVIL ENGINEERING

PAC and DAB Committee Sample Report



DEPARTMENT OF CIVIL ENGINEERING



DEPARTMENT OF CIVIL ENGINEERING

From,
HOD
Department of Civil Engineering
ATMECE, Mysuru

20/06/2019

To,
The Principal
ATMECE, Mysuru

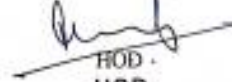
Sir,

Sub: Seeking Permission for Reframing PAC & DAB Committee for the Academic Year 2019-20

The targets set for the PO attainment during the academic year 2018-19 were set in the PAC and gaps were identified. In the continuation of this, target for the current academic year 2019-20 is to be finalized. In this regard, I request your kind self to grant permission for reframing of PAC & DAB committee for the year 2019-20.

Thanking you,

Yours sincerely



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ATME COLLEGE OF ENGINEERING
MYSORE-570028

Approved

20/6/19



DEPARTMENT OF CIVIL ENGINEERING



DEPARTMENT OF CIVIL ENGINEERING

From,

Date: 16/08/2019

The HOD
Dept. of Civil Engineering
ATMECE, Mysuru

To,

The Principal
ATMECE, Mysuru

Respected sir,

Subject: Formation of PAC committee

The department constitutes a Program Assessment Committee (PAC) to assess the achievement of attainment of the Program Outcomes (POs), Program Specific Outcomes (PSOs) & Course Outcomes (COs).

The Program Assessment Committee (PAC) members are as follows.

Sl No.	Name	Designation
1	Mr. Manu Vijay	Chairman & Program Coordinator
2	Dr. Akshaya B J	Member Secretary
3	Mrs. Jyothi D N	Member
4	Mr. Srivathsa H U	Member
5	Mrs. Bharathi B	Member
6	Mr. Rudresh A N	Member

The guidelines of the Program Assessment Committee (PAC) are as follows:

1. Chaired by Program Coordinator, the committee monitors the attainment of POs, PSOs and COs.



DEPARTMENT OF CIVIL ENGINEERING

2. The Program Assessment Committee will work with programs to develop/update their program outcomes mapping.
3. Evaluates program effectiveness and propose necessary changes for continuous improvement.
4. Prepares periodic reports on programme activities, progress status.
5. Interact with Program Coordinator, Course Coordinators and outside/community agencies facilitating POs, PSOs and COs.
6. PAC meets at least once in six months to review the attainment of the program Outcomes (POs) Program Specific Outcomes (PSOs) & Course Outcomes (COs) and report is submitted to Department Advisory Board.

Yours faithfully

Manu Vijay

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DEPARTMENT OF CIVIL ENGINEERING

Date: 19/07/2019

CIRCULAR

All faculty members are hereby informed that, Department Advisory Board (DAB) committee has revised Program Specific Outcomes (PSO)'s statements as mentioned below for future use.

PSO statements

After completion of program, students will be able to

PSO 1 – Provide necessary solutions to build infrastructure for all situations through competitive plans, maps and designs with the aid of a thorough Engineering Survey and Quantity Estimation.

PSO 2 – Assess the impact of anthropogenic activities leading to environmental imbalance on land, in water & in air and provide necessary viable solutions revamping water resources and transportation for a sustainable development

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MYSORE-570025

Shashika
Jyoti D.S.
Shashika B
PP
Pur
Shashika
Shashika
Panduraj



DEPARTMENT OF CIVIL ENGINEERING



DEPARTMENT OF CIVIL ENGINEERING

Date: 30/03/2020

Department of Civil Engineering Programme Assessment Committee (PAC)

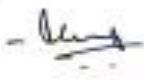
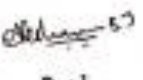
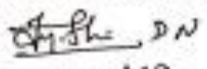
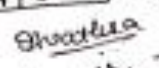
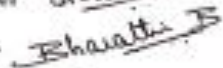

Minutes of the Meeting

The 10th meeting of PAC is held on 30th March 2020 via online for addressing and reviewing the attainment of Course Outcomes (COs).

Agenda

- To verify the attainment of individual Course Outcomes (COs) of Odd Semester for the academic year 2019-20.
- Evaluating program effectiveness and proposing necessary changes.

During the meeting the following members were present,

1. Mr. Manu Vijay, Chairman & Program Coordinator 
2. Dr. Akshaya B J, Member Secretary 
3. Mrs. Jyothi D N, Member 
4. Mr. Srivathsa H U, Member 
5. Mrs. Bharathi B, Member 
6. Mr. Rudresh A N, Member 

The following points were discussed during the meeting and the minutes were recorded as below,

1. HOD, welcomed the members of the committee who had assembled for reviewing the assessment method of PEOs, PSOs and POs.

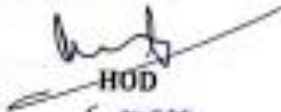


DEPARTMENT OF CIVIL ENGINEERING

2. The result has been analyzed for the attainment of CO's and in all the semester's Le 3rd, 5th & 7th the courses have reached the target level.
3. Mrs. Jyothi D N insisted Industrial tour for 8th sem students to enhance their knowledge in the field of Civil Engineering.
4. Mr. Rudresh A N recommended a technical talk related to design subjects in the next year such that it would improve the attainment level in that course related to those subjects.
5. Mrs. Bharathi B suggested tutorial classes for weak students so that it may improve the overall result of the 3rd semester students.
6. Dr. Akshaya B J, Member Secretary stated that all the above points will be noted and it will be forwarded to the Department Advisory Board (DAB).
7. HOD, thanked the members of the committee who had assembled for reviewing the Program outcome of the civil department.

Copy to

1. The Principal
2. PAC Member
3. Department Advisory Board


HOD

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Department of Civil Engineering
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Mysore-570 015



DEPARTMENT OF CIVIL ENGINEERING



DEPARTMENT OF CIVIL ENGINEERING

Date: 04/09/2019

From,

The HOD
Dept. of Civil Engineering
ATMECE, Mysuru.

To,

The Principal
ATMECE, Mysuru.

Respected Sir,

Subject: Formation of DAB Committee

The Department constitutes a Department Advisory Board (DAB) to revise Course Outcomes (COs) for the attainment of Program Outcomes (POs), if necessary, based on the report submitted by the PAC.

The Department Advisory Board (DAB) members are as follows.

SL No.	Name	Designation/Stake holders
1.	Mr. Manu Vijay	Chairman & Program Coordinator
2.	Dr. Akshaya B J	Member Secretary
3.	Mr. Mandeep G	Member
4.	Mrs. Shruthi H G	Member
5.	Mr. Srivathsa H U	Member
6.	Er. Badrinath	Proprietor- Subadra Constructions - Industry Expert
7.	Ms. Sukrutha K N	Meritorious Alumni

Objective of DAB:

The Department Advisory Board (DAB) has been formed to promote development, co-operation and extra policies so as to contribute to sustainable growth of the department.

Functions of DAB:

- To interact and maintain liaison with key stakeholders.



DEPARTMENT OF CIVIL ENGINEERING

- To conduct and interpret various surveys required to assess POs and PEOs.
- To receive report from PAC and monitor the progress of the program with respect to the previous year results. Also consider the recommendations for achievement of PEOs and POs given by PAC for approval.
- To verify the various academic activities preparation done by the faculty members for their respective courses.
- To evaluate and analyze the gap in the curriculum and give necessary suggestions.
- To encourage in conducting intradepartmental curricular and co-curricular activities for the students and faculty benefits.
- To discuss and resolve the issues related to Teaching-Learning Process.
- To submit the report to IQAC (Internal Quality Assurance Cell) on evaluation of attainment of PEOs.

[Handwritten signature]
4/1/19

Yours faithfully

[Handwritten signature]

Mr. Manu Vijay

HOD

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DEPARTMENT OF CIVIL ENGINEERING



DEPARTMENT OF CIVIL ENGINEERING

Date: 30/09/2020

Department Advisory Board (DAB)

Minutes of the Meeting

The 11th meeting of Department Advisory Board committee of civil department was held on 30th September 2020 in the Department meeting room.

Agenda

- Review the Minutes of Meeting of Program Assessment Committee (PAC) dated on 23/09/2020.
- Identification of Curriculum gap for the next even semester of the academic year 2020-21 and to give necessary suggestions.
- To analyse the surveys carried in the department to assess COs, POs & PSOs.
- To analyse and suggest improvements for increasing student placement.

