

**GUDLAVALLERU ENGINEERING COLLEGE**  
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)  
**SESHADRIRAO KNOWLEDGE VILLAGE::GUDLAVALLERU**

*Department of Civil Engineering*

# **ASSESSMENT MANUAL**

# GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

SESHADRIRAO KNOWLEDGE VILLAGE::GUDLAVALLERU

*Department of Civil Engineering*

## CO Assessment procedure:

### Assessment Tools and Processes

#### A. Course Outcome Assessment for Theory Courses

Assessment Methods		Weightage 1	Weightage 2	On 3 point Scale
Indirect Assessment	Course End Survey	20%	20%	Attainment Level of CO
Direct Assessment	Cumulative Internal Evaluation	40 % (32%)	80%	
	Semester End Examination	60 % (48%)		

The attainment of course outcome (CO) is assessed through direct and indirect evaluations. The direct attainment is measured based on the performance of the students in the internal and external examinations. The final grade on a course given to the student is based on a weighted average of the internal and external examinations. The Course end survey questionnaire is prepared by the Course instructor in consultation with the Programme Coordinator. The indirect attainment is measured based on course end survey. The Course end survey questionnaire is distributed to the students at the

end of every semester. The Survey reports are assessed with a rating of 5 for excellent, 4 for Very Good, 3 for Good, 2 for Fair and 1 for Poor. The average of the ratings obtained from course end survey will be taken on 3 points scale. By taking the weighted average of internal, external and course end survey the final co assessment is calculated.

The internal evaluation consists of the following assessment tools:

#### Class Test 1 (CT1)

Question paper pattern is as follows:

- Part-A - 3 questions of 1 marks each
- Part B - 1 question of 3 marks
- Part C -1 question of 4 marks (or)  
2 questions of 2 marks each
- Total marks = 10
- Duration – 45 min

#### Class Test 2 (CT2)

Question paper pattern is as follows:

- Part-A - 3 questions of 1 marks each
- Part B - 1 question of 3 marks
- Part C -1 question of 4 marks (or)  
2 questions of 2 marks each
- Total marks = 10
- Duration – 45 min

#### Internal Assessment 1(IA1)

Question paper pattern is as follows:

- Part-A - 5 questions of 2 marks each (or)  
10 questions of 1 marks each
- Part B -3 questions of 10 marks each  
Each question can have maximum of 2 sub parts
- Total marks = 40

- Duration - 2 hours

#### Class Test 3 (CT3)

Question paper pattern is as follows:

- Part-A - 3 questions of 1 marks each
- Part B - 1 question of 3 marks
- Part C -1 question of 4 marks (or)  
2 questions of 2 marks each
- Total marks = 10
- Duration – 45 min

#### Class Test 4 (CT4)

Question paper pattern is as follows:

- Part-A - 3 questions of 1 marks each
- Part B - 1 question of 3 marks
- Part C -1 question of 4 marks (or)  
2 questions of 2 marks each
- Total marks = 10
- Duration – 45 min

#### Internal Assessment 2(IA2)

Question paper pattern is as follows:

- Part-A - 5 questions of 2 marks each (or)  
10 questions of 1 marks each
- Part B -3 questions of 10 marks each  
Each question can have maximum of 2 sub parts
- Total marks = 40
- Duration - 2 hours

#### Semester End Examination

Question paper pattern is as follows:

- 8 questions are given, student has to attempt 5 questions

Each question of 10 marks

Each question can have maximum of 3 sub parts

- Total marks = 60
- Duration - 3 hours

The external examination question paper is set by faculty of competent autonomous institutions. Based on the marks obtained in the university examination for each theory subject, the measures of respective course outcomes are taken. The attainment is measured in terms of actual percentage of students getting set percentage of marks.

### **B. Course outcome Assessment for Laboratory courses**

Assessment Methods		Weightage 1	Weightage 2	On 3 point Scale
Indirect Assessment	Course End Survey	20%	20%	Attainment Level of CO
Direct Assessment	Cumulative Internal Evaluation	40 % (32%)	80%	
	Semester End Examination	60 % (48%)		

The attainment of course outcome is assessed through direct evaluations as follows:

The evaluation is done in two stages viz; continuous evaluation and end semester examination. The final marks awarded to a student are based on the following criteria.

- Continuous Evaluation (25 marks)
  - Internal Exam -10 marks
  - Day to Day evaluation-10 marks
  - Record -5 marks

- End Semester examination (50 marks)

Equal weightage is given to all course outcomes while assessing through the above evaluation process and all the attainment levels are allocated with suitable justification.

