

Prasad V. Potluri Siddhartha Institute of Technology

(Autonomous)

Kanuru, Vijayawada – 520 007

(Affiliated to JNTUK, Accredited by NBA, ISO 9001:2015 Certified Institution)

**Procedure for
Attainment calculations
of CO's, PO's & PSO's**

PRASAD V POTLURI SIDDHARTHA INSTITUTE OF TECHNOLOGY
(AUTONOMOUS)

Kanuru, Vijayawada

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Point No.	Procedure for attainment calculations of Cos,POs,PEOs/PSOs
2.6.1	<p>Programme Outcomes and Course Outcomes for all Programmes offered by the Department are stated and displayed on the website and communicated to teachers and students:</p> <p>Describe Course Outcomes (COs) for all courses and the mechanism of communication to teachers and students within a maximum of 200 words.</p> <ul style="list-style-type: none">• Upload COs for all Courses (you may refer to the exemplars in the Glossary). <p>Program Outcomes (POs): It represents the knowledge, skills and attitudes the students should have at the end of a course completion of their respective professional programme.</p> <p>Course Outcomes (COs): It gives the resultant knowledge and skills the student acquires at the end of each course.</p> <p>Program Specific Outcomes (PSOs): These are statements that define outcomes of a program which make students realize the fact that the knowledge and techniques learnt in this course has direct implication for the betterment of society and its sustainability.</p> <p>Program Outcomes (POs), Program Specific Outcomes (PSOs) and course outcomes are communicated to the stake holders of the program by the following procedures:</p> <ol style="list-style-type: none">1. POs and PSOs are approved by the Department Core Committee.2. POs and PSOs are available in the Institute website.(http://www.pvpsiddhartha.ac.in/).3. POs and PSOs are kept in prominent locations of the campus for staff, students and public view.4. POs and PSOs are displayed in Department office, Laboratories.5. POs and PSOs are communicated to employers and Alumni by sending mail and during the Alumni Meeting.6. Vision and Mission of Institute and department are informed to the parents during Parents Teachers Meeting. <p>Website Links for PVP14, PVP19 and PVP20 regulations-</p> <ol style="list-style-type: none">1. https://www.pvpsiddhartha.ac.in/syllabus_cse_14.html2. https://www.pvpsiddhartha.ac.in/syllabus_cse_19.html3. https://www.pvpsiddhartha.ac.in/syllabus_cse_20.html

Point No. 2.6.1

Attainment of Programme Outcomes and Course Outcomes as evaluated by the Department:
Describe the method of measuring the attainment of POs, PSOs and COs and the level of attainment of POs, PSOs and COs in not more than 200 words.

Assessment Process for CO Attainment(PVP19):

Input: 1) Marks of all students in Sessional Exam, Assignment Test, Home assignment and Semester End Exam

2) Mapping of Question Paper to CO.

Output: Score of each CO is measured in 3-scale

Step 1:

- Measure the no. of questions mapped with the respective course outcomes (CO).
- Calculate the Class Average (CA) marks for respective questions in the Sessional exam, Assignment Test, Home Assignment and Semester end exam.
- Count the no. of students who attempted the respective questions in the Assignment Test, Sessional exam, and Home Assignment and Semester end exam.

Step 2:

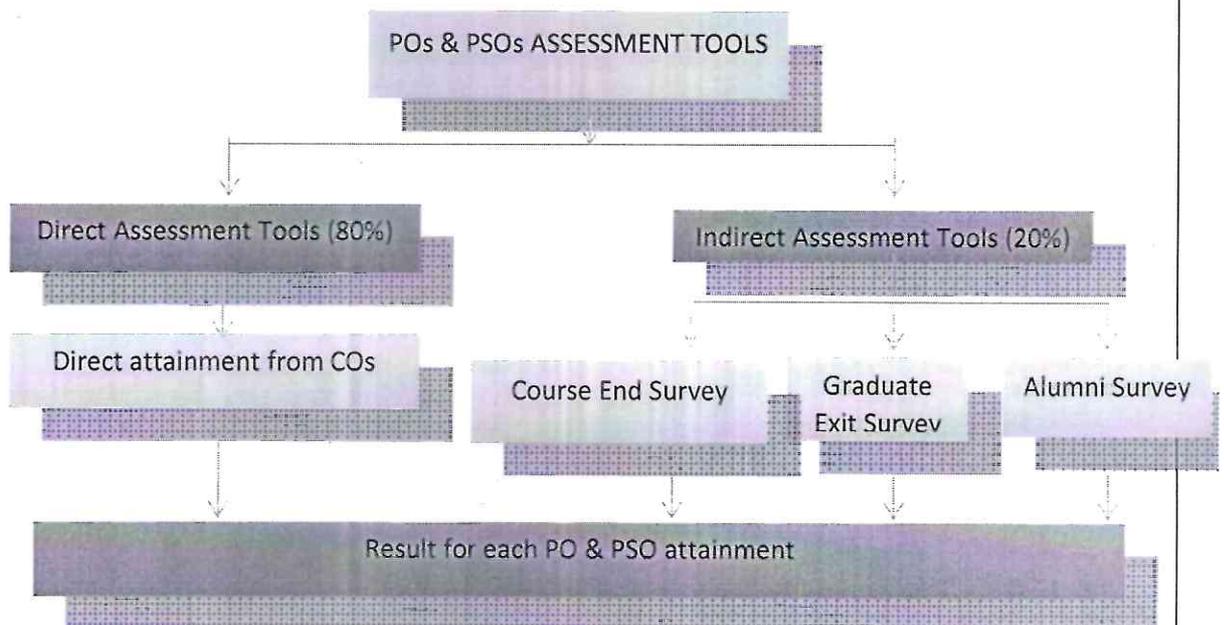
- CO attainment for a particular question = $\frac{\text{Number of students who got more than or equal to CA marks to the respective question (P)}}{\text{number of students attempted the respective question (A)}}$.

$$\text{CO Attainment \%} = \frac{\text{Performed(P)}}{\text{Attempted(A)}} \times 100$$

CO Measurement in scale-3 = $\text{Round}((\text{CO Attainment \%} * 0.03), 2)$

Attainment of Program outcomes and Program Specific Outcomes

A. Assessment Tools used to evaluate the Program Outcomes & Program Specific Outcomes:



B. Assessment Process for PO & PSO Attainment:

- The PO and PSO attainment is calculated for an academic year of all courses. The level of attainment is based upon slight, moderate and substantial, of a particular course/ CO with respect to the PO or PSO in the scale of 1-3.
- To measure the PO& PSO attainment Percentage, the following is the procedure

$$\%PO_j \text{ attainment} = \frac{\sum_{i=1}^n x_i \times y_i}{\left(\sum_{i=1}^n y_i \right) \times 100} \times 100$$

$x_i = \%P/A \text{ of CO}(i)$
 $y_i = \text{Strength of correlation value of the CO}(i),$

$n = \text{Total no. of CO's, } i = 1 \text{ to } n, \quad j = 1 \text{ to } 12$

$$\text{Ex: } \%PO_1 \text{ attainment} = \frac{81 \times 2 + 70 \times 3 + 58 \times 2 + 68 \times 3 + 56 \times 3}{(2 + 3 + 2 + 3 + 3) \times 100} \times 100 = 66.15\%$$

PO Measurement in scale-3 = Round((PO Attainment%*0.03),2)

Assessment Process for CO Attainment(PVP20):

Input: 1) Marks of all students in Descriptive Exam, Objective Exam, Assignment Test, and Semester End Exam.

2) Mapping of Question Paper to CO.

Output: Score of each CO is measured in 3-scale

Step 1:

- (a) Measure the no. of questions mapped with the respective course outcomes (CO).
- (b) Calculate the Class Average (CA) marks for respective questions in the Descriptive Exam, Objective Exam, Assignment Test, and Semester End Exam.
- (c) Count the no. of students who attempted the respective questions in the Assignment Test, Sessional exam, and Home Assignment and Semester end exam.