During the meeting the following members were present,

1. Mr. Manu Vijay, Chairman & Program Coordinator 
2. Dr. Akshaya B J, Member Secretary 
3. Dr. Suneeth Kumar S M, Member 
4. Mrs. Shruthi H G, Member 
5. Mr. Srivathsa H U, Member 
6. Er. Deepak - Proprietor Deepak Consultants - Industry Expert 
7. Ms. Jayashree T L, Meritorious Aluminous 

The following points were discussed during the meeting and the minutes were recorded as below,

1. HOD, welcomed the members of the committee who had assembled for reviewing the assessment method of PEOs, PSOs and POs.
2. Mr. Manu Vijay, HOD informed Mr. Akshaya B J, Member Secretary to provide the previous minutes of meeting of PAC and necessary documents for discussion.



DEPARTMENT OF CIVIL ENGINEERING

3. HOD congratulated the members that POs & PSOs attainment has reached the set target level for the batch 2016-20.
4. The committee resolved that average CO attainment values of the previous year may be set as a target for 5th & 7th semester courses and a target of 1.8 may be set for 3rd semester courses for analyzing the gaps. For 5th & 7th semesters if the CO attainment score exceeds '2' then same might be retained as target, if it is lower than 2 then the average of CO attainment might be set as an target.
5. Er. Deepak, Industry Expert suggested to organize Industry Interaction & Industrial Tours for the final year students which will be helpful for them to have an idea about the recent advancements in the civil engineering field.
6. Ms. Jayashree T L, Meritorious alumni congratulated the department for showing interest in organizing technical talks and workshops which will be helpful in enriching the knowledge of the students.
7. HOD informed the members as a part of "Decennial Celebrations" various activities have been planned and will be conducted throughout the academic year at various timelines.
8. Dr. Akshaya B J, Member Secretary stated that all the above points will be noted and it will be forwarded to the Internal Quality Assurance cell (IQAC).
9. HOD, thanked the members of the committee who had assembled for reviewing the Program outcome of the civil department.

Copy to

- Internal Quality Assurance cell (IQAC)


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Department of Computer Science & Engineering

The Department follows a structured Guidelines handbook for Outcome evaluation followed commonly across the institution

Overall CO attainment is calculated by considering CO attainment (IA+SEE)

In order to obtain the CO attainment of the respective course:

Direct attainment is based on performance of the students in the Internal Assessment (30%) and semester end Examinations (70%)

Browda
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Vasuru-570024

Department of Computer Science & Engineering

Detail procedure for Obtaining CO attainment:

STEP 1: All the faculties handling the courses will map the student performance in the internal assessment to the **excel sheet** as and when the blue books are valued.

CO-PO-PSO ATTAINMENT TOOL														
Note 1: In case a question (Ex: 2d) is not present in QP, keep the column blank.														
Note 2: If the student is not attempted a question, leave the cell blank. Do not fill with ZERO.														
Note 3: Fill only the cells with YELLOW / ORANGE, AQUA, PURPLE color. Do not alter the cells with other colors.														
Note 4: If a question maps to multiple CO's, write them separated by commas. Ex: If a question maps to CO-1 and CO-4, write CO1,4.														
IA I(IOT)								FACULTY NAME:NASREEN FATHIMA						
S.No.	USN	1a	2a	2b	3	4	5	6						<= Question No.
		CO1	CO1	CO1	CO1	CO1	CO3	CO3	-	-	-	-	-	<= CO Mapping
		10	5	5	10	10	5	5	-	-	-	-	-	<= Max. Marks
1	4AD16CS002		5	5	8		5							23
2	4AD16CS004		4	4	9		4							27
3	4AD16CS005		5	5	9		4							38
4	4AD16CS006		5	5	9		5							21
5	4AD16CS007		5	5	9		4							29
6	4AD16CS008		5	5	9			6						26
7	4AD16CS009		5	5	10		5							15
8	4AD16CS010		5	5	9		5							32
9	4AD16CS011		5	4	9		5							26
10	4AD16CS012		5	5	8		4							32
11	4AD16CS013		5	5	10		5							29
12	4AD16CS016		5	4	9		4							33

Fig. 1: Mapping of IA marks in excel sheet

No. cleared	0	100	96	98	3	91	5							
No. attended	0	101	98	98	3	94	7							
%	0.00	99.01	97.96	100.00	100.00	96.81	71.43							
Course Outcomes	CO1	CO1	CO1	CO1	CO1	CO3	CO3							

% of Contribution of each question to CO's													
	1a	1b	1c	1d	2a	2b	2c	2d	3a	3b	3c	3d	
CO1	0.00	99.01	97.96	100.00	100.00								
CO2													
CO3						96.81	71.43						
CO4													
CO5													
CO6													

Page 3

% of Attainment	CO1	99.00	CO2	0.00	CO3	95	CO4	0	CO5	0	CO6	0
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Fig.2: Calculation over all CO attainment Question wise and Actual Average of COs in the IA-1

Department of Computer Science & Engineering

STEP 2: All the three IA including the improvement test is listed and the attainment is available as shown in the below figure. Attainment is calculated in the scale of 0 to 3 based on the percentage of Overall CO attainment

CO attainment %	Attainment Level
<50	0
≥50 but <60	1
≥60 but <70	2
≥70	3

% of Attainment	CO1	0.00	CO2	100.00	CO3	99.00	CO4	0	CO5	0	CO6	0	IA3
% of Attainment	CO1	0	CO2	98	CO3	0	CO4	0	CO5	0	CO6	0	IA2
% of Attainment	CO1	99	CO2	0	CO3	95	CO4	0	CO5	0	CO6	0	IA1
AVERAGE		99		99		97		0		0		0	
CO Attainment through IA													
L1 / L2 / L3	CO1	3	CO2	3	CO3	3	CO4	0	CO5	0	CO6	0	

Fig.3: Overall attainment of CO through Internal Assessment

STEP 3: Attainment Level in University Examination

Attainment Level 1: 50% students scoring more than 50 % maximum marks in the final examination.

Attainment Level 2: 60% students scoring more than 50 % maximum marks in the final examination.

Attainment Level 3: 70% students scoring more than 50 % maximum marks in the final examination.

Enter the university Examination (SEE) percentage of students scored more than 50% of the maximum marks.

Example: If the maximum marks for the Course is 125, then the target marks is 63.

If the maximum marks for the course is 100, then the target marks is 50.

> The University result once again reduced to the scale 0 to 3.

STEP 4: The excel calculates the overall attainment of the COs by considering 30% weightage to Internal Assessment and 70% of the weightage to Sessional End Examination.

CO Attainment through IA													
L1 / L2 / L3	CO1	3	CO2	3	CO3	3	CO4	0	CO5	0	CO6	0	
CO Attainment through VTU Exam													
L1 / L2 / L3	CO1	3	CO2	3	CO3	3	CO4	0	CO5	0	CO6	-	VTU Exam Result-%
													95
Overall CO Attainment													
L1 / L2 / L3	CO1	3.00	CO2	3.00	CO3	3.00	CO4	0.00	CO5	0.00	CO6		

Fig.4: Overall CO Attainment Method

Department of Computer Science & Engineering

Course Outcome Attainment of Academic Year 2020-2021

Department of Computer Science & Engineering

Course Outcome Attainment of Academic Year 2020-20

VII Semester

Course Name :WEB TECHNOLOGY AND ITS APPLICATIONS(17CS71)					
Course outcome	Attainment Level for last exam	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C401.1	3.0	2.00	3	1.00	ALL THE CO'S HAS ATTAINED THE TARGET LEVEL
C401.2	2.7	2.00	3	1.00	
C401.3	3.0	2.00	3	1.00	
C401.4	3.0	2.00	3	1.00	
C401.5	3.0	2.00	3	1.00	

Course Name : Advanced Computer Architecture (17CS72)					
Course outcome	Attainment Level for last exam	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C402.1	NA	1.80	3.00	1.20	ALL THE CO'S HAS ATTAINED THE TARGET LEVEL
C402.2	NA	1.80	3	1.20	
C402.3	NA	1.80	3	1.20	
C402.4	NA	1.80	3	1.20	