### **Assessment for projects**

#### **Projects**

As per curriculum, the students have to carry out a major project in semester 8. Students are advised and encouraged to identify their areas of interest in line with the recent research and development in the field of Electronics and Communication Engineering. Projects are categorized based on their functional area and are assessed based on the content, quality, relevance and applicability. After categorizing, they will be mapped with program outcomes and programme specific outcomes and attainment levels are assessed. The marks for the individual members of the project group are awarded on the basis of evaluation done based on three presentations. The evaluation at the end of eighth semester shall be done by a team of minimum three examiners including the project guide.

Guidelines for the evaluation in the eighth semester are as follows (Total-80 marks) :

- Project Review 1 (40 Marks)
  - Day to day work-15 Marks
  - Preparation and presentation-10 marks
  - Results-10 Marks
  - Viva-Voce-5 Marks
- Project Review 2 (40 Marks)
  - Day to day work-15 Marks
  - Preparation and presentation-10 marks
  - Results-10 Marks
  - Viva-Voce-5 Marks

Sum of two reviews are the final internal evaluation marks.

The final evaluation of the project shall be done in the eighth semester by a team of minimum three examiners including the project guide.

Guidelines for the evaluation are as follows ( Total - 120 marks ) :

- Regularity and Progress of work
- Work knowledge and involvement
- End semester presentation
- Model demonstration of project (if any)
- Project Report - Presentation style and content
- Viva- voce

The work knowledge and involvement of the individual team members are assessed at the time of presentation and weekly project progress discussions by considering the following criteria:

- Communication skills
- Self Confidence
- Attainment of individual scope of work
- Overall contribution for the project accomplishment

The performance of the project team is assessed by considering the following criteria:

- Coordination in consolidating work
- Completeness of documentation of the work done including result
- Time management
- Team members have to do update their work done weekly to their respective guides and record in the log book

#### **D. Course Outcome Assessment for Industrial Training/ Internship**

Course outcome attainment evaluation is done as follows:

According to the curriculum, students have to visit at least one industry relevant to Electronics and Communication Engineering as part of industrial training and spent a minimum of 4 weeks during semester break between 6th and 7th semester. A report of the same is submitted at the beginning of the seventh semester. A certificate issued by the corresponding industry is submitted by the student along with the report.

The evaluation is done and the final marks are awarded to a student based on the following points

Total marks-(100)

- Internal assessment-40 Marks
  - Training report -10Marks
  - Work carriedout-20Marks
  - Presentation -5Marks
  - Viva-voce-5Marks
- External assessment-60 Marks
  - Training report -20Marks
  - Work carriedout-20Marks
  - Presentation -10Marks
  - Viva-voce-10Marks

**A sample template for CO Internal assessment (Direct Assessment)**

Calculation of CO attainment in internal assessment:-

CO Attainment=  $(\sum \text{Marks obtained by the student for all the questions in the mid examination corresponding to that CO} / \text{Total marks}) * 3$

Attainment level of CO= 1.65



DEPARTMENT OF CIVIL ENGINEERING		COURSE OUTCOMES		
Subject Code	CE1533	CO1: identify the problems relating to different ground conditions	Performed	Appeared
Subject Name	GROUND IMPROVEMENT TECHNIQUES	CO2:select suitable ground improvement technique according to ground condition	46	49
Year & Sem	III YEAR II SEM	CO3: apply the concepts of soil confinement systems.	45	49
Academic Year	2017-2018			
Faculty Name	Mr.Ch.Naga Bharath			

S.no.	Roll no.	MID EXAM 1				MID EXAM 2				CT -Final CO 1,2 &3 20M	Studentwise CO Attainments				
		CO 1,2	CO 1	CO 2	CO 2	CO 1,2,3	CO 2	CO 3	CO 3		CO 1	CO 2	CO 3	CO 4	CO 5
		Q1 - 10M	Q2 - 10M	Q3 - 10M	Q4 - 10M	Q1 - 10M	Q2 - 10M	Q3 - 10M	Q4 - 10M						
1	14481A0163	6	9	6	8	7	8	4	9	13	2.1	2.06	1.98		
2	14481A0168	6	8	4	9	6	9	9	5	13	1.98	2.01	1.98		
3	14481A0169	6	9	9	5	5	9	6	4	20	2.4	2.31	2.1		
4	14481A0178	5	9	6	4	3	7	4	0	11	1.68	1.54	1.08		
5	14481A0180	3	7	4	0	7	8	8	7	18	2.1	1.71	2.4		
6	14481A0184	7	8	8	7	9	10	9	10	17	2.46	2.49	2.7		
7	14481A0185	10	9	9	10	9	10	7	6	18	2.76	2.83	2.4		
8	14481A0186	9	10	7	6	5	9	8	9	19	2.58	2.36	2.46		
9	14481A0187	5	9	8	9	4	6	6	5	16	2.04	2.06	1.86		
10	14481A0199	4	6	6	5	8	9	8	8	13	1.86	1.93	2.22		
11	14481A01A4	8	9	8	8	9	9	9	10	16	2.52	2.49	2.64		
12	14481A01A7	9	9	9	10	8	9	6	10	11	2.22	2.4	2.1		
13	14481A01A8	8	9	6	10	7	10	6	10	19	2.58	2.57	2.52		
14	14481A01B0	7	10	6	10	8	9	10	8	16	2.46	2.4	2.52		
15	14481A01B1	10	10	9	10	4	7	6	3	18	2.52	2.49	1.86		
16	14481A01B2	8	9	10	8	6	8	8	10	6	1.74	1.97	1.8		
17	14481A01B3	4	7	6	3	8	9	9	10	18	2.22	2.06	2.7		
18	14481A01B4	6	8	8	10	9	9	9	9	16	2.34	2.49	2.58		
19	14481A01B5	8	9	10	10	7	10	9	8	16	2.4	2.61	2.4		
20	14481A01B7	9	9	9	9	8	9	8	9	15	2.46	2.53	2.4		

