



VIGHNAHARATA TRUST

**SHIVAJIRAO S. JONDHLE COLLEGE OF PHARMACY, ASANGAON.**

TAL. - SHAHAPUR, DIST.- THANE (M.S.) -421 601

Approved by AICTE, New Delhi, Recog. by Govt. of Maharashtra & PCI - New Delhi

**Affiliated to MSBTE & University of Mumbai**

02527-272399 | Mob: 9594962018 | [ssjcop3241@gmail.com](mailto:ssjcop3241@gmail.com)

**P27**

### **P-27:- Direct and Indirect Assessment to show Attainment POs and PSOs**

The program outcomes assessment are based on the course outcomes attainment, the final PO attainment is assessed by direct and indirect method. The assessment tools for direct and indirect methods used for evaluating the attainment of POs are mentioned below -

#### ❖ **Direct methods:**

- Theory and Practical Examination conducted by MSBTE
- Theory Practical Examination conducted by college as per MSBTE regulation norms.

#### ❖ **Indirect methods:**

- 1. Alumni Survey:** Alumni survey is conducted during Alumni by coming at the institute, the feedback of Alumni is mapped with the program outcomes a prepared for and evaluation of program outcomes attainment level.
- 2. Employer survey:** After completion graduation and Placement drive is conducted, aim to assess the quality of students in term of Po attainment.
- 3. Parent survey:** Parent survey is conducted during Parent by coming at the institute the feedback of Alumni is mapped with the program outcomes and rubrics are prepared for analysis and evaluation of program outcomes attainment level.
  1. **Course exit survey:** Course exit survey is conducted After completion course and in Process to assess the contribution of programme in the overall development.
  2. **Facility Survey:** Facility Survey is conducted After completion course and aim to assess the suggestion used for Improvement of institute.
  3. **Guest Lecture Survey:** Guest Lecture Survey is conducted after completion every guest lecture aim to assess the impact of expertise in relation to knowledge, problem solving ability communication skill and pharmacy practise.





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4. Industry visit Survey: Industry visit Survey is conducted once during Program to assess the observation skills and ability to relate classroom students to industry setup and current Scenario.
5. Hospital Visit Survey: Hospital Visit Survey is conducted once during Program aim to assess observation skills and ability to relate classroom students to hospital setup.
6. Co- curricular activities Survey: Co- curricular activities Survey is conducted once in year aim to assess the relevance of planned activities in using pharmacy knowledge in planning problem analysis, Planning abilities and lifelong learning.
7. Extra-curricular activities Survey: Extra-curricular activities Survey is conducted after completion each activity aim to access the overall development of students.

### **PO evaluation**

The process used to measure the attainment of POs through direct and indirect attainment is as follows,

Step 1: Course outcomes for all courses are drafted.

Step 2: Each course outcome is mapped to POs.

Step 3: Attainment of COs are measured by using external and internal assessments.

Step 4: By using result of CO attainment corresponding PO attainments are calculated.

Step 5: Also attainment of POs are calculated by using direct and indirect attainment methods.

This process is repeated for for all courses in the program to calculate attainment of POs.

### **PO Attainment:**





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**PO Attainment:**

The PO attainment is calculated from the attainment of COs through internal and external attainments i.e. considered as PO attainment by direct methods.

COURSE	SUBJECT NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	AVG
ER91-11	PH-I	3	2	1.5	2.5	2.5	2	1.5	1	3	2.11
ER91-12	PC-I	3	2	1.8	2	1.75	1.5	2.25	2.25	2.75	2.14
ER91-13	PGY	3	1.75	1.75	2	2.37	1.25	2.37	1.95	2.25	2.07
ER91-14	BCP	3	3	2	2	2.5	3	2	2	2.5	2.44
ER91-15	HAP	2.5	3	3	2	1.9	2	2.4	2	3	2.20
ER91-16	HECP	2	2	1	2	2	2	2	2	3	2
ER91-21	PH-II	3	2	1	2.5	2	2	2.5	1.5	3	2
ER91-22	PC-II	2.5	2.08	2.15	2	2.25	1.75	3.5	2.12	3	2.37
ER91-23	P & T	3	3	2	2	3	3	2	3	3	2.66
ER91-24	PJ	3	2	2	1.6	1	2	3	1.6	2.8	2.11
ER91-25	DSBM	2	3	2	2	1	2	1	1	3	1.88
ER91-26	HCP	3	2.5	2.5	2	2.5	2.5	2.5	2	3	2.50
<b>Direct Attainment</b>		2.64	2.11	1.9	2.01	1.83	1.81	2.22	1.86	2.82	
<b>Indirect Attainment</b>		2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	
<b>PO Attainment</b>		2.61	2.19	2.02	2.11	1.96	1.95	2.28	2.00	2.76	
<b>% of PO attainment</b>		87	73	67	70	65	65	76	67	92	

The value obtained from the rubrics analysis of various surveys and feedbacks is considered for PO attainment by indirect methods.