Course Name : Machine Learning(17CS73)					
Course outcome	Attainment Level for last exam	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C403.1	NA	1.80	3.00	1.20	ALL THE CO'S HAS ATTAINED THE TARGET LEVEL
C403.2	NA	1.80	3.00	1.20	
C403.3	NA	1.80	3.00	1.20	
C403.4	NA	1.80	3.00	1.20	
C403.5	NA	1.80	3.00	1.20	

Course Name :CLOUD COMPUTING (17CS742)					
Course outcome	Attainment Level for last exam	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C404.1	NA	1.80	3.00	1.20	ALL THE CO'S HAS ATTAINED THE TARGET LEVEL
C404.2	NA	1.80	3	1.20	
C404.3	NA	1.80	3	1.20	
C404.4	NA	1.80	3	1.20	
C404.5	NA	1.80	3	1.20	

Course Name :STORAGE AREA NETWORK(17CS754)					
Course outcome	Attainment Level for last exam	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C405.1	3.00	2.00	3.00	1.00	ALL THE

Department of Computer Science & Engineering

C405.2	3	2.00	3	1.00	CO'S HAS ATTAINED THE TARGET LEVEL
C405.3	3	2.00	3	1.00	
C405.4	3	2.00	3	1.00	

Course Name :MACHINE LERANING LAB(17CSL76)					
Course outcome	Attainment Level for last exam	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C406.1	3	2.00	3.00	1.00	ALL THE CO'S HAS ATTAINED THE TARGET LEVEL
C406.2	3	2.00	3	1.00	
C406.3	3	2.00	3	1.00	
C406.4	3	2.00	3	1.00	

Course Name :WEB LAB(17CSL77)					
Course outcome	Attainment Level for last exam	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C407.1	3	2.00	3.00	1.00	ALL THE CO'S HAS ATTAINED THE TARGET LEVEL
C407.2	3	2.00	3	1.00	
C407.3	3	2.00	3	1.00	

Course Name :PROJECT WORK PHASE 1+SEMINAR (17CSP78)					
Course outcome	Attainment Level for last exam	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C408.1	3	2.00	3.00	1.00	ALL THE CO'S HAS ATTAINED THE TARGET LEVEL
C408.2	3	2.00	3	1.00	
C408.3	3	2.00	3	1.00	
C408.4	3	2.00	3	1.00	

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Course Outcome Attainment of Academic Year 2020-20

VIII Semester

Course Name : Internet of Things Technology (17CS81)					
Course outcome	Attainment Level for last exam	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C409.1	NA	1.80	3	1.20	All the co's has attained target level
C409.2	NA	1.80	3	1.20	
C409.3	NA	1.80	3	1.20	
C409.4	NA	1.80	3	1.20	
C409.5	NA	1.80	3	1.20	

Course Name :BIGDATA Analytics (17CS82)					
Course outcome	Attainment Level for last exam	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C410.1	3	2.0	3	1.00	All the co's has attained target level
C410.2	3	2.0	3	1.00	
C410.3	3	2.0	3	1.00	
C410.4	3	2.0	3	1.00	
C410.5	3	2.0	3	1.00	

Course Name : NETWORK MANAGEMENT(17CS833)					
Course outcome	Attainment Level for last exam	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C411.1	3	2.00	3	1.00	All the co's has attained target level
C411.2	3	2.00	3	1.00	
C411.3	3	2.00	3	1.00	
C411.4	3	2.00	3	1.00	
C411.5	3	2.00	3	1.00	
C411.6	3	2.00	3	1.00	

Course Name : Internship(17CS84)					
Course outcome	Attainment Level for last exam	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C412.1	3	2.00	3	1.00	All the co's has attained
C412.2	3	2.00	3	1.00	
C412.3	3	2.00	3	1.00	

Department of Computer Science & Engineering

C412.4	3	2.00	3	1.00	target level
C412.5	3	2.00	3	1.00	

Course Name :Project Phase-II(17CSP85)

Course outcome	Attainment Level for last exam	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C413.1	3	2.00	3	1.00	All the co's has attained target level
C413.2	3	2.00	3	1.00	
C413.3	3	2.00	3	1.00	
C413.4	3	2.00	3	1.00	
C413.5	3	2.00	3	1.00	

Course Name : Seminar(17CSS86)

Course outcome	Attainment Level for last exam	Target for current exam	Attainment Level of current exam	Gap	Gap Analysis
C414.1	3	2.00	3	1.00	All the co's has attained target level
C414.2	3	2.00	3	1.00	
C414.3	3	2.00	3	1.00	
C414.4	3	2.00	3	1.00	
C414.5	3	2.00	3	1.00	

Prasanna
HOD

nOD
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A T M E

College of Engineering



Department of Computer Science & Engineering

**Attainment of Program Outcomes and Program
Specific Outcomes**

Department of Computer Science & Engineering

Program shall set Program Outcome attainment levels for all POs & PSOs.
(The attainment levels by direct (student performance) and indirect (surveys) are to be presented through Program level Course – PO & PSO matrix as indicated).

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101												
C102												

C409												
Direct attainment												
Indirect Attainment												
Over all PO attainment												

Note: Similar table is to be prepared for PSOs

C101, C102 are indicative courses in the first year. Similarly, C409 is final year course. First numeric digit indicates year of study and remaining two digits indicate course nos. in the respective year of study.

1. Direct attainment level of a PO & PSO is determined by taking average across all courses addressing that PO and/or PSO. Fractional numbers may be used up to two decimal places.
2. Indirect attainment level of PO & PSO is determined based on the student exit surveys, employer surveys and Alumni survey.

Calculation of PO attainment:

Following are the steps need to be followed to obtain the PO attainment.

Step 1: Course coordinator should enter the Course articulation matrix as per the course module in Sheet 4 of the CO-PO-PSO assessment tool.

Step 2: CO attainment from the Internal assessment is multiplied with the CAM and reduced percentage in the subsequent table and based on the target level set the percentage are converted to the scale 1 to 3.

Step 3: PO attainment through University Examination results is also considered and reduced to level points 1 to 3.

Step 4: PO and PSO attainment through direct assessment is thus calculated by putting the weightage 70% to attainment through University Exams and 30% to attainment through IA.

Step 5: Indirect Assessment of PO and PSO is calculated by considering the surveys such as Alumni Survey, Program Exit Survey and Employer Survey.

- In each survey the average values of individual POs and PSOs of all the courses in the program are taken.
- Then the overall average of PO1-PO12 and PSOs are taken. Then the final average value is converted and represented in percentage.

Step 6: Above step is carried out for all the three surveys and the final average value of the percentage obtained is converted to Level 1 to 3.

Department of Computer Science & Engineering

Step 1: Course coordinator should enter the Course articulation matrix(CAM) as per the course module in Sheet 4 of the CO-PO-PSO assessment tool.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	ps01	ps02	ps03
C409.1	1	1	2	0	0	0	0	0	0	0	0	2	0	0	0
C409.2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C409.3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Course0PO0ps0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0

Fig.1: CAM of the respective Course

Step 2: CO attainment from the Internal assessment is multiplied with the CAM and reduced percentage in the subsequent table and based on the target level set the percentage are converted to the scale 1 to 3.

Step 3: PO attainment through University Examination results is also considered and reduced to level points 1 to 3.

CO Attainment		
COs	%	L1/L2/L3
C409.1	99	3.00
C409.2	99	3.00
C409.3	97	3.00

Step 4: PO and PSO attainment through direct assessment is thus calculated by putting the weightage 70% to attainment through University Exams and 30% to attainment through IA.