### A sample template for CO Indirect assessment

<b>Subject Code</b>	CE1533
<b>Subject Name</b>	GROUND IMPROVEMENT TECHNIQUES
<b>Year &amp; Sem</b>	III YEAR II SEM
<b>Academic Year</b>	2017-2018
<b>Faculty Name</b>	Mr.Ch.Naga Bharath

CO1: identify the problems relating to different ground conditions

CO2:select suitable ground improvement technique according to ground condition

CO3: apply the concepts of soil confinement systems.

S.No	CO1	CO2	CO3
1	5	5	4
2	5	5	4
3	5	4	5
4	5	5	4
5	5	5	5
6	5	5	4
7	5	5	4
8	5	5	4
9	5	5	4
10	5	4	4
11	5	4	5
12	5	5	4

13	5	4	4
14	5	4	4
15	5	5	4
16	4	4	4
17	5	5	5
18	5	4	5
19	5	5	4
20	5	4	4
21	5	4	4
22	5	5	4
23	5	4	4
24	5	5	5
25	4	4	5
26	5	4	5
27	5	5	4
28	5	5	4
29	5	5	4
30	5	5	4

**A sample templates for CO External assessment (Direct Assessment)**

Calculation of CO attainment in External assessment:-

CO Attainment=  $(\sum \text{Marks obtained for the questions in part-A and best four questions in the part-B corresponding to that CO} / \text{Total marks}) * 3$

Attainment level of CO=1.65

DEPARTMENT OF CIVIL ENGINEERING		COURSE OUTCOMES		
Subject Code	CE1533	CO1: identify the problems relating to different ground conditions	Performed	Attempted
Subject Name	GROUND IMPROVEMENT TECHNIQUES	CO2:select suitable ground improvement technique according to ground condition	22	28
Year & Sem	III YEAR II SEM	CO3: apply the concepts of soil confinement systems.	44	48
Academic Year	2017-2018		36	46
Faculty Name	Mr.Ch.Naga Bharath		0	0
			0	0

