

### Calculation for Programme outcome attainment

Step1: Develop CO – PO mapping at each Course Level and Program level

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	3	1	1	1	3	2	1	1	–
CO2	3	1	1	–	1	2	2	1	1
CO3	2	3	2	2	1	3	–	1	1
CO4	2	–	1	2	2	1	2	2	3
CO5	1	2	3	3	–	2	1	1	3
<b>Average</b>	2.2	1.75	1.6	2.0	1.75	2.0	1.5	1.2	2.0

$W_{Pi} = \sum_j (CO_j) / 4$  (i=1 to 10 and j=1 to 4) ( where  $W_{Pi}$  is the Weight factor for Programme Outcome  $PO_i$ )

Step 2: COs Attainment Targets at Course Level

Course Evaluation	Levels of Assessment (Marks Distribution)	Target Fixed	Attainment Level
CIA (25 Marks)	DA (10 Marks)	> 6 Marks	1, otherwise 0
	IA (15 Marks)	> 8 Marks	1, otherwise 0
SEE (75 Marks)	FA	>30 Marks	1, otherwise 0

(CIA- Continuous Internal Assessment, SEE – Semester End Exam, DA – Direct Assessment, IA – Indirect Assessment, FA- Final Assessment)

### Step 3: Calculating Attainment at each Level of Assessment for Course

CO is said to be attained by a student if he/she gets greater than 40% of marks in FA, greater than 60% of marks in DA and around 55% of marks in IA as fixed targets. The number of students who attained the target is calculated for a course as a whole using the following formulas:

$CO\_DA = \text{Total Number of Students reached the target} / \text{Total number of students attended}$

$CO\_IA = \text{Total Number of Students reached the target} / \text{Total number of students attended}$

$CO\_FA = \text{Total Number of Students reached the target} / \text{Total number of students attended}$

### Step 4: Calculating Semester-wise Attainment for each Level

#### 1. Calculating the Final PO attainment Levels for a Course and Semester:

After calculating weights and fraction of students attained at each level of assessment for a particular course, semester-wise PO attainment will be calculated by using the following formula for three different levels of assessment.

#### **Direct Assessment:**

$$P_{iDAj} = \frac{\sum(WP_i * CO\_DA)}{\sum WP_i}$$

**Indirect Assessment:**

$$P_{iIAj} = \frac{\sum(WP_i * CO_{IA})}{\sum WP_i}$$

**Final Assessment:**

$$P_{iFAj} = \frac{\sum(WP_i * CO_{FA})}{\sum WP_i}$$

(Fix j = 1 to 6 (Semester number) and i vary from 1 to 10)

**Step 5: Calculating attainment at each level for a Programme**

After calculating semester wise PO attainment for each level of assessment for six semesters, Programme wise attainment will be calculated by using the following formula for three different levels of assessment.

**Direct Assessment:**

$$P_{iDA} = \frac{\sum_j P_{iDAj}}{n} \times 100$$

**Indirect Assessment:**

$$P_{iIA} = \frac{\sum_j P_{iIAj}}{n} \times 100$$

**Final Assessment:**

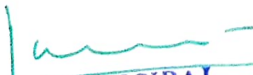
$$P_{iFA} = \frac{\sum_j P_{iFAj}}{n} \times 100$$

(i=1,...,10, j=1,...,6 and n = Total No. of Semesters )

**For Example:** The PO Attainment for a faculty B.Sc. Life Sciences, B.Sc. Physical Sciences, BA and BCOM for the 2016- 19 batch is as follows:


PO ATTAINMENT OF BSC LIFE SCIENCES (2016-2019 BATCH)									
BSC LS	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9
IA	96.56516	91.80215	97.29152	91.12402	94.33779	97.42948	88.53221	95.40612	89.98377
FA	96.01042	91.55084	96.78355	90.44013	95.62925	96.9899	87.82045	94.54686	89.11945
DA	97.56677	92.16071	97.73154	91.75791	97.16254	97.96813	90.02383	96.81227	91.32251

PO ATTAINMENT OF BSC PHYSICAL SCIENCES (2016-2019 BATCH)									
BSC PS	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9
IA	93.40	87.57	93.59	88.54	94.66	93.51	85.88	93.27	87.91
FA	91.27	84.69	91.15	86.44	93.14	90.90	84.38	91.25	86.07
DA	94.12	88.51	94.76	89.61	95.35	94.43	86.74	94.14	88.99

  
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PO ATTAINMENT OF BA (2016-2019 BATCH)									
BA	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9
DA	96.97025	89.48582	94.76674	89.94828	96.98675	96.04544	89.67636	96.6627	90.0348
IA	97.18192	89.63961	94.75767	89.93498	97.10931	96.16668	89.90512	96.96094	90.1879
FA	89.6684	82.10997	87.28915	83.55993	90.81194	88.29309	83.8071	90.33159	84.30546

PO ATTAINMENT OF BCOM (2016-2019 BATCH)									
BCOM	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9
DA	96.51602	90.75112	96.87515	91.49585	96.42808	96.63313	89.87971	96.83242	91.92286
IA	95.78615	90.28936	96.45398	91.11588	95.83359	96.00435	89.34782	96.31967	91.58748
FA	93.22782	87.10387	93.57554	88.59567	93.69076	92.94981	87.34683	94.02865	89.62556

  
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