PO & PSO Attainment															CO Attainment : 70% of Exam + 30 % of IA.		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	ps01	ps02	ps03		
C409.1	33	33	66	0	0	0	0	0	0	0	0	66	0	0	0	Alumni Survey0%	70.52051
C409.2	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Course Feedback0%	
C409.3	32	32	32	0	0	0	0	0	0	0	0	0	0	0	0	G. Exit Survey0%	70.31672
																Employer Feedback0%	71.06667
																	70.63
																FC & FCD in UNV. Exam (%)	
% Attainment	33	33	49	0	0	0	0	0	0	0	0	66	0	0	0		95.00

Fig 2:PO-PSO attainment reduced to percentage

Department of Computer Science & Engineering

Attainment through IA															Attainments	IA	UNV.	
L1 / L2 / L3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	L1	>=50%	>=50%
Attainment through VTU Exam															L2	>=60%	>=60%	
L1 / L2 / L3	3	3	3	0	0	0	0	0	0	0	0	3	0	0	0	L3	>=70%	>=70%
PO & PSO Attainment 0 Direct Assessment															Direct = 70 % of VTU Exam + 30% of IA			
	2.10	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.70	0.00	0.00	0.00			

Fig 3: PO-PSO attainment through Direct Assessment

Step 5: Indirect Assessment of PO and PSO is calculated by considering the surveys such as Alumni Survey, Program Exit Survey and Employer Survey.

- In each survey the average values of individual POs and PSOs of all the courses in the program are taken.
- Then the overall average of PO1-PO12 and PSOs are taken. Then the final average value is converted and represented in percentage.

Step 6: Above step is carried out for all the three surveys and the final average value of the percentage obtained is converted to Level 1 to 3.

PO & PSO Attainment 0 Direct Assessment															Direct = 70 % of VTU Exam + 30% of IA			
	2.10	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.70	0.00	0.00	0.00			
PO & PSO Attainment 0 Indirect Assessment																		
	3	3	3	0	0	0	0	0	0	0	0	3	0	0	0			
Overall PO & PSO Attainment															Overall = 70 % of Direct + 30 % of Indirect.			
	2.37	2.37	2.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.79	0.00	0.00	0.00			

Fig 4: Overall PO-PSO attainment (Direct+ Indirect)

Department of Computer Science & Engineering

USN Number	Name in SSLC	1	2	3	4	5	6	7	8	9	10	11	12
4AD17CS001	ABHINAV S H	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS016	BHAVANA R	3	3	3	3	2	3	3	3	3	3	3	3
4AD17CS017	BHOOMIKA P	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS021	DARSHINI R	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS022	DIVYA H	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS026	GEETHA S	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS030	HARSHITHA M P	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS034	JESMITHA M P	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS036	KRITHIKA G	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS059	NISHCHAL R	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS060	NITHAN L	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS063	PAVAN SITARAM HEGDE	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS062	PAVANKUMAR H K	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS068	R ANU KANTHAN	2	2	2	2	2	2	2	2	2	2	2	2
4AD17CS071	RAKSHITH KUMAR H N	2	2	2	2	2	2	2	2	2	2	2	2
4AD17CS075	RUCK SARE SABHA	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS076	SACHIN N	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS083	SHREYAS M L	3	3	3	3	3	3	3	3	3	3	3	3
4AD17CS084	SHREYAS MAHENDRAKAR S	3	3	3	3	3	3	3	3	3	3	3	3

Fig 5: Exit survey

Pravda
HOD
HOD
Dept. of Computer Science & Engg
ATME College of Engineering
Mysuru-570024

Department of Computer Science & Engineering

Dear Alumni,

For each of the Program Outcomes (PO1-PO12) given below, indicate the level / strength to which it has contributed to your understanding. Please include any comments.

Q1: Before each statement, indicate the answer 1 through 5 which most closely fits this statement for you:

1	2	3	4	5
No contribution	Poor contribution	Some contribution	Average contribution	Strong contribution

PO	Programme Outcomes Description	Answer
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.	
PO2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.	
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.	
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.	
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.	
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.	
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.	
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.	
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	
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, and give and receive clear instructions.	
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.	
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.	

Fig 6: Alumni survey Template

Pravda
HOD
HOD
Dept. of Computer Science & Engg
ATME College of Engineering
Vysuru-570023

Department of Computer Science & Engineering

2019-20

ATME College of Engineering, Mysuru, Karnataka

EMPLOYERS: SURVEY QUESTIONNAIRE

Dear Sir,

The Institute is applying for Accreditation of various Programmes which is outcome based in conformity with the International practices. The assessment of the outcomes has to be through a survey. The following questions need your valued consideration. Please find some time and send us your answers to these questions. This response will be kept confidential.

Company Name: KUTHISSA	
Mailing Address: thajyashreema@gmail.com	
City:	State: Karnataka Pin code:
Employment details: Year 2020	Email:
Questions	Answers
1. What are the strengths of our under Graduates?	Programming knowledge
2. What are the weaknesses of our Undergraduates?	Communication
3. What areas are most/least important to your company? Following Departments are under assessment.	
1. Computers 2. Civil 3. Electronics 4. Electrical 5. Mechanical	1. Computers 2. Electronics
4. Is consideration being given to addition of other programs? If so, what area(s)?	
5. What additional experiences / preparations do you expect/value?	
6. What on-the-job training do you provide?	
7. Do you see any changes that may need to be made or considered with the <u>program Specific outcomes</u> ¹ ? If so, what would be your suggestion?	
8. Do you see any changes that may need to be made or considered with the <u>program Educational objectives</u> ² ? If so, what would be your suggestion??	
9. Do you see any other issues that may need to be discussed?	
List of Programme specific outcomes ¹ and programme Educational Objectives ² is appended for your reference	

Fig 7: Employer survey Template

Pravda
HOD
nOD
Dept. of Computer Science & Engg
ATME College of Engineering
Mysuru-570022



A T M E

College of Engineering



Department of Computer Science & Engineering

OVERALL PO ATTAINMENT

Department of Computer Science & Engineering

Overall attainment of PO and PSO *course wise* is obtained by considering Direct and Indirect Attainment with the weightage of 70% and 30% respectively.

Direct Attainment	2.48	2.37	2.41	2.27	2.34	2.01	2.04	2.02	2.02	1.96	1.98	2.32	2.07	2.34	2.32	2.48
Indirect Attainment	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Overall attainment	2.64	2.57	2.59	2.49	2.54	2.31	2.33	2.32	2.32	2.28	2.29	2.53	2.35	2.54	2.53	2.64

Sample Calculation:

$$\begin{aligned} \text{Overall PO1 attainment} &= 0.7 \times \text{Direct Attainment} + 0.3 \times \text{Indirect Attainment} \\ &= 0.7 \times 2.48 + 0.3 \times 3 \\ &= 2.64 \end{aligned}$$

Overall attainment of the POs and PSOs is obtained by considering the overall PO & PSO attainment of all the courses of the batch under consideration and taking the average of them. The values thus obtained are the attainment of POs and PSOs for that batch.

The attainment values of the POs are then compared with the set target levels. If the targets are met by the POs and PSOs then, the PO and PSO is said to be attained for that batch. If not then the respective PO and PSO is not attained for the batch and need to addressed.

Prasanna
HOD
HOD
Dept. of Computer Science & Engg
ATME College of Engineering
Mysuru-570028

The Department follows a structured Guidelines handbook for Outcome evaluation followed commonly across the institution

Overall CO attainment is calculated by considering CO attainment (IA+SEE)

In order to obtain the CO attainment of the respective course:

Direct attainment is based on performance of the students in the Internal Assessment (30%) and semester end Examinations (70%).



HOD

Detail procedure for Obtaining CO attainment:

STEP 1: All the faculties handling the courses will map the student performance in the internal assessment to the **excel sheet** as and when the blue books are valued.

