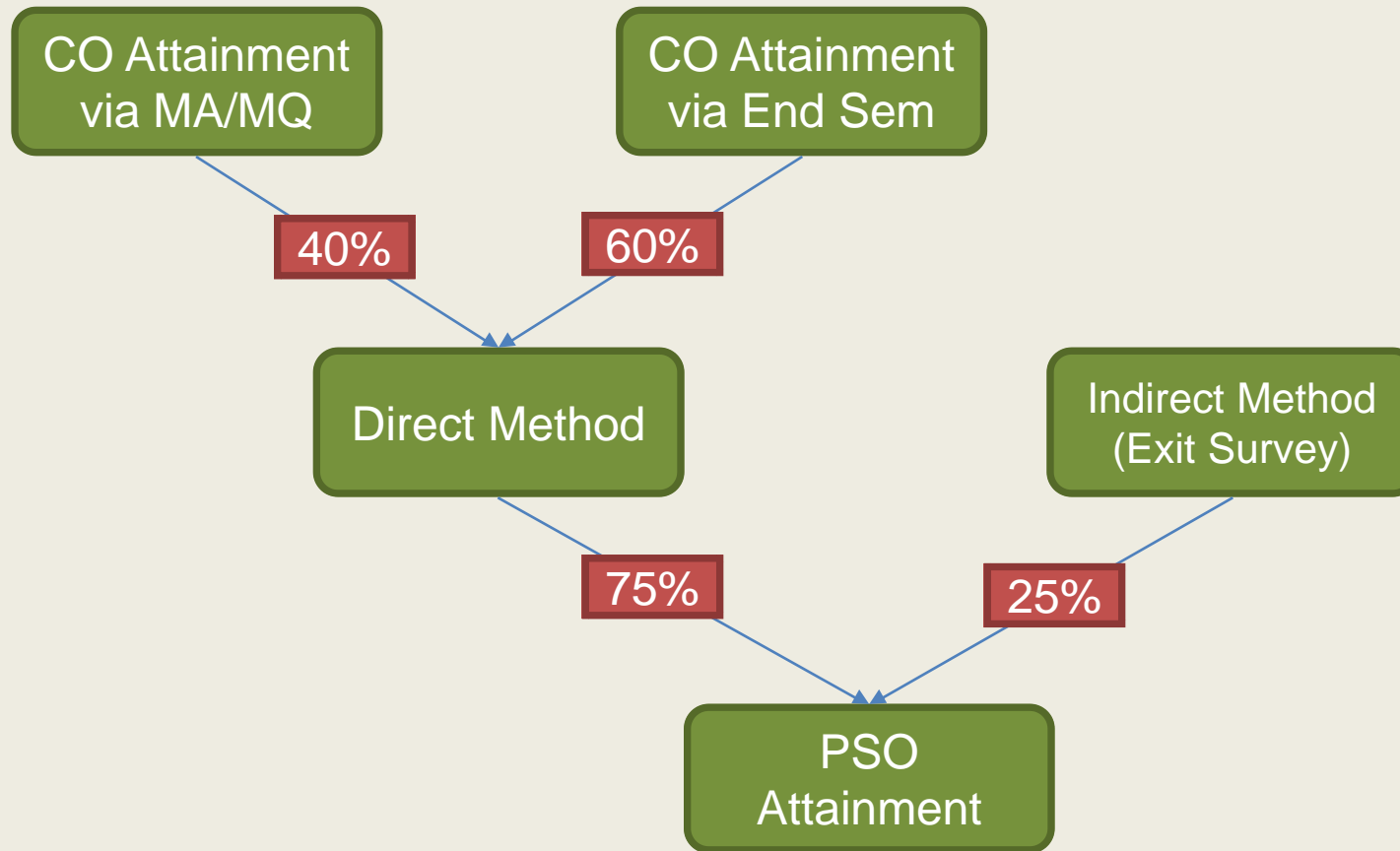# OBE Attainment

CO Attainment

- Course outcomes are attained through (i) *Mandatory questions (MQs)* included in Continuous Internal Assessments and (ii) *Mandatory Assessments (MAs)*. Course in charge may use any of these methods or both to assess the attainment level of course outcomes (Cos).

- *Bench marks and Criteria for the attainment of Cos*

- To meet the expected level of attainment a student must scores more than 60% of the marks for each MQ prepared to assess the attainment of COs.

- Attainment level 1: If at least 60% of the students met the expected level of attainment.

- Attainment level 2: If at least 70% of the students met the expected level of attainment.

- Attainment level 3: If at least 80% of the students met the expected level of attainment.

Algorithm 2 Computation of COs for each Course, InternalCOAttainment(p_i)

Require: Marks of Mandatory Questions or Assesments, Mapping of CO's with the Questions