Step 2:

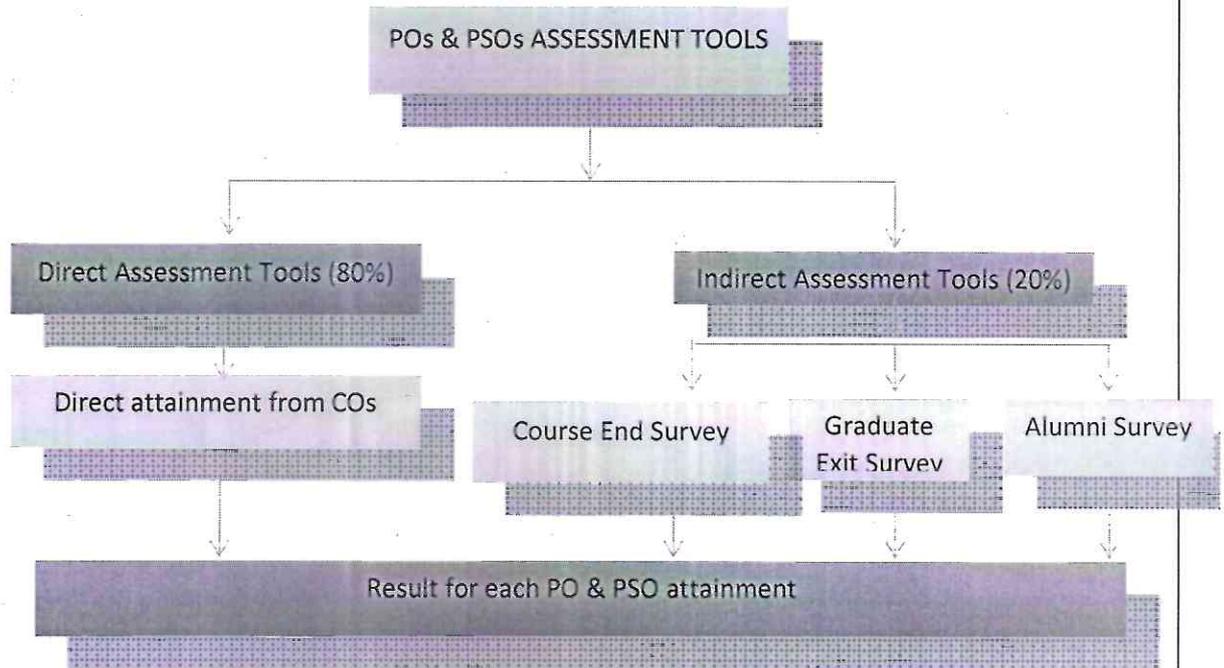
- (a) CO attainment for a particular question = Number of students who got more than or equal to CA marks to the respective question (P)/number of students attempted the respective question (A).

$$\text{CO Attainment \%} = \frac{\text{Performed}(P)}{\text{Attempted}(A)} \times 100$$

CO Measurement in scale-3 = Round((CO Attainment%*0.03),2)

Attainment of Program outcomes and Program Specific Outcomes

A. Assessment Tools used to evaluate the Program Outcomes & Program Specific Outcomes:



B. Assessment Process for PO & PSO Attainment:

- The PO and PSO attainment is calculated for an academic year of all courses. The level of attainment is based upon slight, moderate and substantial, of a particular course/ CO with respect to the PO or PSO in the scale of 1-3.
- To measure the PO& PSO attainment Percentage, the following is the procedure

$$\%PO_j \text{ attainment} = \frac{\sum_{i=1}^n x_i \times y_i}{\left(\sum_{i=0}^n y_i \right) \times 100} \times 100$$

$x_i = \%P/A$ of CO(i)

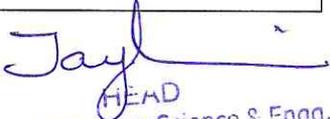
$y_i =$ Strength of correlation value of the CO(i),

$n =$ Total no. of CO's, $i = 1$ to n , $j = 1$ to 12

$$Ex: \%PO_1 \text{ attainment} = \frac{81 \times 2 + 70 \times 3 + 58 \times 2 + 68 \times 3 + 56 \times 3}{(2 + 3 + 2 + 3 + 3) \times 100} \times 100 = 66.15\%$$

PO Measurement in scale-3 = Round((PO Attainment%*0.03),2)

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 HEAD
 Dept. of Computer Science & Engg.
 PRASAD V. POTLU
 SIDDHARTHA INSTITUTE OF TECHNOLOGY
 KANURU, VIJAYAWADA-520007.