CO-PO-PSO ATTAINMENT TOOL																	
Note 1: In case a question (Ex: 2d) is not present in QP, keep the column blank.																	
Note 2: If the student is not attempted a question, leave the cell blank. Do not fill with ZERO.																	
Note 3: Fill only the cells with ORANGE & AQUA color. Do not alter the cells with other colors.																	
Note 4: If a question maps to multiple CO's, write them separated by commas. Ex: If a question maps to CO-1 and CO-4, write CO1,4.																	
Subject: Design of Machine Elements 1				IA-I (2020-21)				Course Coordinator: Rohith S									
S.No.	USN	PART-A								PART-B						<= Question No.	
		1a	1b	2a	2b	3a	3b	4a	4b	1a	1b	2a	2b	3a	3b		<= CO Mapping
		CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO2	CO2	CO2	CO2	CO2	CO2		<= Max. Marks
1	4AD18ME003	-	6	-	7	2	8			-	8	-	8				
2	4AD18ME004	2	8	2	8					2	8			2	8		
3	4AD18ME005			2	8	2	8	2	8	2	8						
4	4AD18ME007	-	8	-	8	2	8			-	8						
5	4AD18ME008	2	6	2		2	9				4						
6	4AD18ME009	2	6	2	8					2	8			2	6		
7	4AD18ME010	2	8	2	6			6		2	6						
8	4AD18ME011	2	6	2	8							2	7	2	8		
9	4AD18ME013		7		8	2	8			2	5		5				
10	4AD18ME015	2	8	2	7	2	7					2	7	2	8		
11	4AD18ME016			2	8	2	7	2	6	2	7	2	8				
12	4AD18ME019	2	6	2	8	2	6			2	6	2	6				
13	4AD18ME022	2	6	2	6	2	6					2	6	2	6		
14	4AD18ME023	2	8	2	8	2	8			2	8	2	8				
15	4AD18ME024	2	6	2	6	2	4			2	6	2	4				
16	4AD18ME025	2	6	2	7	2	7			2	6	2	7				

Fig. 1: Mapping of IA marks in excel sheet

No. cleared	56	26	30	21	9	8	44	56	28	32	21	35	30	52	0	≥40
No. attended	56	61	30	23	9	9	44	56	28	32	21	35	30	52	0	≥30, <840
%	100.00	42.62	100.00	91.30	100.00	88.89	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	<30
Course Outcomes	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO1	CO2	CO2	CO2	CO2	CO2	CO2		

% of Contribution of each question to CO's																
	1a	1b	2a	2b	3a	3b	4a	4b	1a	1b	2a	2b	3a	3b	0	0 to 23
CO1	100.00	42.62	100.00	91.30	100.00	88.89	100.00	100.00							0	24 to 32
CO2									100.00	100.00	100.00	100.00	100.00	100.00	0	Absent
CO3															0	Total
CO4															#DIV/0!	Avg.
CO5															#DIV/0!	St. D.
CO6															#DIV/0!	Coe. V.
% of Attainment	CO1	87	CO2	100	CO3	0	CO4	0	CO5	0	CO6	0	IA1		Actual Average	

Fig.2: Calculation over all CO attainment Question wise and Actual Average of COs in the IA-1

STEP 2: All the three IA including the improvement test is listed and the attainment is available as shown in the below figure. Attainment is calculated in the scale of 0 to 3 based on the percentage of Overall CO attainment.

CO attainment %	Attainment Level
<50	0
≥50 but <60	1
≥60 but <70	2
≥70	3

% of Attainment	CO1	0	CO2	0	CO3	100	CO4	98	CO5	100	CO6	0	IA3
% of Attainment	CO1	0	CO2	100	CO3	0	CO4	99	CO5	0	CO6	0	IA2
% of Attainment	CO1	87	CO2	100	CO3	0	CO4	0	CO5	0	CO6	0	IA1
AVERAGE		87		100		100		99		100		0	
CO Attainment through IA													
L1 / L2 / L3	CO1	3	CO2	3	CO3	3	CO4	3	CO5	3	CO6	0	

Fig.3: Overall attainment of CO through Internal Assessment

STEP 3: Attainment Level in University Examination

Attainment Level 1: 50% students scoring more than 50 % maximum marks in the final examination.
 Attainment Level 2: 60% students scoring more than 50 % maximum marks in the final examination.
 Attainment Level 3: 70% students scoring more than 50 % maximum marks in the final examination.
 Enter the university Examination (SEE) percentage of students scored more than 50% of the maximum marks.

Example: If the maximum marks for the Course is 125, then the target marks is 63. If the maximum marks for the course is 100, then the target marks is 50.

➤ The University result once again reduced to the scale 0 to 3.

STEP 4: The excel calculates the overall attainment of the COs by considering 30% weightage to Internal Assessment and 70% of the weightage to Sessional End Examination.

STEP 5: Overall CO Attainment (Direct Method)

CO Attainment through IA												
L1 / L2 / L3	CO1	3	CO2	3	CO3	3	CO4	3	CO5	3	CO6	0
CO Attainment through VTU Exam												
L1 / L2 / L3	CO1	2	CO2	2	CO3	2	CO4	2	CO5	2	CO6	-
Overall CO Attainment												
L1 / L2 / L3	CO1	2.3	CO2	2.3	CO3	2.3	CO4	2.3	CO5	2.3	CO6	-

% Students above 50% in VTU Exam	65
---	-----------

Fig.4: Overall CO Attainment Method

		PO & PSO Attainment															
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	-	PSO1	PSO2	PSO3	PSO4
C304.1	87	87	29	29	-	-	-	29	-	29	-	87	0	-	-	0	0
C304.2	100	100	33	67	-	-	-	33	-	67	-	100	0	-	-	0	0
C304.3	100	100	100	67	-	-	-	33	-	67	-	67	0	-	-	0	0
C304.4	99	99	99	66	-	-	-	33	-	66	-	66	0	-	-	0	0
C304.5	100	100	100	67	-	-	-	33	-	67	-	67	0	-	-	0	0
													-				
% Attainment	97	97	72	59	0	0	0	32	0	59	0	77	0	0	0	0	0

		PO & PSO Attainment - Direct Assessment															
70% weightage	2.3	2.3	2.3	1.7	X	X	X	1.4	X	1.7	X	2.3	X	X	X	X	X

Fig.5: PO & PSO Attainment

Setting Target & Gap Analysis

The CO attainments are compared with targets for the gap analysis.

Case(i)

- Targets for CO attainments are drawn from the averages of COs attainment of the previous year.
- The maximum sealing limit of target for any course is set to 2.0. This can be better understood with the following example.



HOD

Course Outcome Attainment of Academic Year 2020-2021

Course Outcome Attainment of Academic Year 2020-2021
Course Outcomes attainment summary AY:2020-21 [II-year]

Course Name: Transform calculus, fourier series and Numerical techniques[18MAT31]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C201.1	1.5	0.3	-1.2	No CO's Attained as the End sem results are very poor.
C201.2		0.9	-0.6	
C201.3		0.9	-0.6	
C201.4		0.9	-0.6	
C201.5		0.9	-0.6	
Course Name: Mechanics of Materials [18ME32]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C202.1	2	2.96	0.96	All CO's attained
C202.2		2.37	0.37	
C202.3		2.36	0.36	
C202.4		2.37	0.37	
C202.5		NA	NA	
Course Name: Basic Thermodynamics [18ME33]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C203.1	2	2.97	0.97	All CO's attained
C203.2		2.97	0.97	
C203.3		2.97	0.97	
C203.4		2.86	0.86	
C203.5		2.86	0.86	
Course Name: Material Science [18ME34]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C204.1	2	2.96	0.96	All CO's attained
C204.2		2.96	0.96	
C204.3		2.96	0.96	
C204.4		2.95	0.95	
C204.5		2.96	0.96	
Course Name: Metal cutting and forming [18ME35A/45A]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C205.1	2	2.88	0.88	All CO's attained
C205.2		2.89	0.89	
C205.3		2.85	0.85	
C205.4		2.9	0.9	
C205.5		2.9	0.9	

Department of Mechanical Engineering

Course Name: Metal Casting and welding [18ME35B/45B]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C206.1	2	3	1	All CO's attained
C206.2		3	1	
C206.3		3	1	
C206.4		NA	NA	
C206.5		NA	NA	
Course Name: Computer Aided Machine Drawing [18ME36A/46A]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C207.1	2	3	1	All CO's attained
C207.2		3	1	
C207.3		3	1	
C207.4		3	1	
C207.5		3	1	
Course Name: Mechanical Measurements & Metrology [18ME36B/46B]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C208.1	2	2.77	0.77	All CO's attained
C208.2		2.73	0.73	
C208.3		2.55	0.55	
C208.4		2.1	0.1	
C208.5		2.49	0.49	
Course Name: Material Testing Lab [18MEL37A/47A]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C210.1	2	3	1	All CO's attained
C210.2		3	1	
C210.3		3	1	
C210.4		NA	NA	
C210.5		NA	NA	
Course Name: Mechanical Measurements & Metrology Lab [18MEL37B/47B]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C211.1	2	3	1	All CO's attained
C211.2		3	1	
C211.3		3	1	
C211.4		3	1	
C211.5		3	1	
Course Name: Workshop and Machine shop practice Lab [18MEL38A/48A]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C212.1	2	3	1	All CO's attained