S.no.	CODE NO.	PART A						PART B						Questions Attempted	Weightage Multiple	Studentwise CO Attainments				
		Q1	Q2	Q3	Q4	Q5	Q6	Q1	Q2	Q3	Q4	Q5	Q6			CO 1	CO 2	CO 3		
		2	2	2	2	2	2	12	12	12	12	12	12			CO 1	CO 2	CO 3		
1	CE1533	0	0	2	1	1	0	0	8	0	10	7	6	4	1	0	2.04	1.5		
2	CE1533	1	1	1	1	1	1	1	8	2	8	6	8	4	1	0	1.93	1.71		
3	CE1533	2	2	1	0	2	2	10	8	0	0	8	7	4	1	2.44	1.88	2.04		
4	CE1533	2	2	2	2	2	2	9	0	0	10	8	11	4	1	2.44	2.63	2.46		
5	CE1533	2	1	2	1	1	0	11	8	8	8	0	0	4	1	2.81	1.95	0		
6	CE1533	2	2	2	2	2	0	11	11	0	11	12	0	4	1	2.81	2.79	2.63		
7	CE1533	2	2	2	2	1	1	10	11	0	10	10	0	4	1	2.63	2.68	2.25		
8	CE1533	1	0	0	1	1	1	6	8	0	8	0	10	4	1	1.31	1.82	2.25		
9	CE1533	1	1	1	1	1	1	0	8	8	8	0	8	4	1	0	1.95	1.88		
10	CE1533	1	1	1	1	1	2	6	4	10	8	8	8	4	1	0	2.14	2.04		
11	CE1533	1	1	1	1	1	1	6	10	0	10	0	10	4	1	1.5	2.36	2.25		
12	CE1533	2	2	2	1	2	2	9	8	2	2	9	10	4	1	2.44	2.06	2.46		
13	CE1533	1	1	1	1	1	1	0	8	8	8	4	0	4	1	0	1.95	1.13		
14	CE1533	1	1	1	1	1	1	2	8	8	8	0	4	4	1	0	1.95	1.13		
15	CE1533	2	1	1	1	1	1	4	6	0	8	8	6	4	1	0	1.71	1.71		
16	CE1533	2	2	0	0	2	1	0	7	8	0	10	9	4	1	0	1.82	2.36		
17	CE1533	1	1	1	1	1	1	0	7	9	0	8	7	4	1	0	1.93	1.82		
18	CE1533	2	1	2	1	2	1	6	4	7	7	8	7	4	1	0	1.71	1.93		
19	CE1533	2	1	1	1	1	1	7	6	6	7	8	9	4	1	1.88	1.69	2.04		
20	CE1533	1	1	1	1	1	1	7	6	0	6	8	0	4	1	1.69	1.5	1.88		
21	CE1533	0	0	0	0	1	1	0	3	0	9	10	8	4	1	0	1.29	2.14		
22	CE1533	2	1	1	0	1	1	8	9	0	10	11	0	4	1	2.06	2.14	2.44		
23	CE1533	1	2	2	1	2	1	0	10	10	0	8	6	4	1	0	2.46	1.82		
24	CE1533	1	2	2	1	1	2	0	8	9	7	7	0	4	1	0	2.03	1.88		
25	CE1533	1	1	1	1	1	1	0	6	0	0	6	8	3	0.75	0	1.125	1.2825		

**Overall assessment**

Internal assessment = (performed/Appeared)\*3

External assessment = (performed/Appeared)\*3

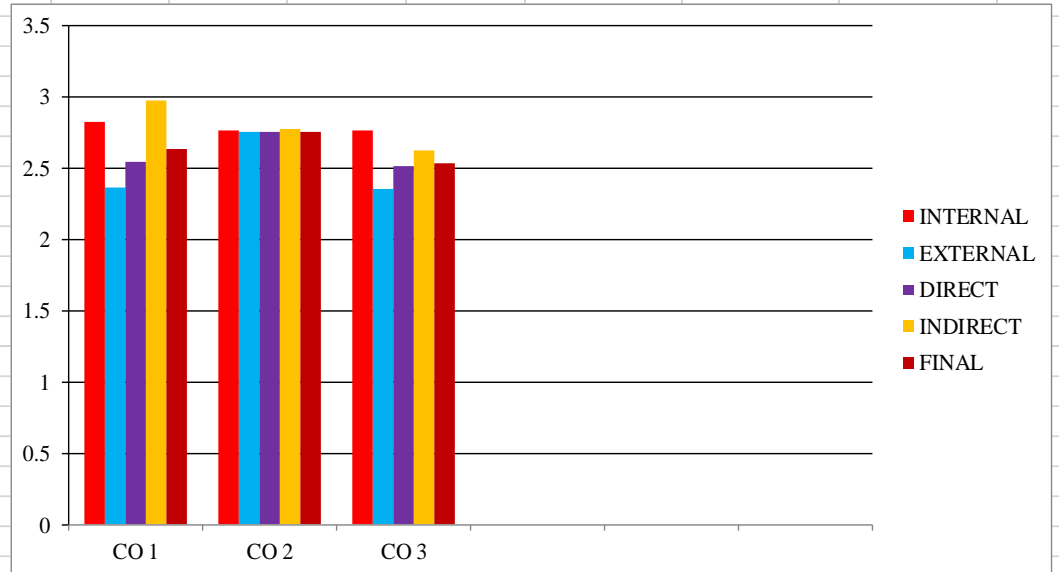
Direct assessment = (0.4\*Internal assessment) + (0.6\*External assessment)

Final assessment = (0.8\*Direct assessment) + (0.2\*Indirect assessment)

<i>DEPARTMENT OF CIVIL ENGINEERING</i>	
Subject Code	CE1533
Subject Name	GROUND IMPROVEMENT TECHNIQUES
Year & Sem	III YEAR II SEM
Academic Year	2017-2018
Faculty Name	Mr.Ch.Naga Bharath

COURSE OUTCOMES	INTERNAL		EXTERNAL		DIRECT CO	INDIRECT CO	FINAL CO
	Performed	Appeared	Performed	Appeared	ATTAINMENT	ATTAINMENT	ATTAINMENT
CO1: identify the problems relating to different ground conditions	46	49	22	28	2.54	2.97	2.63
CO2:select suitable ground improvement technique according to ground condition	45	49	44	48	2.75	2.77	2.75
CO3: apply the concepts of soil confinement systems.	45	49	36	46	2.51	2.62	2.53

	INTERNAL	EXTERNAL	DIRECT	INDIRECT	FINAL
CO 1	2.82	2.36	2.54	2.97	2.63
CO 2	2.76	2.75	2.75	2.77	2.75
CO 3	2.76	2.35	2.51	2.62	2.53



Internal(CIE), External(SEE), Direct, Indirect and final attainments obtained from overall assessment on 3-point scale are converted into percentage.

