

### ***2.6.2. Attainment of program outcomes and course outcomes are evaluated by the institution***

Yes.

The attainment of POs and COs is evaluated by deploying direct and indirect assessment tools. Following are the indicative tools used for calculating the attainment.

#### *Direct Assessment Tools and Methods for CO attainment:*

1. Question papers for theory and Laboratory course examinations
2. Rubrics for all the viva-voce examinations
3. Rubrics for summer and Full semester Internship

#### *Indirect Assessment Tools and Methods:*

1. Program exit survey for POs

#### *Attainment of COs based on target performance level (TPL) of the courses*

As discussed in earlier section the attainment of POs is normally measured with the help of CO attainment of the representative courses. Further, based on the level of contribution of each representative course for the PO attainment, the weightage is given judiciously at three levels i.e. from 3 to 1 (Strong to weak). Accordingly, the TPL for each PO is arrived based on the last three to four years performance.

#### *CO attainment:*

Above referred assessment tools are deployed to calculate COs. For the attainment of COs related to theory and lab courses the direct assessment tool based on the marks secured in the continuous and semester end assessment are considered. Further, for all the assessments done wherein viva-voce is a part of process, the CO attainment is done through rubrics. For the all the courses, at the end of the semester, course end survey is done for all the students' in-line with the COs. By giving appropriate weightage for the COs attainment from direct and indirect tools, overall CO attainment is calculated.

Appropriate rubrics are developed and are in place to measure the outcomes of all the viva-voce examinations viz, Laboratory courses, Term paper, Mini project, Main project and internships.

#### *PO attainment:*

The PO attainment is measured by the direct and indirect assessment tools with a weightage of 90% and 10% respectively. For the PO attainment, based on the level of contribution of the each course, a mapping matrix is developed. Based on the CO-PO mapping and weighted average contribution of each CO, overall PO attainment is calculated. As discussed earlier the indirect assessment tool is deployed through the program exit survey for 10%.

#### Additional information

1. Attainment calculation of Seven departments in the form of Bar chart
2. Templates and sample attainment calculation for the Laboratory
3. Rubrics and sample assessment for viva-voce exams and internships
4. Templates and sample and program exit survey