Department of Mechanical Engineering

C212.2		3	1	
C212.3		3	1	
C212.4		3	1	
C212.5		3	1	
Course Name: Foundry, Forging and Welding lab [18MEL38B48B]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C213.1	2	3	1	All CO's attained
C213.2		3	1	
C213.3		3	1	
C213.4		3	1	
C213.5		3	1	
Course Name: Applied Thermodynamics [18ME42]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C217.1	2	2.83	0.83	All CO's attained
C217.2		2.91	0.91	
C217.3		2.75	0.75	
C217.4		2.83	0.83	
C217.5		2.94	0.94	
Course Name: Fluid Mechanics [18ME43]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C218.1	2	2.86	0.86	All CO's attained
C218.2		2.86	0.86	
C218.3		2.86	0.86	
C218.4		2.95	0.95	
C218.5		NA	NA	
Course Name: Kinematics of Machines [18ME44]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C219.1	2	2.79	0.79	All CO's attained
C219.2		2.81	0.81	
C219.3		2.81	0.81	
C219.4		2.97	0.97	
C219.5		NA	NA	
Course Name: Complex Analysis, Probability and Stastical Methods [18MAT41]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C209.1	2	2.71	0.71	All CO's attained
C209.2		2.71	0.71	
C209.3		2.78	0.78	
C209.4		2.78	0.78	
C209.5		2.72	0.72	

Course Outcomes attainment summary AY:2020-21 [III-Year]

Course Name: Management and Engineering Economics [18ME51]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C301.1	1.8	2.3	0.5	All CO's attained
C301.2		2.3	0.5	
C301.3		2.3	0.5	
C301.4		NA	NA	
C301.5		NA	NA	
Course Name: Design of Machine Elements - I [18ME52]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C302.1	1.8	2.3	0.5	All CO's attained
C302.2		2.3	0.5	
C302.3		2.3	0.5	
C302.4		2.3	0.5	
C302.5		2.3	0.5	
Course Name: Dynamics of Machines [18ME53]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C303.1	1.8	2.1	0.3	All CO's attained
C303.2		3	1.2	
C303.3		3	1.2	
C303.4		3	1.2	
C303.5		2.1	0.3	
Course Name: Turbo machines [18ME54]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C304.1	1.8	2.3	0.5	All CO's attained
C304.2		2	0.2	
C304.3		2.3	0.5	
C304.4		2.3	0.5	
C304.5		2.3	0.5	
Course Name: Fluid Power Engineering [18ME55]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C305.4.1	1.8	3	1.2	All CO's attained
C305.4.2		3	1.2	
C305.4.3		3	1.2	
C305.4.4		3	1.2	
C305.4.5		3	1.2	



Course Name: Operation Management [18ME56]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C306.2.1	1.8	3	1.2	All CO's attained
C306.2.2		3	1.2	
C306.2.3		3	1.2	
C306.2.4		3	1.2	
C306.2.5		3	1.2	
Course Name: Fluid Mechanics and Machinery Lab [18MEL57]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C307.1	1.8	3	1.2	All CO's attained
C307.2		3	1.2	
C307.3		3	1.2	
C307.4		3	1.2	
C307.5		3	1.2	
Course Name: Energy Conversion Lab [18MEL58]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C308.1	1.8	3	1.2	All CO's attained
C308.2		3	1.2	
C308.3		3	1.2	
C308.4		NA	NA	
C308.5		NA	NA	
Course Name: Environmental Studies [18CIV59]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C309.1	1.8	3	1.2	All CO's attained
C309.2		3	1.2	
C309.3		3	1.2	
C309.4		3	1.2	
C309.5		NA	NA	
Course Name: Finite Element Analysis [18ME61]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C310.1	1.8	3	1.2	All CO's attained
C310.2		3	1.2	
C310.3		3	1.2	
C310.4		3	1.2	
		NA	NA	

Department of Mechanical Engineering

Course Name: Design of Machine Elements-II [18ME62]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C311.1	1.8	3	1.2	All CO's attained
C311.2		3	1.2	
C311.3		3	1.2	
C311.4		3	1.2	
C311.5		NA	NA	
Course Name: Heat Transfer [18ME63]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C312.1	1.8	3	1.2	All CO's attained
C312.2		3	1.2	
C312.3		3	1.2	
C312.4		3	1.2	
C312.5		3	1.2	
Course Name: Non traditional Machining [18ME641]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C313-1.1	1.8	3	1.2	All CO's attained
C313-1.2		3	1.2	
C313-1.3		3	1.2	
C313-1.4		3	1.2	
C313-1.5		3	1.2	
Course Name: Remote sensing & GIS [18ME651]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C314-1.1	1.8	3	1.2	All CO's attained
C314-1.2		3	1.2	
C314-1.3		3	1.2	
C314-1.4		3	1.2	
C314-1.5		NA	NA	
Course Name: Renewable Energy Sources [18EE653]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C314-3.1	1.8	3	1.2	All CO's attained
C314-3.2		3	1.2	
C314-3.3		3	1.2	
C314-3.4		3	1.2	
C314-3.5		3	1.2	

Department of Mechanical Engineering

Course Name: HT lab [18MEL67]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C316.1	1.8	3	1.2	All CO's attained
C316.2		3	1.2	
C316.3		3	1.2	
C316.4		3	1.2	
C316.5		NA	NA	
Course Name: Computer Aided and Modelling lab [18MEL66]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C315.1	1.8	3	1.2	All CO's attained
C315.2		3	1.2	
C315.3		3	1.2	
C315.4		3	1.2	
C315.5		3	1.2	
C315.6		3	1	
Course Name: Mini Project [18MEM68]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C317.1	1.8	3	1.2	All CO's attained
C317.2		3	1.2	
C317.3		3	1.2	
C317.4		3	1.2	
C317.5		3	1.2	

Course Outcomes attainment summary AY:2020-21 [IV-Year]

Course Name: Energy engineering [17ME71]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C401.1	1.8	3	1.2	All CO's attained
C401.2		3	1.2	
C401.3		3	1.2	
C401.4		3	1.2	
C401.5		3	1.2	
Course Name: Fluid Power Systems [17ME72]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C402.1	1.8	3	1.2	All CO's attained
C402.2		3	1.2	
C402.3		3	1.2	
C402.4		3	1.2	
C402.5		3	1.2	
Course Name: Control Engineering [17ME73]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C403.1	1.8	3	1.2	All CO's attained
C403.2		3	1.2	
C403.3		3	1.2	
C403.4		3	1.2	
C403.5		3	1.2	
Course Name: Tribology [17ME742]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C404.2.1	1.8	3	1.2	All CO's attained
C404.2.2		3	1.2	
C404.2.3		3	1.2	
C404.2.4		3	1.2	
C404.2.5		3	1.2	
Course Name: Mechatronics [17ME753]				
Course Outcomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C405.3.1	1.8	3	1.2	All CO's attained
C405.3.2		3	1.2	
C405.3.3		3	1.2	
C405.3.4		NA	NA	
C405.3.5		NA	NA	



Course Name: Design Lab [17MEL76]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C406.1	1.8	3	1.2	All CO's attained
C406.2		3	1.2	
C406.3		3	1.2	
C406.4		3	1.2	
C406.5		3	1.2	
C406.6		3	1.2	
Course Name: Computer Integrated Manufacturing Lab [17MEL77]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C407.1	1.8	3	1.2	All CO's attained
C407.2		3	1.2	
C407.3		3	1.2	
C407.4		3	1.2	
C407.5		3	1.2	
C407.6		3	1.2	
Course Name: Project Work Phase 1 [17MEP78]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C408.1	1.8	3	1.2	All CO's attained
C408.2		3	1.2	
C408.3		3	1.2	
C408.4		3	1.2	
C408.5		NA	NA	
Course Name: Operations Research [17ME81]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C409.1	1.8	3	1.2	All CO's attained
C409.2		3	1.2	
C409.3		3	1.2	
C409.4		3	1.2	
C409.5		3	1.2	
Course Name: Additive Manufacturing [17ME82]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C410.1	1.8	3	1.2	All CO's attained
C410.2		3	1.2	
C410.3		3	1.2	
C410.4		NA	NA	
C410.5		NA	NA	