## **Po Assessment Procedure:**

### **Assessment Tools and Processes**

Programme outcome attainment process has been done by taking direct and indirect assessment tools.

80% of direct attainment and 20% of indirect attainment is considered for calculation of PO attainment. Direct attainment of programme outcomes and programme specific outcomes are based on the logical mapping of cognitive levels of course outcomes with programme outcomes and programme specific outcomes. This process is done by mapping the attained values of course outcomes obtained from 3.2.2 with the programme outcomes and programme specific outcomes.

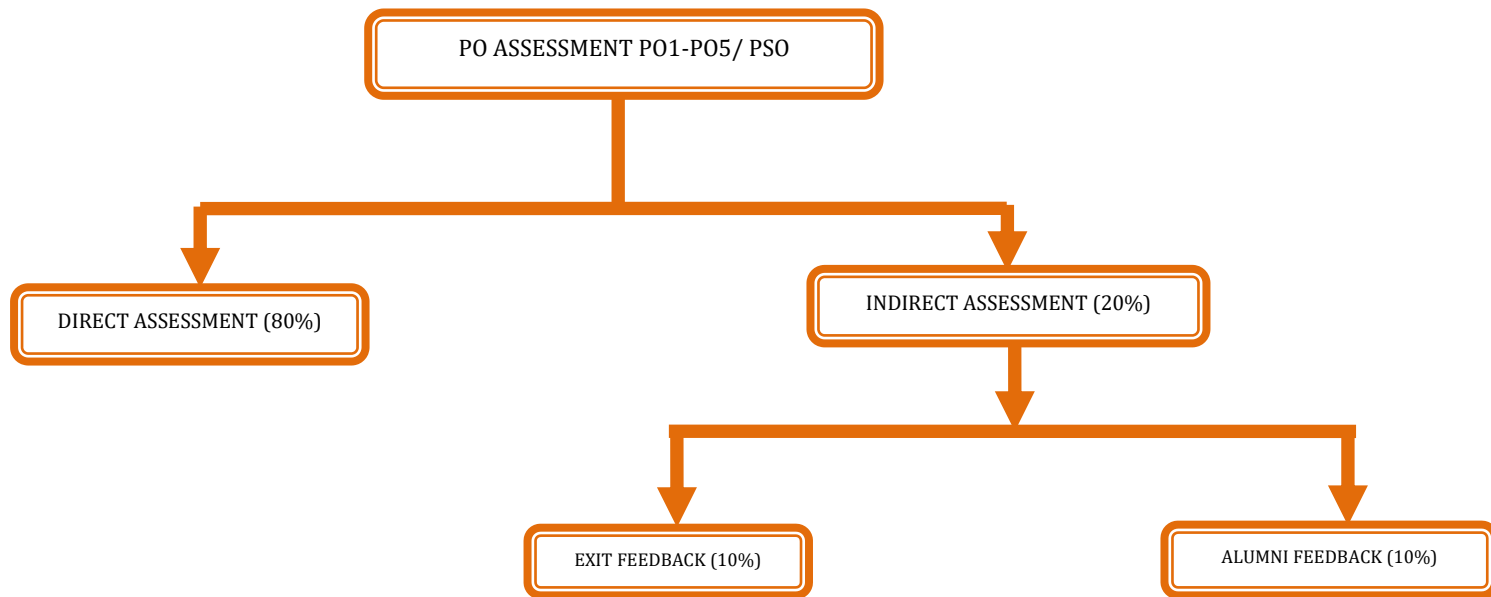
By taking the average of all COs attainment of the course for a particular PO/PSO, the attainment level of that course for that PO/PSO will be calculated. If the attainment level is

<b>Scale value</b>	<b>Attainment</b>
Above 2.55	Excellent
1.66-2.55	Good
1.2-1.65	Satisfactory
Less than 1.2	Poor

The following programme outcome assessment methods have been adopted for calculating the PO/PSO attainment, depending upon the number of courses contributing to the programme outcome:

- 1) PO/PSOs having more than 50% Courses Contribution (PO1, PO2, PO3, PO4, PO5, PSO1, PSO2, PSO3):

