



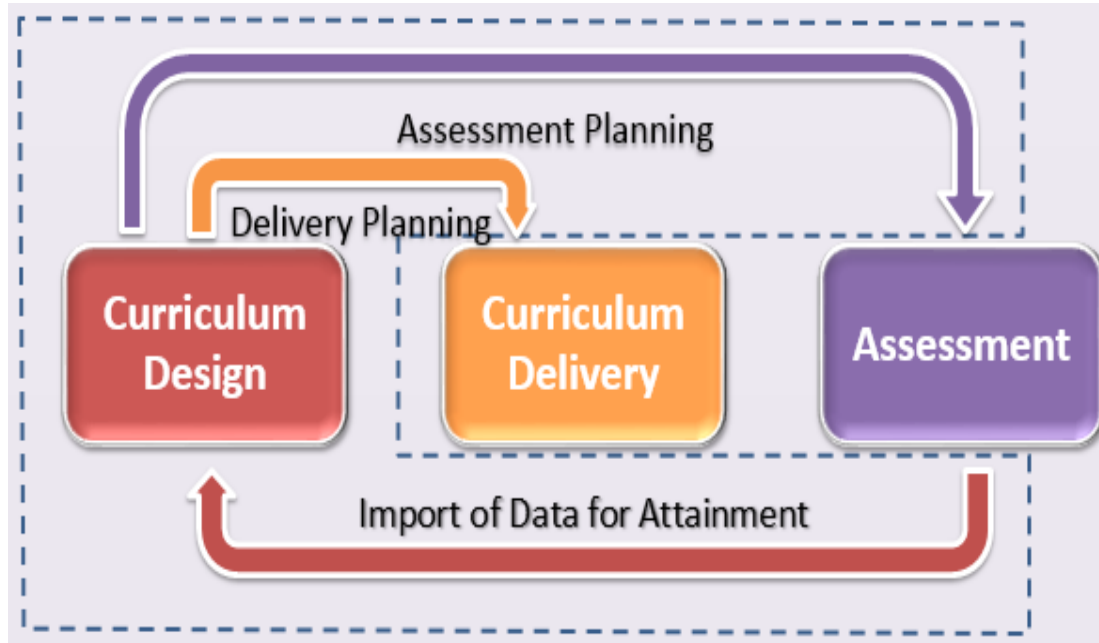
GOVERNMENT DEGREE COLLEGE

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NAAC Re-Accredited with 'B' Grade



CO-PO Attainments(2019-21 BATCH)



Methodology for Calculating PO Attainment

The Program Outcomes (POs)/Program Specific Outcomes (PSOs) are the qualities that must be imbibed in the graduates by the time of completion of their program. At the end of each program, the PO/PSO assessment is done from the CO attainment of all curriculum components. The PSOs are framed based on the guidelines of learning outcomes.

For every Course, there are number of outcomes to be achieved at the end of the course. This outcome is usually a combination of main course content and may cover more than one topic. All course outcomes shall have linkage to programme outcomes in such a way that the strongest relation has the weight 3 and the weakest relation is 1. The relation is put into a table given below:

Step 1: Develop CO – PO mapping at each Course Level and Program Level

	PO1	PO2	PO10
CO1	3	2	.	2
CO2	3	1	.	1
CO3	2	2	.	1
CO4	1	3	.	2
Average	2.25	2.00		1.5

$$WP_i = \sum_j (CO_j) / 4 \quad (i=1 \text{ to } 10 \text{ and } j=1 \text{ to } 4)$$

(where WP_i 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 – DirectAssessment, 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 fraction 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

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 Program HEP for the 2019- 21 batches is attained as follows:

POs / Programs		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
HEP	DA	93.2719	93.4278	93.2501	92.6006	92.6850	93.0016	91.9970	92.492	93.1245	91.971
	IA	88.0594	87.9821	87.7296	88.1522	87.9745	87.8095	88.1688	87.0119	87.2395	87.2157
	FA	92.9141	93.2429	93.0801	92.7802	92.9890	92.7806	92.6915	91.5436	91.6789	91.1299

CO PO Mapping

Course Code				Micro Economics-I							
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	
CO-1	3	3	3	2	3	3	2	3	3	3	
CO-2	3	3	3	2	2	3	2	3	3	2	
CO-3	3	3	3	2	2	3	2	3	3	3	
CO-4	3	3	3	2	3	3	3	3	3	3	
Average	3	3	3	2	2.5	3	2.25	3	3	2.75	

Course Code	Eng	Course Name: English								
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO-1	3	2	3	3	2	3	3	2	3	3
CO-2	2	2	2	2	2	3	2	2	2	2
CO-3	2	2	2	2	2	2	2	3	2	2
CO-4	3	3	3	2	2	3	3	1	1	2
Average	2.5	2.25	2.5	2.25	2	2.75	2.5	2	2	2.25