The PO attainment for the Year 2020-21 (CAYm3) is shown in the table 3.1





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COURSE	SUBJECT NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	AVG
ER91-11	PH-I	3	2	1.5	2.5	2.5	2	1.5	1	3	2.11
ER91-12	PC-I	3	2	1.8	2	1.75	1.5	2.25	2.25	2.75	2.14
ER91-13	PGY	1.8	1.15	1.3	1.2	1	1.12	1.12	1.05	1.72	1.27
ER91-14	BCP	3	3	2.5	2	2	3	2.5	2	2.5	2.5
ER91-15	HAP	2.5	2	2	2	2	1	3	2	3	2.1
ER91-16	HECP	2	2	1	2	2	2	2	2	3	2
ER91-21	PH-II	3	2	1	2	2	2	2.5	1.5	3	2.11
ER91-22	PC-II	1.5	1.2	1.23	1.2	1.4	0.95	1.4	1.3	1.8	1.33
ER91-23	P & T	2.6	2.6	2.6	1.7	1.7	1.7	2.6	2.6	1.7	2.20
ER91-24	PJ	2.2	1.4	1.4	1.17	0.73	1.4	2.2	1.17	2	1.52
ER91-25	DSBM	0.4	0.6	0.4	0.4	0.2	0.4	0.2	0.2	0.6	0.377
ER91-26	HCP	3	2.5	2.5	2.5	3	3	2.5	2.5	3	2.72
<b>Direct Attainment</b>		2.02	1.61	1.47	1.45	1.41	1.45	1.71	1.48	2.03	
<b>Indirect Attainment</b>		2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	
<b>PO Attainment</b>		2.16	1.83	1.72	1.70	1.67	1.70	1.91	1.73	2.16	
<b>% of PO attainment</b>		72	61	57	57	56	57	64	58	72	

The PO attainment for the Year 2021-22 (CAYm2) is shown in the table 3.2

The PO attainment for the Year 2022-23 (CAYm2) is shown in the table 3.3

COURSE	SUBJECT NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	AVG
ER20-11T	Pharmaceutics	3	2.7	1.5	1.9	1.7	1.7	1.9	1.9	3	2.14
ER20-12T	Pharmaceutical Chemistry	2.2	1.5	1.05	0.82	1.47	1.05	0.72	1.7	2	1.39
ER20-13T	Pharmacognosy	1.8	1.15	1.3	1.2	1	1.12	1.12	1.05	1.72	1.27
ER20-14T	HAP	1.8	1.8	1.3	1.3	1.3	1.3	1.8	1.8	1.8	1.57
ER20-15T	SP	2.9	2.43	2.4	1.93	2.9	2.43	2.4	1.93	2.9	2.46
ER20-21T	Pharmacology	3	3	3	3	2	3	3	3	2	2.77





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ER20-22T	CMP	3	2	1.5	2.5	1.5	2	2	1	3	2.05
ER20-23T	BCP	3	3	2.5	2.5	2	2.5	3	2	2	2.50
ER20-24T	Pharmacotherapeutics	3	1	2.25	3	2.25	3	2.8	1.75	3	2.45
ER20-25T	HCP	3	2.5	2.5	2.5	3	3	2.5	2.5	3	2.7 2
ER20-26T	Pharmacy Ethics & Law	3	2.75	2.25	3	2.75	2.5	2.5	2.5	3	2.69
<b>Direct Attainment</b>		2.42	1.68	2.5	2.10	1.79	1.93	2.02	1.70	2.54	
<b>Indirect Attainment</b>		2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	
<b>POAttainment</b>		2.45	1.86	2.52	2.20	1.95	2.06	2.13	1.88	2.55	
<b>% of POattainment</b>		82	62	84	73	65	69	71	63	85	

Program Outcome No.	Program Outcome	PO Attainment for	PO Attainment for	PO attainment for	Average PO attainment of last three years
		for CAYm3	for CAYm2	CAYm1	
PO1	Pharmacy knowledge	67	72	82	74
PO2	Modern tool usage	73	61	62	65
PO3	Leadership skill	67	57	84	69
PO4	Professional Identity	70	57	73	67
PO5	Pharmaceutical ethics	65	56	65	62
PO6	Communication skill	65	57	69	64
PO7	The Pharmacist and society	76	64	71	70
PO8	Environment and sustainability	67	58	63	62
PO9	Lifelong Learning	92	72	85	83