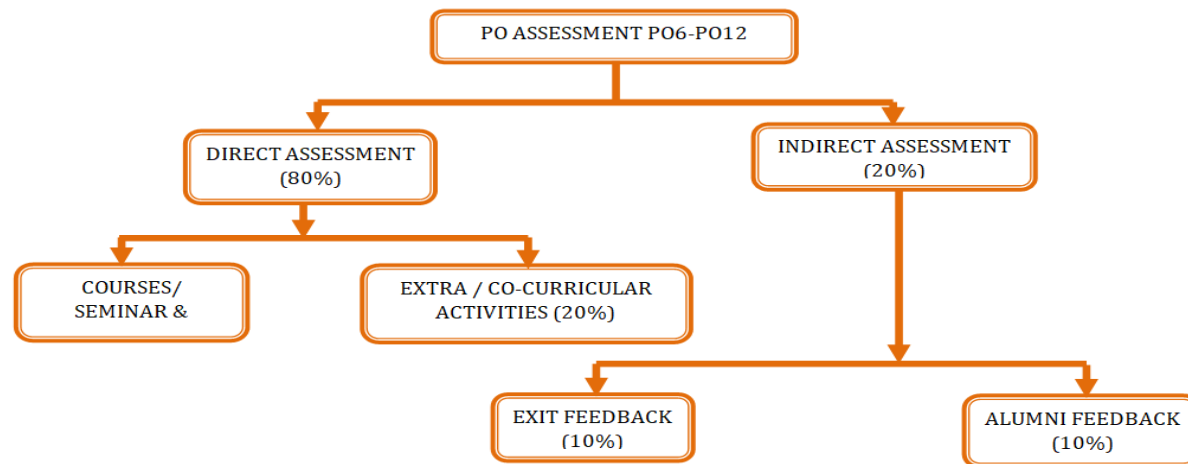
1	Assessment of COs & their Contribution to PO/PSO Attainment	80%
2	Students' Exit Survey	10%
3	Alumni survey	10%



2) POs having less than 50% Courses Contribution (PO6 TO PO12):

1	Assessment of COs & their Contribution to PO Attainment	80%
2	Students' Exit Survey	10%
4	Alumni survey	10%





For determining indirect attainment of programme outcomes and programme specific outcomes, the following assessment tools have been used. viz. student participation in co-curricular, extra-curricular activities and student surveys. In the student survey, exit survey and alumni survey is taken separately, in which an exhaustive questionnaire is prepared to relate all programme outcomes and programme specific outcomes.

Finally, overall programme outcomes and programme specific outcomes attainment values are computed by adding direct and indirect programme outcomes and programme specific outcomes attainment values in the proportion of 80:20 respectively.

### **Programme outcomes and programme specific outcomes Assessment process**

- In each course, course outcomes are framed.
- Logical mapping of cognitive levels of course outcomes with programme outcomes and programme specific outcomes are done.

- The average correlation level is calculated for all programme outcomes and programme specific outcomes for each course based on the COs, and rounded off to nearest whole number 1, 2 or 3.
- Indirect programme outcome and programme specific outcome attainment values are estimated from exit survey and alumni survey.
- Total programme outcome and programme specific outcome attainment value is the weighted sum of direct attainment and indirect attainment values.

#### **A sample template of POs Indirect assessment (From Exit Survey)**

##### **Exit Survey:**

- The Exit Survey questionnaire is prepared by the Programme Committee in consultations with the Department Advisory Committee.
- The Exit Survey is taken from the students at the end of the Programme.
- The survey reports are assessed with a rating of 5 for excellent, 4 for Very Good, 3 for Good, 2 for Fair and 1 for Poor and PO attainment is calculated on 3 point scale