Course Code	Course Name: Telugu									
<i>CO</i>	<i>PO1</i>	<i>PO2</i>	<i>PO3</i>	<i>PO4</i>	<i>PO5</i>	<i>PO6</i>	<i>PO7</i>	<i>PO8</i>	<i>PO9</i>	<i>PO10</i>
CO-1	3	3	3	2	3	2	2	1	1	1
CO-2	3	3	3	2	3	2	2	1	1	1
CO-3	3	2	3	2	3	2	2	1	1	1
CO-4	3	3	2	2	3	2	2	2	1	1
<i>Average</i>	3	2.75	2.75	2	3	2	2	1	1	1

Course Code	His	Course Name: History								
<i>CO</i>	<i>PO1</i>	<i>PO2</i>	<i>PO3</i>	<i>PO4</i>	<i>PO5</i>	<i>PO6</i>	<i>PO7</i>	<i>PO8</i>	<i>PO9</i>	<i>PO10</i>
CO-1	3	3	3	3	2	3	3	2	3	2
CO-2	3	3	3	3	2	3	3	2	3	2
CO-3	3	3	3	2	2	3	3	2	3	1
CO-4	3	3	3	2	2	3	3	1	3	1
<i>Average</i>	3	3	3	2.5	2	3	3	1.75	3	1.5

Course Code	Pol	Course Name: Political Science								
<i>CO</i>	<i>PO1</i>	<i>PO2</i>	<i>PO3</i>	<i>PO4</i>	<i>PO5</i>	<i>PO6</i>	<i>PO7</i>	<i>PO8</i>	<i>PO9</i>	<i>PO10</i>
CO-1	3	3	3	2	3	2	3	2	2	3
CO-2	3	3	2	2	3	2	2	2	2	3
CO-3	3	2	3	2	3	3	2	3	3	3
CO-4	3	3	2	3	2	3	3	2	3	2
<i>Average</i>	3	2.75	2.5	2.25	2.75	2.5	2.5	2.25	2.5	2.75

Final Attainments BA HEP**Direct Assessment Attainment**

POs	SEM-1	SEM-2	SEM-3	SEM-4	SEM-5	SEM-6	DA Attainment
PO1	0.913538	0.992698	0.898182	0.877167	0.971006	0.943725	93.27192833
PO2	0.908822	0.992035	0.898148	0.884186	0.973642	0.948841	93.427885
PO3	0.905381	0.991895	0.887755	0.891618	0.971846	0.946515	93.25015833
PO4	0.921259	0.992488	0.893333	0.855232	0.968835	0.924894	92.60068333
PO5	0.913668	0.993462	0.878261	0.864883	0.970567	0.940262	92.68506
PO6	0.907133	0.991177	0.884444	0.884844	0.969435	0.943065	93.00163667
PO7	0.919527	0.993263	0.890909	0.8526	0.95893	0.904595	91.99705167
PO8	0.88509	0.989256	0.882927	0.877167	0.969435	0.945692	92.492775
PO9	0.88856	0.989868	0.9	0.891618	0.972116	0.94531	93.12453333
PO10	0.892665	0.9901	0.873171	0.869242	0.965373	0.927959	91.97516

Indirect Assessment Attainment

POs	SEM-1	SEM-2	SEM-3	SEM-4	SEM-5	SEM-6	DA Attainment
PO1	0.852579	7719466	0.882727	0.871176	0.905136	1	128657841.9
PO2	0.8484	0.767253	0.888889	0.872764	0.901624	1	87.982165
PO3	0.844398	0.765195	0.876531	0.876591	0.901064	1	87.72963833
PO4	0.854598	0.7658	0.898889	0.865626	0.904222	1	88.152235
PO5	0.856781	0.781753	0.868478	0.867582	0.90388	1	87.97456667
PO6	0.845594	0.751685	0.896667	0.87196	0.902669	1	87.80959167
PO7	0.851492	0.767713	0.896591	0.866036	0.9083	1	88.16886
PO8	0.836576	0.7138	0.923171	0.858081	0.889092	1	87.011995
PO9	0.828873	0.719826	0.928409	0.865675	0.891591	1	87.23957
PO10	0.843098	0.724471	0.923171	0.85413	0.888073	1	87.21570167

Final Assessment Attainment

POs	SEM-1	SEM-2	SEM-3	SEM-4	SEM-5	SEM-6	DA Attainment
PO1	0.979117	0.901877	0.920757	0.858203	0.932062	0.98283	92.91410871
PO2	0.978829	0.923061	0.924603	0.857586	0.927518	0.982977	93.24290135
PO3	0.978167	0.906985	0.909244	0.860776	0.946694	0.982942	93.08013628
PO4	0.980138	0.880824	0.937567	0.865736	0.923386	0.979162	92.78021237
PO5	0.97838	0.918648	0.918476	0.853529	0.929288	0.981023	92.98907166
PO6	0.9804	0.893216	0.931751	0.857997	0.920844	0.982629	92.78061098
PO7	0.980281	0.87921	0.935211	0.864063	0.923923	0.978805	92.69155084
PO8	0.981769	0.89125	0.932962	0.822432	0.881528	0.98268	91.54368108
PO9	0.980155	0.871771	0.941494	0.836359	0.888332	0.982627	91.67896228
PO10	0.982436	0.874102	0.937574	0.819552	0.87412	0.980012	91.12993005




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