Department of Mechanical Engineering

Course Name: Experimental Stress Analysis (17ME832)				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C411.2.1	1.8	3	1.2	All CO's attained
C411.2.2		3	1.2	
C411.2.3		3	1.2	
C411.2.4		NA	NA	
C411.2.5		NA	NA	
Course Name: Internship [17ME84]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C412.1	1.8	3	1.2	All CO's attained
C412.2		3	1.2	
C412.3		3	1.2	
C412.4		3	1.2	
C412.5		NA	NA	
Course Name: Project Work Phase 2 [17MEP85]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C413.1	1.8	3	1.2	All CO's attained
C413.2		3	1.2	
C413.3		3	1.2	
C413.4		3	1.2	
C413.5		NA	NA	
Course Name: Seminar [17MES86]				
Course Outomes	Target for Current academic year	attainment level of Current Exam	Gap	Gap Analysis/Action Plan
C414.1	1.8	3	1.2	All CO's attained
C414.2		3	1.2	
C414.3		3	1.2	
C414.4		3	1.2	
C414.5		NA	NA	



HOD

Attainment of Program Outcomes and Program Specific Outcomes

Program shall set Program Outcome attainment levels for all POs & PSOs.
(The attainment levels by direct (student performance) and indirect (surveys) are to be presented through Program level Course – PO & PSO matrix as indicated).

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101												
C102												

C409												
Direct attainment												
Indirect Attainment												
Over all PO attainment												

Note: Similar table is to be prepared for PSOs

C101, C102 are indicative courses in the first year. Similarly, C409 is final year course. First numeric digit indicates year of study and remaining two digits indicate course nos. in the respective year of study.

1. Direct attainment level of a PO & PSO is determined by taking average across all courses addressing that PO and/or PSO. Fractional numbers may be used up to two decimal places.
2. Indirect attainment level of PO & PSO is determined based on the student exit surveys, employer surveys and Alumni survey.

Calculation of PO attainment:

Following are the steps need to be followed to obtain the PO attainment.

Step 1: Course coordinator should enter the Course articulation matrix as per the course module in Sheet 4 of the CO-PO-PSO assessment tool.

Step 2: CO attainment from the Internal assessment is multiplied with the CAM and reduced percentage in the subsequent table and based on the target level set the percentage are converted to the scale 1 to 3.

Step 3: PO attainment through University Examination results is also considered and reduced to level points 1 to 3.

Step 4: PO and PSO attainment through direct assessment is thus calculated by putting the weightage 70% to attainment through University Exams and 30% to attainment through IA.

Step 5: Indirect Assessment of PO and PSO is calculated by considering the surveys such as Alumni Survey, Program Exit Survey and Employer Survey.

- In each survey the average values of individual POs and PSOs of all the courses in the program are taken.

- Then the overall average of PO1-PO12 and PSOs are taken. Then the final average value is converted and represented in percentage.

Step 6: Above step is carried out for all the three surveys and the final average value of the percentage obtained is converted to Level 1 to 3.

Step 1: Course coordinator should enter the Course articulation matrix(CAM) as per the course module in Sheet 4 of the CO-PO-PSO assessment tool.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	ps01	ps02	ps03
C409.1	1	1	2	0	0	0	0	0	0	0	0	2	0	0	0
C409.2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C409.3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Course0PO0psc	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0

Fig.1: CAM of the respective Course

Step 2: CO attainment from the Internal assessment is multiplied with the CAM and reduced percentage in the subsequent table and based on the target level set the percentage are converted to the scale 1 to 3.

Step 3: PO attainment through University Examination results is also considered and reduced to level points 1 to 3.

CO Attainment		
COs	%	L1/L2/L3
C409.1	99	3.00
C409.2	99	3.00
C409.3	97	3.00

Step 4: PO and PSO attainment through direct assessment is thus calculated by putting the weightage 70% to attainment through University Exams and 30% to attainment through IA.

PO & PSO Attainment																	Exam + 30 % of IA.	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4		
C105.1	81	81	54	-	-	-	-	-	-	-	-	-	81	27	-	-	Alumni Survey-%	65
C105.2	82	82	55	-	-	-	-	-	-	-	-	-	82	27	-	-	Course Feedback-%	92
C105.3	84	84	28	-	-	-	-	-	-	-	-	-	84	28	-	-	G. Exit Survey-%	81
C105.4	82	82	82	-	-	-	-	-	-	-	-	-	82	27	-	-	Employer Feedback-%	72
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		77.50
% Attainment	82	82	55	0	0	0	0	0	0	0	0	0	82	27	0	0	FC & FCD in UNV. Exam (%)	78.00

Fig 2:PO-PSO attainment reduced to percentage

Attainment through IA														Attainments		IA	UNV.			
L1 / L2 / L3	3	3	1	X	X	X	X	X	X	X	X	X	X	3	0	X	X	L1	>=50%	>=50%
Attainment through VTU Exam																				
L1 / L2 / L3	3	3	3	X	X	X	X	X	X	X	X	X	X	3	3	X	X	L2	>=60%	>=60%
PO & PSO Attainment - Direct Assessment																				
70% weightage	3	3	2.4	X	X	X	X	X	X	X	X	X	X	3	2.1	X	X	L3	>=70%	>=70%
Direct =70 % of VTU Exam +30% of IA																				

Fig 3: PO-PSO attainment through Direct Assessment

Step 5: Indirect Assessment of PO and PSO is calculated by considering the surveys such as Alumni Survey, Program Exit Survey and Employer Survey.

- In each survey the average values of individual POs and PSOs of all the courses in the program are taken.
- Then the overall average of PO1-PO12 and PSOs are taken. Then the final average value is converted and represented in percentage.

Step 6: Above step is carried out for all the three surveys and the final average value of the percentage obtained is converted to Level 1 to 3.

	PO & PSO Attainment - Direct Assessment														Direct =70 % of VTU Exam +30% of IA						
70% weightage	3	3	2.4	X	X	X	X	X	X	X	X	X	X	3	2.1	X	X				
	PO & PSO Attainment - Indirect Assessment																				
30% Weightage	3	3	3	X	X	X	X	X	X	X	X	X	X	3	3	X	X				
Overall PO & PSO Attainment														Overall = 70 % of Direct + 30% Indirect							
Final Attainment	3	3	2.58	X	X	X	X	X	X	X	X	X	X	3	2.37	X	X				
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	-	PSO1	PSO2	PSO3	PSO4				

Fig 4: Overall PO-PSO attainment (Direct+ Indirect)



HOD

Program Exit survey

SI. NO	USN	Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	4AD15ME047	MANOJ A D	3	3	3	3	3	3	3	3	3	3	3	3
2	4AD15ME084	SAGAR D S	3	3	3	3	3	3	3	3	3	3	3	3
3	4AD16ME002	ABHISHEK N S	3	3	3	3	3	3	3	3	3	3	3	3
4	4AD16ME004	AKASH SINGH NEGI	3	3	3	3	3	3	3	3	3	3	3	3
5	4AD16ME005	AKHIL M U	2	2	2	2	2	2	2	2	2	2	2	2
6	4AD16ME006	AMRUTH KUMAR C	2	2	2	2	2	2	2	2	2	2	2	2
7	4AD16ME009	ASHA D	3	3	3	3	3	3	3	3	3	3	3	3
8	4AD16ME013	CHANDAN T C	3	3	3	3	3	3	3	3	3	3	3	3
9	4AD16ME014	CHARANPAUL R	3	3	3	3	3	3	3	3	3	3	3	3
10	4AD16ME015	CHEZHAN M J	2	2	2	2	2	2	2	2	2	2	2	2
11	4AD16ME016	CHEZHAN N S	3	3	3	3	3	3	3	3	3	3	3	3
12	4AD16ME020	FAHAD M P	2	2	2	2	2	2	2	2	2	2	2	2
13	4AD16ME021	FAWAAD URMAAN	3	3	3	3	3	3	3	3	3	3	3	3
14	4AD16ME022	GAUTHAM C M	3	3	3	3	3	3	3	3	3	3	3	3
15	4AD16ME023	GOPINATH U	2	2	3	2	2	2	2	2	2	2	2	2
16	4AD16ME024	IRFAN PASHA	3	3	3	3	3	3	3	3	3	3	3	3
17	4AD16ME025	JEEVAN ROY NOVAIS	3	1	3	3	2	3	1	2	3	3	3	2
18	4AD16ME029	KRISHNA PRASAD	3	3	3	3	3	2	2	3	3	2	3	2
19	4AD16ME032	MANOHAR S PRASAD	1	1	2	2	2	2	2	2	3	3	2	2
20	4AD16ME035	MANOJ M	3	3	3	3	3	3	3	3	3	3	3	3
21	4AD16ME037	MAYUR KRISHNA	3	3	3	3	3	3	3	3	3	3	3	3
22	4AD16ME038	MITHIN T R	3	3	3	3	3	3	3	3	3	3	3	3
23	4AD16ME039	MOHAMED FAISAL	3	3	3	3	3	3	3	3	3	3	3	3
24	4AD16ME040	MOHAMMED FARAAZ	2	2	2	3	3	3	3	3	2	2	3	3

