



2.6 STUDENT PERFORMANCE AND LEARNING OUTCOME

2.6.2 Evaluation of attainment of program outcomes and course outcomes

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Subject : Method of assessment of PO's, PSO's and CO's

The institute evaluates the attainment of Program Outcomes (PO), Program Specific Outcomes (PSO) and Course Outcomes (CO) by adopting the following procedure;

1. To evaluate PO's, PSO's and CO's, the institute adopts two assessment methods;
 - Direct Assessment
 - Indirect Assessment
2. The Overall Course Outcomes Attainment factor is evaluated by taking 80% of the Direct Assessment and 20% of the Indirect Assessment.
3. The Program Outcomes and Program Specific Outcomes attainment is evaluated by using (Overall Course Outcome attainment factor * CO-PO mapping)/3(High level).

A. Procedure for Attainment through Direct Assessment (80%)

The attainment levels are specified in terms of High(level 3), Medium(level 2) and Low(level 1). These three levels are distributed as follows depending on the percentage attained for mapping:

Level -1	<60%
Level -2	60-80%
Level -3	>80%

Direct Assessment:

1. Performance in Internal Assessment (theory and labs)
 - Includes Internal Exam(Two Test)
 - Assignments
2. Performance in End Semester Examinations (theory and labs)
3. Performance in Project Evaluation(Minor and Major Project)

Direct Assessment Tools:**Internal Assessment (Mid Examinations) (for 25 marks)**

Internal assessment is carried out through internal exam i.e., two sessional exams (S-1, S-2), and assignments. These examinations are focused on attaining the course outcomes.

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**End Semester Examinations (for 75 marks)**

End semester examinations focus on attainment of course outcomes through descriptive mode.

It is metric for evaluating whether all the course outcomes are attained or not.

B. Indirect Assessment:

Feedback from the stake holders in the form of Survey and feedback.

Indirect Assessment Tools:

1. Course Exit Survey: At the end of each semester, course exit survey is conducted to analyze all course outcomes.
2. Program Exit Survey: This survey is conducted at the end of B. Pharm program to analyze all the program outcomes and Program Specific Outcomes.

C. Steps for Calculation of Attainment:**Attainment through Direct Assessment (80%)**

1. Set the threshold for marks to assess the student's performance in internal assessment and end semester exam. (e.g., 50% is set)
2. Find the no. of students scored 50% and above.
3. Find percentage attained (i.e., How many percentages of students scored 50% and above).
4. Rate the level (High-3, Med-2, Low-1) to each Course outcome depending on the percentage attained as discussed in point 3 and as per the rubric set for CO-attainment as mentioned in point A.

Internal Assessment = (Internal Exam + Assignments) out of 25 Marks

Direct CO Attainment = $(0.8 * \text{End Exam} + 0.2 * \text{Internal Assessment})$ out of 75 Marks**Attainment through Indirect Assessment (20%)**

1. The indirect assessment contains CO exit survey at the end of each semester. Hence, overall CO Attainment is calculated as follows:

Overall CO Attainment = $(0.8 * \text{Direct CO Attainment} + 0.2 * \text{Indirect CO Attainment})$

The indirect assessment also contains feedback from various stakeholders such as parents, alumni, faculty, students, employer along with exit survey. Feedback is collected in the scale of 5 and then converted to the percentage.

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B. Pharmacy V Subj: Industry Pharmacy I(BP502T) CO Attainment Calculation

Sr. No.	Name of Student	Question No. 1					Question No. 2		Question No. 3			Total Marks	CO1		CO2		CO3	% of CO 3 attained	Univ marks out of 75
		a	b	c	d	e	a	b	a	b	c		Marks obt	% of CO1 attained	Marks Obtained CO1	% of CO 2 attained	1		
		CO2	CO 3	CO 2	CO 3	CO 1	CO3	CO2	CO 3	CO 2	CO1		CO 1 Total =		CO 2 Total =		CO 3 Total =		
	Max Marks	2	2	2	2	2	10	10	5	5	5		7		19		19		
1	Aadhar Anil Thakare	1.5	2	2	1	1		7.5		4	3.5	22.5	4.5	64.29	15	78.95	3	15.79	45
2	Aastha Umashankar Khangare	2	1	2	1.5	1	7.5		3	2		20	1	14.29	6	31.58	13	68.42	43
3	Abhishek Prashant Bhopi	2		1	0.5		6				2.5	12	2.5	35.71	3	15.79	6.5	34.21	35
4	Aditi Khirendra Bambole	2	2	1.5	1.5	2	8		2	1		20	2	28.57	4.5	23.68	14	71.05	45
5	Akshat Jitendra Arora	2	2	2	2	2	9				3	22	5	71.43	4	21.05	13	68.42	47
6	Ankita Prakash Gulpude	2	2	1	1	1	8		1	1		17	1	14.29	4	21.05	12	63.16	34
7	Aryaman Rajesh Banode	0.3	1.5		1.5	2		3	3.5	3		14.3	1.5	21.43	6.3	32.89	6.5	34.21	37
8	Deepa Ramkishor Bisen	2	1.5	2	1.5	2	3				3	14.5	4.5	64.29	4	21.05	6	31.58	26
9	Divya Gangadhar Sorte							1				1	0	0.00	1	5.26	0	0.00	15
10	Diya Krishna Dabrasede	2	2	2	2	2	7.5		3.5		3.5	24.5	5.5	78.57	4	21.05	15	78.95	55

