

ASANSOL ENGINEERING COLLEGE



Vivekananda Sarani, Asansol,
West Bengal, 713305

ATTAINMENT POLICY

(Revised)

(w.e.f Session 2022-23)

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1. Introduction

This policy outlines the framework for calculating the attainment of Course Outcomes (COs), Program Outcomes (POs), and Program Specific Outcomes (PSOs) at Asansol Engineering College. It has been formulated based on discussions within the Academic Committee and feedback from departmental academic committees.

1.1 Objective

The **Attainment Policy** of Asansol Engineering College aims to:

1. **Quantification of CO, PO and PSO Attainment:** Establish a systematic methodology for measuring and quantifying **Program Outcomes (POs) and Program Specific Outcomes (PSOs)** through direct and indirect assessment mechanisms.
2. **Ensure Continuous Improvement:** Establish a structured and systematic approach to measure student learning outcomes and improve academic programs.
3. **Standardize Assessment Methods:** Define a consistent framework for evaluating **Course Outcomes (COs), Program Outcomes (POs), and Program Specific Outcomes (PSOs)** using direct and indirect assessment tools.
4. **Enhance Teaching-Learning Effectiveness:** Provide faculty with data-driven insights to refine instructional strategies, assessment methods, and curriculum planning.
5. **Improve Student Competency & Industry Readiness:** Evaluate whether students achieve the required knowledge, skills, and professional competencies for employability, higher education, and research.
6. **Facilitate Stakeholder Feedback Integration:** Incorporate feedback from students, faculty, employers, and alumni to ensure continuous enhancement of academic programs and institutional practices.

2. Attainment Measurement Approach

The attainment of COs and POs/PSOs is determined using both Direct Assessment (DA) and Indirect Assessment (ID) methods.

2.1 CO Attainment Calculation for theory

CO attainment is calculated using the following weighted formula:

$$\text{CO Attainment} = (80\% \times \text{DA}) + (20\% \times \text{ID})$$

- Direct Assessment (80%):
 - Continuous Internal Evaluation (CIE)
 - Semester End Examination (SEE)
- Indirect Assessment (20%):
 - Course End Survey

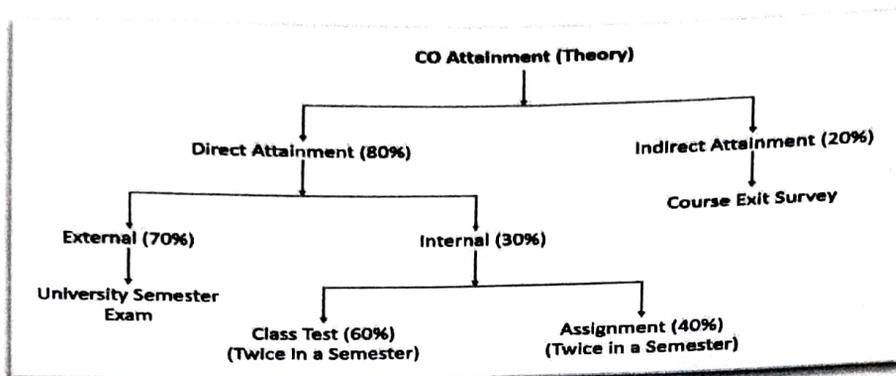


Fig. 1: CO Attainment Calculation Process for Theory

2.2 CO Attainment Calculation for Practical

CO attainment is calculated using the following weighted formula:

$$\text{CO Attainment} = (80\% \times \text{DA}) + (20\% \times \text{ID})$$

- Direct Assessment (80%):
 - Continuous Assessment through Lab Report, Viva Voce etc. (according to the Rubric)
 - Semester End Examination (SEE)

- Indirect Assessment (20%):
 - Course End Survey

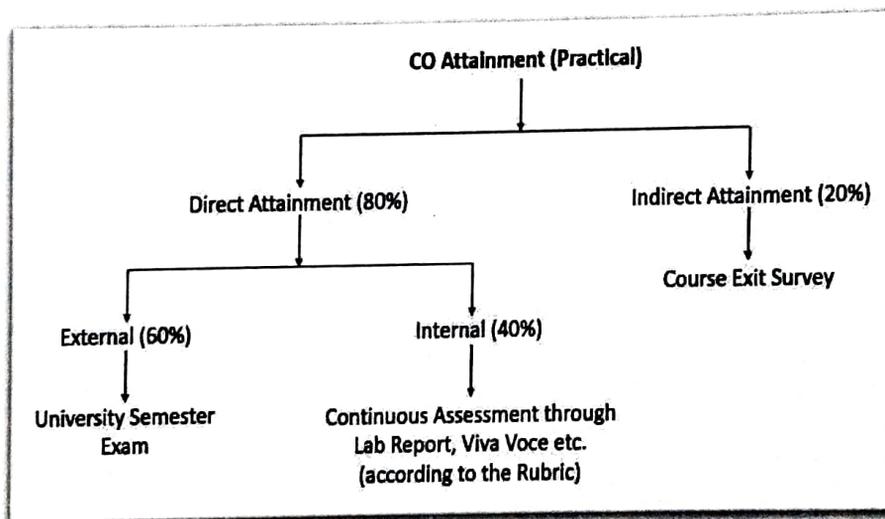


Fig. 2: CO Attainment Calculation Process for Practical

2.3 CO Attainment Calculation for Project/Seminar

CO attainment is calculated using the following weighted formula:

$$\text{CO Attainment} = (80\% \times \text{DA}) + (20\% \times \text{ID})$$

- Direct Assessment (80%):
 - Continuous Assessment through Lab Report, Viva Voce etc. (according to the Rubric)