Fig 5: Exit survey

Department of Mechanical Engineering

ATME College of Engineering, Mysuru, Karnataka

EMPLOYERS: SURVEY QUESTIONNAIRE

Dear Sir,

The Institute is applying for Accreditation of various Programmes which is outcome based in conformity with the International practices. The assessment of the outcomes has to be through a survey. The following questions need your valued consideration. Please find some time and send us your answers to these questions. This response will be kept confidential.

Company Name: <u>INFOSYS</u>			
Mailing Address: <u>Electronic City</u>			
City: <u>BANGALORE</u>	State: <u>KARNATAKA</u>	Pin code: <u>560066</u>	
Employment details: Year <u>2020</u>		Email: <u>amogh.vadinaraj@infosys.com</u>	
Questions	Answers		
1. What are the strengths of our under graduates?	<u>Confidence</u>		
2. What are the weaknesses of our under graduates?	<u>Less knowledge</u>		
3. What areas are most/least important to your company? Following Departments are under assessment.			
1. Computers 2. Civil 3. Electronics	<u>All</u>		
4. Electrical 5. Mechanical —			
3. of other programs? If so, what area(s)?	<u>Bootcamp, domain specific</u>		
4. What additional experiences / preparations do you expect/value?			
5. What on-the-job training do you provide?			
6. Do you see any changes that may need to be made or considered with the program <u>Specific outcomes</u> ? If so, what would be your suggestion?			
7. Do you see any changes that may need to be made or considered with the program <u>Educational objectives</u> ? If so, what would be your suggestion??	<u>—</u>		
8. Do you see any other issues that may need to be discussed?			


Name & Signature
Amogh Vadinaraj

Fig 6: Employer survey Template

Department of Mechanical Engineering
ALUMNI: SURVEY QUESTIONNAIRE

Degree Received:		Year of Graduation:			
Name:		Signature:			
Mailing Address:					
City:	State:	Pin code:			
Employment details:			Email:		
Company and Designation:					

Dear Alumni,

For each of the Program Outcomes (PO1-PO9) given below, indicate the level / strength to which it has contributed to your understanding. Please include any comments.

Q1: Before each statement, indicate the answer 1 through 5 which most closely fits this statement for you:

1: No contribution:	2: Poor contribution:	3: Some contribution:	4: Average contribution:	5: Strong contribution:
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Sl. No	Programme Outcomes	Answer
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems	
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	
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	
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	
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations	
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	
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	
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice	
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings	
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, and give and receive clear instructions	
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	
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	

Fig 7: Alumni survey Template

OVERALL PO ATTAINMENT

Department of Mechanical Engineering

Overall attainment of PO and PSO *course wise* is obtained by considering Direct and Indirect Attainment with the weightage of 70% and 30% respectively.

Direct Attainment	2.48	2.37	2.41	2.27	2.34	2.01	2.04	2.02	2.02	1.96	1.98	2.32	2.07	2.34	2.32	2.48
Indirect Attainment	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Overall attainment	2.64	2.57	2.59	2.49	2.54	2.31	2.33	2.32	2.32	2.28	2.29	2.53	2.35	2.54	2.53	2.64

Sample Calculation:

Overall PO1 attainment = 0.7 x Direct Attainment + 0.3 x Indirect Attainment

$$= 0.7 \times 2.48 + 0.3 \times 3$$

$$= 2.64$$

Overall attainment of the POs and PSOs is obtained by considering the overall PO & PSO attainment of all the courses of the batch under consideration and taking the average of them. The values thus obtained are the attainment of POs and PSOs for that batch.

The attainment values of the POs are then compared with the set target levels. If the targets are met by the POs and PSOs then, the PO and PSO is said to be attained for that batch. If not then the respective PO and PSO is not attained for the batch and need to addressed.





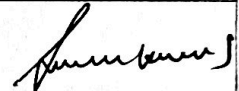
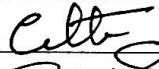
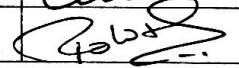
HOD

Date: 26/09/2021

Program Assessment Committee [PAC]

Minutes of the meeting held on 26/09/2021 at 2.30 pm in the Department

The meeting of the Program Assessment Committee to discuss the matters related to post academic activities of 2020-21. The following members attended the meeting;

Sl. No.	Name and Designation	Role	Signature
01	Dr. Srinivasa K, Prof & Head	Chairperson	
02	Mr. Thejkumar J, Asst. Professor	Member Secretary	
03	Dr. Suresh Kumar S, Associate Professor	Member	
04	Dr. Chethan S, Asst. Professor	Member	
05	Mr. Rohith S, Asst. Professor	Member	

Agenda:

- Discussion on the process carried out for the attainment of Program outcomes (Pos) and Program Specific outcomes (PSOs) in the program.
- To review the attainment of Course Outcomes (COs) of the academic year 2020-21.
- To analyze the attainments of POs, PSOs for the academic year 2020-21 pass out batch.
- Any other matters with the permission of the Chair.



Proceedings of the Meeting:

1. Dr. Srinivasa K, HoD and the chairperson for the PAC welcomed all the members for the meeting and requested Mr. Thejkumar J, member secretary to read out the Agenda of the meeting.
2. Mr. Thejkumar J, Member secretary read out the agenda for the meeting and requested the Mr. Rohith S, member to explain the process carried out and the attainments of CO for the AY:2020-21.
3. Mr. Rohith S explained about the process carried out for the attainment calculation for the 3 and 4 semester students as the program is considering both direct and indirect attainment process for the CO attainment from the current batch (2019-20 admitted batch). Also, for the higher semesters i.e., 5 to 8 semesters process carried is as per the previous attainment method.
4. Dr. Suresh Kumar S, Member briefed about the Surveys taken on Graduate exit survey, Alumni Survey and Employer Survey for the indirect assessment for the computation of PO and PSO attainments.
5. Mr. Rohith S, presented the summary of the CO attainment for AY: 2020-21. The summary depicts the CO attainment for all the courses are attained except the 18MAT31.
6. It is expressed by the course coordinators Prof. Sudhakar N, HoD, Dept. of Mathematics that the students' performance in the end semester examination is poor and that performance is reflected in the non-attainment of the COs.
7. Mr. Rohith also brought it to the notice of the members that, the even semester end examinations were not held and results are declared based on the result of the Internal assessment in the current semester and the previous semester end Exam results.
8. Mr. Rohith S, Member presented the PO and PSO attainment levels for the batch 2020-21(pass out) and stated that all POs and PSOs are attained satisfactorily and the new target level for the Batch 2021-22 is to be set.

Department of Mechanical Engineering

9. Mr. Thejkumar J, informed the members in the meeting that the Curricular Gap for the AY: 2021-22 is in progress as the syllabus for the I-year curriculum is not yet released by the VTU. However, the PAM for the higher semesters are ready and will be taken for the discussion once the PAM is completed in the DAB meeting.
10. It was decided to forward the proceedings of this meeting to the Department Advisory Board.
11. At the end of the meeting Dr. Srinivasa K, HoD thanked all the members of the committee and adjourned the meeting till further notice.



HoD

HOD

**Department of Mechanical Engineering
ATME College of Engineering
Mysuru - 570028**

Copy to,

- 1) The Principal,
- 2) The Dean Academics
- 3) For circulation DAB Members
- 4) For Internal Quality Assurance Committee (IQAC)