1: Initialize the set of Courses C = $\{c_1, c_2, c_3, ..., c_m\}$ foreach program p_i
2: **for each** $c_i \in C$ **do**
3:     Mandatory Questions M = $\{m_1, m_2, m_3, ..., m_p\}$
4:     **for each** $m_i \in M$ **do**
5:         Ensure the score $s_i \geq 60$ % Total Mark of m_i
6:         Count the number of students c who obtained the score s_i
7:         **if** $c \geq 60\%$ Total Students **then**(Attainment level $\leftarrow$ 1)
8:         **end if**
9:         **if** $c \geq 70\%$ Total Students **then**(Attainment level $\leftarrow$ 2)
10:         **end if**
11:         **if** $c \geq 80\%$ Total Students **then**(Attainment level $\leftarrow$ 3)
12:         **end if**
13:     **end for**
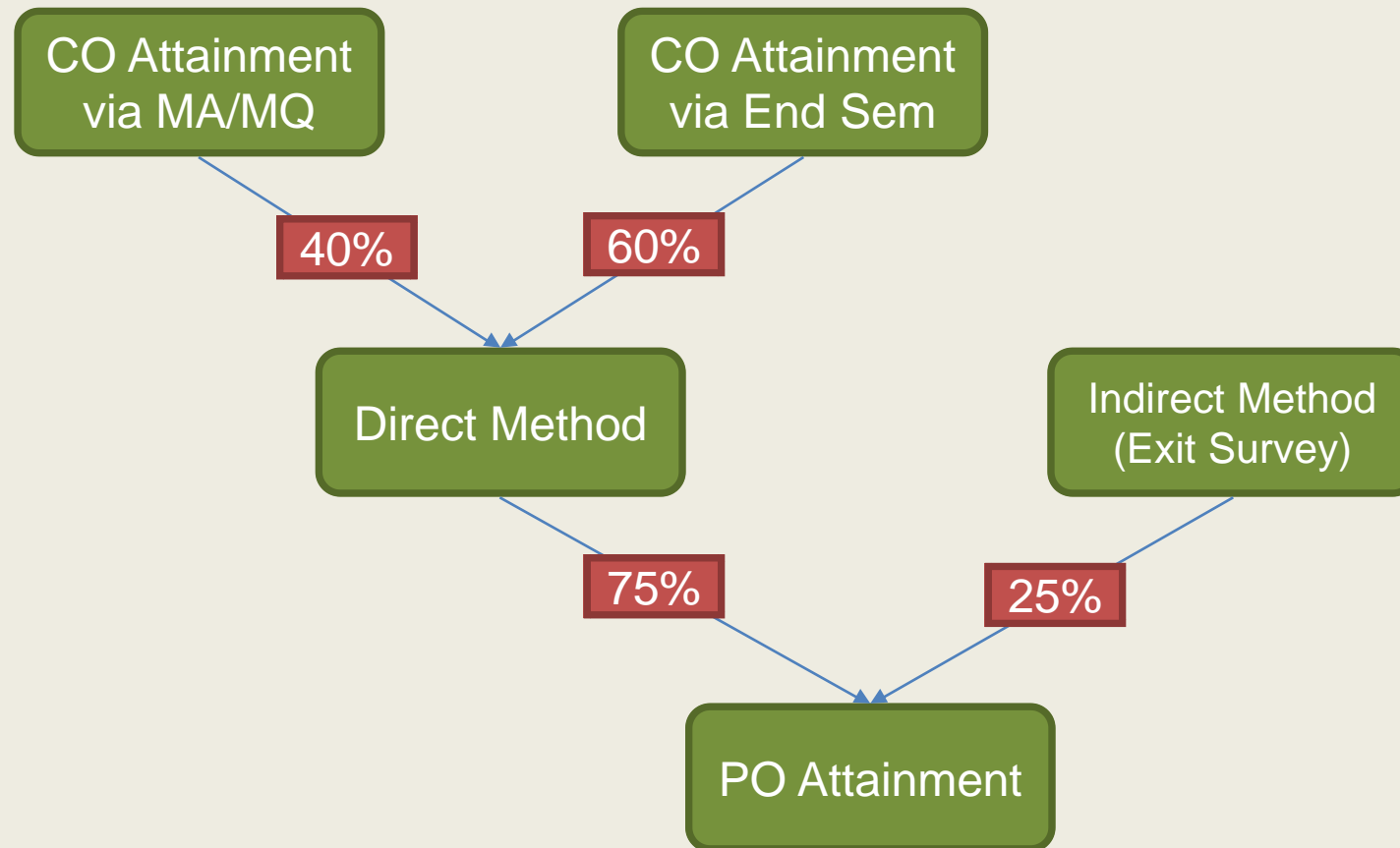14: **end for**

PSO Attainment

Attainment of PSOs

Algorithm 1 Calculation of PSO Attainment for Each Program

Require: CO attainment Values, Indirect Assessment Values

1: Initialize the set of Programs $P = \{p_1, p_2, p_3, ..., p_n\}$
2: **for each** $p_i \in P$ **do**
3:      $V_1 \leftarrow InternalCOAttainment(p_i)$
4:      $V_2 \leftarrow$ Semester End Attainment
5:      Direct Assessment $V_3 \leftarrow 40\% \ V_1 + 60\% \ V_2$
6:      $V_4 \leftarrow$ Indirect Assessment through Exit Surveys
7:      $V_5 \leftarrow 75\% \ V_3 + 25\% \ V_4$
8: **end for**

PO Attainment

Attainment of PSOs

Algorithm 1 Calculation of PO Attainment for Each Program

Require: CO attainment Values, Indirect Assessment Values

1: Initialize the set of Programs $P = \{p_1, p_2, p_3, ..., p_n\}$
2: **for each** $p_i \in P$ **do**
3: $\quad\quad V_1 \leftarrow \text{CoAttainment}(p_i)$
4: $\quad\quad V_2 \leftarrow$ Semester End Attainment
5: $\quad\quad$ Direct Assessment $V_3 \leftarrow 40\% \; V_1 + 60\% \; V_2$
6: $\quad\quad V_4 \leftarrow$ Indirect Assessment through Exit Surveys
7: $\quad\quad V_5 \leftarrow 75\% \; V_3 + 25\% \; V_4$
8: **end for**