- Indirect Assessment (20%):
 - Course End Survey

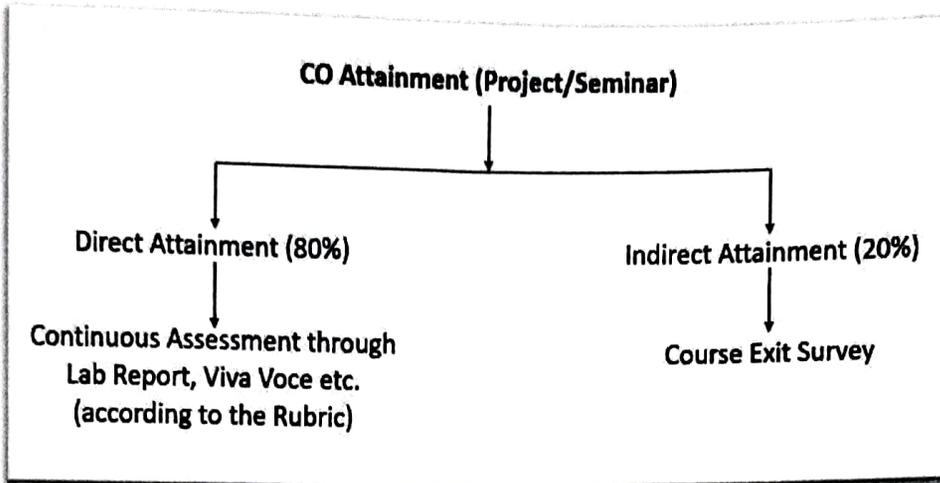


Fig. 3: CO Attainment Calculation Process for Project/Seminar

2.4 PO/PSO Attainment Calculation

PO/PSO attainment is derived from CO attainment as well as indirect assessments.

$$\text{PO/PSO Attainment} = (80\% \times \text{DACO}) + (20\% \times \text{ID})$$

- Direct Assessment (80%): Derived from CO attainment
- Indirect Assessment (20%): Computed as an average of the following surveys:
 - Program Exit Survey
 - Employer Survey
 - Alumni Survey

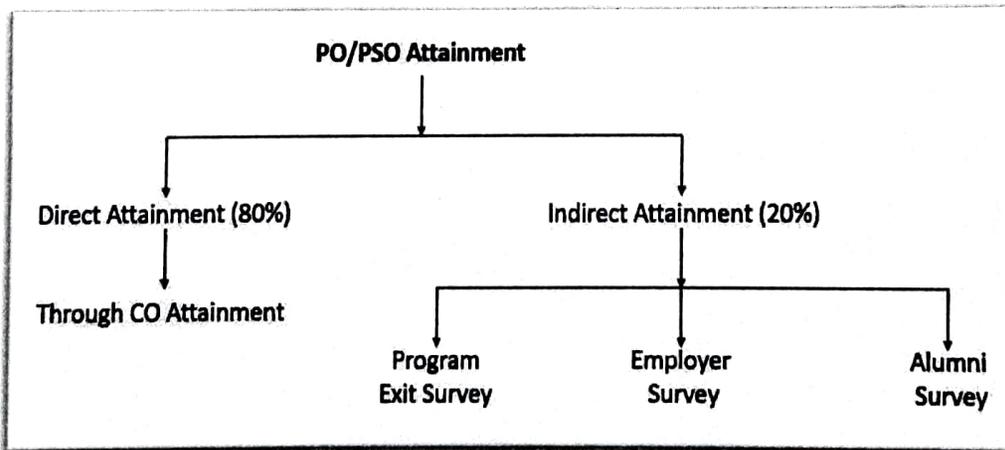


Fig. 4: PO/PSO Attainment Calculation Process

3. Indirect Attainment Calculation

Indirect attainment follows a grading system (0, 1, 2, 3) where:

0 = Poor

1 = Satisfactory

2 = Good

3 = Excellent

3.1 Indirect CO Attainment

Each CO's indirect attainment is calculated using:

$$CO_i = \frac{\sum CO_i \text{ grades}}{\text{Total No. of Feedback}}$$

3.2 Indirect PO/PSO Attainment

- Program Exit Survey: $PO_i/PSO_i = \frac{\sum PO_i \text{ grades}}{\text{Total No. of Feedback}}$

- Employer Survey: $PO_i/PSO_i = \frac{\sum PO_i \text{ grades}}{\text{Total No. of Feedback}}$

- Alumni Survey: $PO_i/PSO_i = \frac{\sum PO_i \text{ grades}}{\text{Total No. of Feedback}}$

- Final PO/PSO indirect attainment is computed as:

$$PO_i/PSO_i = \frac{PO_i(\text{Program Exit Survey}) + PO_i(\text{Employer Survey}) + PO_i(\text{Alumni Survey})}{3}$$

4. Data Collection & Feedback Process

- Feedback forms for indirect assessment are collected and maintained as per the appendix.
- The appendix includes the following feedback forms:
 - Course Exit Survey (Appendix-I)
 - Program Exit Survey (Appendix-II)
 - Employer Survey (Appendix-III)
 - Alumni Survey (Appendix-IV)
- CIE and SEE results are systematically analyzed for direct assessment.
- Surveys are conducted annually for program exit, employers, and alumni.

5. Conclusion

This policy ensures a structured and transparent approach for measuring student learning outcomes and program effectiveness at Asansol Engineering College. The attainment data will be used for continuous improvement of the academic curriculum and teaching methodologies.