## Exit feedback on PO's and PSO's :2016-2020

S.No	Roll Number	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	16481A0101	5	4	3	2	3	3	3	5	4	3	3	3	3	3	4
2	16481A0104	4	5	5	4	5	4	4	4	5	4	5	4	4	4	4
3	16481A0105	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
4	16481A0106	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	16481A0107	4	5	5	4	5	4	5	4	4	4	4	4	4	4	4
6	16481A0108	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
7	16481A0109	5	5	4	4	4	4	4	4	4	4	4	5	4	4	4
8	16481A0111	4	3	3	4	4	3	4	3	4	3	4	4	4	3	4
9	16481A0114	3	3	3	3	3	3	3	3	3	3	2	3	4	3	3
10	16481A0115	4	3	3	4	5	4	3	4	4	3	5	4	4	3	5
11	16481A0117	4	4	3	3	4	4	3	3	4	4	3	3	4	4	4
12	16481A0120	4	4	4	5	5	4	5	4	4	4	4	4	4	4	4
13	16481A0124	4	4	3	4	5	4	5	4	4	3	5	4	4	4	5
14	16481A0129	5	4	4	5	5	4	5	4	5	4	4	4	4	5	4
15	16481A0130	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
16	16481A0132	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
17	16481A0135	4	4	4	4	4	4	4	3	4	4	4	5	5	4	4
18	16481A0137	3	3	4	3	3	3	3	4	4	3	3	4	3	3	4
19	16481A0139	3	3	4	3	3	4	4	4	3	3	3	3	4	3	3
20	16481A0142	4	4	4	4	4	4	5	4	5	5	5	5	5	5	5
21	16481A0144	5	5	4	5	4	5	5	5	4	5	5	4	5	4	5
22	16481A0149	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4
23	16481A0152	5	4	5	4	5	4	5	5	4	5	4	5	5	4	5
24	16481A0155	4	3	5	3	4	5	4	4	4	5	3	4	4	4	3
25	16481A0156	4	3	5	4	3	3	2	4	5	4	3	2	4	3	4
26	16481A0158	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
27	16481A0159	5	4	4	4	4	4	5	5	5	5	5	5	5	5	5
28	16481A0161	4	4	3	4	3	4	4	5	4	5	4	3	4	5	4
29	16481A0162	4	4	5	4	4	4	5	5	5	4	4	5	4	5	4
30	16481A0163	5	4	5	5	5	5	5	5	4	4	4	5	5	5	5

31	16481A0168	4	3	5	4	2	2	3	4	2	3	2	4	4	4	3
32	16481A0169	5	4	3	4	5	4	3	4	5	4	3	4	5	4	3
33	16481A0173	3	4	5	4	3	5	5	4	5	4	5	5	5	5	5
34	16481A0175	3	4	4	4	4	4	4	4	5	4	4	4	4	4	4
35	16481A0177	3	4	4	4	4	3	4	4	4	4	4	4	4	5	4
36	16481A0178	5	4	5	4	5	4	5	5	4	5	4	5	4	5	4
37	16481A0179	4	4	4	4	3	4	5	4	4	5	4	4	4	4	4
38	16481A0182	4	4	4	4	4	4	4	4	4	4	4	4	5	5	4
39	16481A0183	4	3	5	4	4	5	4	4	3	4	4	5	4	4	4
40	16481A0185	5	4	4	5	5	4	5	4	4	5	4	5	4	5	5
41	16481A0188	4	4	4	3	3	4	4	4	4	3	4	4	5	5	5
42	16481A0189	5	5	5	5	5	5	5	5	5	3	5	5	5	5	5
43	16481A0190	4	5	5	4	5	5	5	5	5	4	4	4	4	4	4
44	16481A0193	3	3	3	4	3	3	3	3	4	4	3	4	3	4	3
45	16481A0195	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
46	16481A0198	5	5	4	5	4	5	4	5	4	5	4	5	5	4	4
47	16481A0199	3	4	4	4	4	4	5	5	5	4	5	4	4	4	4
48	16481A01A0	5	4	5	4	4	5	5	4	5	3	5	5	5	5	5
49	16481A01A5	5	5	4	4	5	5	4	5	5	4	4	5	5	5	4
50	16481A01A7	5	4	5	5	5	5	5	5	5	5	5	5	4	4	4
51	16481A01A8	5	4	4	4	4	4	4	4	4	4	4	4	5	5	5
52	16481A01B3	4	5	4	5	5	4	5	4	3	5	5	5	4	5	5
53	16481A01B4	5	4	5	4	5	5	4	4	4	5	4	5	5	4	4
54	16481A01B6	5	4	5	5	5	5	4	5	5	5	4	5	5	5	4
55	16481A01C0	3	4	3	2	3	4	3	3	3	2	2	2	3	2	3
56	16481A01C1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
57	16481A01C2	3	3	4	3	4	4	3	4	4	3	3	3	3	3	3
58	16481A01C3	5	5	4	4	3	5	4	3	3	4	5	3	5	4	3
59	16481A01C4	5	5	5	4	5	3	4	5	5	4	3	5	5	5	5
60	16481A01C5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
61	16481A01C6	4	5	4	5	4	5	5	4	4	5	4	4	4	4	4
62	16481A01C8	4	4	3	4	3	4	4	4	5	4	4	4	4	4	4

