



**RANGAPARA COLLEGE, SONITPUR, ASSAM**

**AQAR 2021-22**

**Criteria 2.6.2 - Attainment of Programme outcomes and course outcomes are evaluated by the institution.**

### Calculation for course outcome and program outcome attainment

**Step 1.** Definite course outcomes (COs) are established for each course, which are mapped with program outcomes (POs) and program specific outcomes (PSOs).

CO-PO Mapping							
CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2
CO1	3	3	3	1	3	2	2
CO2	2	3	3	2	2	3	2
CO3	3	3	3	3	3	2	3
CO4	3	3	2	3	2	2	2
Average	2.75	3	2.75	2.25	2.5	2.25	2.25

CO-PO mapping is done based on the following conditions:

- (a) CO is highly correlated with the PO, mapping attainment for that CO = 3
- (b) CO is moderately correlated with the PO, mapping attainment for that CO = 2
- (c) CO is slightly correlated with the PO, mapping attainment for that CO = 1

$$\text{Average} = (\sum_1^4 \text{CO})/4$$

**Step 2.** Certain well-defined internal assessment tools (unit tests, quizzes, assignments, sessional exams, field work and project work) and external assessment tools (semester exams) aid in attaining individual COs. Attainment for internal evaluations are done on a scale of 3.

For example, for CO attainment for a certain program using unit tests as the assessment tool, two tests “Test 1 and Test 2” are conducted. Test 1 is comprised of CO1 and CO2, and Test 2 is comprised of CO3 and CO4. In Test 1, questions (Q. No) 1, 2 and 3 are for CO1 and Q. No 4 and 5 are for CO2. Similarly, in Test 2, Q. No 1, and 2 are for CO3 and Q. No 3, 4 and 5 are for CO4.

		Tool	Test 1		Test 2	
		CO	1	2	3	4
		Q.No	1,2,3	4,5	1,2	3,4,5
		QP link	Link	Link	Link	Link
		Max. Marks	10	10	10	10
Sl No	Name	Roll No	Marks	Marks2	Marks3	Marks4
1	A	2	10	8	6	8
2	B	8	8	10	8	10
3	C	9	8	8	8	8
4	D	10	8	6	6	8
5	E	12	2	8	8	6
6	F	13	6	8	4	8
7	G	14	7	10	6	6
8	H	15	4	10	8	8

Calculations: **Attempts:** number of students attempting the test

**Score  $\geq$  50%:** number of students who scored  $\geq$  50% of the maximum marks (The threshold limit of 50% is set by the college.)

$$\text{Attainment\%} = \frac{\text{Score above 50\%}}{\text{Attempts}}$$

$$\text{Attainment on 3 scale} = \text{Attainment\%} \times \left(\frac{3}{100}\right)$$

	CO1	CO2	CO3	CO4
Attempts	8	8	8	8
Score $\geq$ 50%	6	8	7	8
Attainment%	75	100	87.5	100
Attainment on 3 scale	2.25	3	2.625	3

CO attainments on 3 scale can be calculated similarly for other internal assessment tools.

**Step 3.** Attainment for final semester examination attainment is also done on a scale of 3.

			Tool	Semester Examination
			CO	1,2,3,4
			Q. Nos	1,2,3,4,5
			Max. Marks	80
Sl No	Name	Roll No	Column1	
1	A	2	55	
2	B	8	75	
3	C	9	60	
4	D	10	61	
5	E	12	42	
6	F	13	58	
7	G	14	77	
8	H	15	70	
			Attempts	8
			Score above 60%	7
			Attainment%	87.5

**Attainment scale:** The range for different attainments for semester examination is set by the academic council of the college.

Level	Attainment % for COs	Attainment
Level 1	Between 30% to 60%	1
Level 2	Between 60% to 80%	2
Level 3	Above 80%	3

**Step 4.** The final attainment for each CO is calculated by taking 20% of internal assessment attainment and 80% of semester exam attainment.

Calculations: (i) Attainment of internal assessment =  $\frac{\sum \text{Attainment from all internal assessment tools}}{\text{No. of assessment tools}}$

(ii) Overall attainment = [Attainment from Semester Exam (on 3 scale)  $\times$  0.8] +  
[Internal Assessment (on 3 scale)  $\times$  0.2]

For example, in the table below, three tools are used for attainment of internal assessment, wherein the average of unit tests, quiz and assignments, and sessional exam are considered for calculation.

Course Outcome	Attainment of Internal evaluation on 3 scale							Attainment from Semester Exam (on 3 scale)	Attainment (Attainment formula: Semester Exam 80% + Internal 20%)
	Test	Quiz and Assignment	Sessional Exam	Project Work	Field Work	No of assessment Tools	Internal Assessment (on 3 scale)		
CO1	2.25	2.8125	2.625	0	0	3	2.5625	3	2.9125
CO2	3	2.8125	3	0	0	3	2.90625	3	2.98125
CO3	2.625	2.625	2.625	0	0	3	2.625	3	2.925
CO4	3	2.625	3	0	0	3	2.8125	3	2.9625

**Step 5.** Finally, CO-PO attainment is calculated from the following formula

$$\text{CO-PO attainment} = \frac{(\text{Mapping attainment for CO-PO (in Step 1)}) \times (\text{Overall Attainment (in Step 4)})}{3}$$

CO-PO Attainment							
CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2
CO1	2.9125	2.9125	2.9125	0.9708	2.9125	1.941666667	1.941666667
CO2	1.9875	2.98125	2.98125	1.9875	1.9875	2.98125	1.9875
CO3	2.925	2.925	2.925	2.925	2.925	1.95	2.925
CO4	2.9625	2.9625	1.975	2.9625	1.975	1.975	1.975