63	16481A01D0	4	3	3	3	3	3	4	3	3	3	3	3	4	3	3
64	16481A01D2	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4
65	16481A01D3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
66	16481A01D4	4	5	4	5	5	5	4	4	4	4	5	5	5	5	4
67	16481A01E0	4	4	5	4	5	5	4	4	3	4	4	5	4	5	5
68	16481A01E1	5	4	4	4	4	4	4	4	4	4	4	4	5	4	4
69	17485A0104	5	5	5	5	5	5	5	5	4	4	5	5	5	5	5
70	17485A0106	5	5	4	5	4	5	5	5	4	5	5	5	5	4	5
71	17485A0107	4	3	3	4	4	4	4	4	4	4	4	5	4	4	4
72	17485A0108	4	4	4	5	4	4	5	4	4	5	4	5	5	5	4
73	17485A0109	4	4	5	4	4	5	4	5	5	5	5	5	5	5	5
74	17485A0112	4	3	4	3	5	3	3	4	3	3	3	4	5	4	3
75	17485A0113	4	5	4	4	4	4	5	5	4	3	4	4	4	3	4
76	17485A0115	4	4	4	4	4	4	4	4	4	4	4	4	5	5	4
77	17485A0118	2	3	4	5	3	2	4	4	5	3	4	5	3	4	5
78	17485A0119	4	5	5	5	4	4	4	5	5	4	4	4	5	4	4
79	17485A0121	5	4	3	2	5	4	2	1	5	4	3	4	5	4	3
80	17485A0122	4	4	4	5	4	4	4	4	4	4	4	4	4	4	4
81	17485A0124	4	4	4	4	4	4	4	4	4	4	4	4	5	5	4
82	17485A0126	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
83	17485A0127	3	3	3	3	3	3	4	3	4	3	3	3	3	3	3
84	17485A0129	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
85	17485A0130	5	4	5	5	5	5	4	5	5	5	5	5	4	4	5
86	17485A0132	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
87	17485A0135	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
88	17485A0136	5	4	3	2	2	2	2	1	2	3	4	5	2	2	2
89	17485A0139	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4
90	17485A0140	4	4	3	3	4	3	4	4	4	3	4	4	4	4	4
91	17485A0142	4	4	4	3	3	4	4	4	4	4	3	4	4	4	4
92	17485A0143	4	4	5	4	4	4	4	5	4	4	4	5	5	4	5
93	17485A0147	4	3	3	4	4	5	4	4	5	5	4	3	4	4	5
94	17485A0149	3	4	5	3	4	5	3	5	4	3	4	5	5	5	5

95	17485A0150	4	3	4	5	4	4	3	5	4	4	3	2	4	5	4
96	17485A0151	4	3	4	4	3	4	4	4	3	4	3	4	4	4	4
97	17485A0155	4	3	4	3	5	4	3	4	5	3	4	3	5	4	3
98	17485A0157	5	4	5	4	5	5	5	5	4	5	5	4	5	4	5
99	17485A0158	4	4	4	5	4	4	4	5	4	3	3	4	4	4	4
	Number of Students given feedback	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
	Average	4.15	3.98	4.09	4.01	4.07	4.08	4.08	4.14	4.13	3.99	3.97	4.17	4.27	4.15	4.11
	Average on 3 SCALE	2.49	2.39	2.45	2.41	2.44	2.45	2.45	2.48	2.48	2.39	2.38	2.50	2.56	2.49	2.47

**A sample template of POs Indirect assessment (From Alumni Survey)**

**GUDLAVALLERU ENGINEERING COLLEGE GUDLAVALLERU – 521356**

**(An Autonomous Institution)**

**ALUMNI SURVEY**

**Dear Alumna/Alumnus**

Greetings from Gudlavalleru Engineering College! It really makes us feel very proud to have a student like you! GEC is growing from strength to strength because of your performance and the skill set that you have gained and exhibited from time to time. GEC is now going for Outcome Based Education (OBE) accreditation as per Washington Accord. It will largely benefit graduates from GEC to work as an Engineering Professional in the member countries coming under the Washington Accord. OBE requires that Programme Outcomes (POs) of the programme (Branch of Study) are to be clearly defined and attained by graduates during their stay in the campus. The Questionnaire is designed to survey the attainments of Programme Outcomes. Please take a few minutes to complete this survey and submit the same. Kindly rate the following criteria on a scale of 1-5. Your genuine response will be helpful for the continuous quality improvement of our UG programme in CE.

**5.Excellent    4. Very Good    3. Good    2.Average    1. Poor**

<b>S. No.</b>	<b>Criteria</b>	<b>Rating</b>
PO1	Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.	3.85
PO2	Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.	3.67



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.	3.74
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.	3.69
PO5	Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.	3.76
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.	3.76
PO7	Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.	3.85
PO8	Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.	3.92
PO9	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	4.12
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.	3.83
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.	3.69
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.	3.85

PSO1	Survey, plot and prepare layout for buildings, dams, canals and highway alignments and conduct geotechnical and geological investigations of the project	3.63
PSO2	Test, analyze and design various substructures and superstructures by considering the environmental and societal issues	3.74
PSO3	Organize various construction projects considering modern construction techniques, equipment and management issues.	3.72