11	Gaurav Naneshwar Nagapure	1.5	1	2	1	2	7.5		1		1	17	3	42.8 6	3.5	18.4 2	11	55.26	48
12	Harsh Pradeep Narayane	1		2		1	8			2	13. 5	2.5		35.7 1	3	15.7 9	8	42.11	35
13	Harshita Sanjeev Singh	2	2	2		2	9		3. 5	4	24	2		28.5 7	7.5	39.4 7	15	76.32	52
14	Kavita Bisendra Mishra	1	1	2	2	2		7.5	3. 5	3	2.5	24	4.5	64.2 9	13	68.4 2	6.5	34.21	49
15	Khushi Rajesh Banode		1. 5	1	1.5	1	1	7.5	2		0.5	16	1.5	21.4 3	8.5	44.7 4	6	31.58	23
16	Krunal Raju Raggad	2	1	1	1		6.5		2			13. 5	0	0.00	3	15.7 9	11	55.26	25
17	Kunal Santosh Kashyap	0.5		1			3					4.5	0	0.00	1.5	7.89	3	15.79	26
18	Kushal Atul Sharna	2	2	2	1.5	2	9		3	3		23. 5	1.5	21.4 3	6.5	34.2 1	16	81.58	36
19	Mohd. Umair Wali Mhd. Pasha	2	1. 5	1. 5	1	2	8			4	3.5	23	5.5	78.5 7	7	36.8 4	11	55.26	46
20	Mohd. Zaid Mohd. Shamim Qureshi	2	1. 5	2	2	2		8			4	21. 5	6	85.7 1	12	63.1 6	3.5	18.42	43
21	Muskan Mukesh Rathi	1.5	1	2	2	2	8		2. 5		3.5	22	5	71.4 3	3.5	18.4 2	14	71.05	53
22	Nayan Shelke	1.5	1	1. 5	1.5	1	8				3.5	17. 5	4	57.1 4	3	15.7 9	11	55.26	36
23	Nidhi Ganesh Tiwari	2	1. 5	2	1	2	7.5			4	3	22. 5	5	71.4 3	7.5	39.4 7	10	52.63	43
24	Niraj Naresh Lohat	1.5	1	2	0.5	1	7				2	14. 5	2.5	35.7 1	3.5	18.4 2	8.5	44.74	38
25	Om Sanjay Bukkawar	2		1	1		7.5					11. 5	0	0.00	3	15.7 9	8.5	44.74	33
26	Parth Rajesh Somani	2	2	2	1.5	2	7.5			1		18	2	28.5 7	5	26.3 2	11	57.89	46
27	Piyush Juganpal Upadhyay	1	1	1	1			7				11	0	0.00	9	47.3 7	2	10.53	33
28	Prajakta Raju Milmile	2	2	2	1.5	2	9		4	4		26. 5	2	28.5 7	8	42.1 1		86.84	51
29	Pratiksha Mahendra Dekate	2	2	2	2	2	8.5			4	3.5	25. 5	5.5	78.5 7	7.5	39.4 7	13	65.79	57
30	Priyanka Ashok Deshmukh	1	1	2	1.5	2		7.5		4		18. 5	2	28.5 7	14	73.6 8	2.5	13.16	43

31	Pushkar Kishor Wahane	2	1	2	1.5	2	7		2.5			18	2	28.57	4	21.05	12	63.16	42
32	Rehan Sheikh Jumman Chhaware	2	1	2	1		7.5				3.5	17	3.5	50.00	4	21.05	9.5	50.00	35
33	Ritesh Vijay Gore	1.5		1.5	1	1	6.5		2			13.5	1	14.29	3	15.79	9.5	50.00	40
34	Ritik Pundalik Derkar Derkar	2	1	2	1.5	2	7				3.5	19	5.5	78.57	4	21.05	9.5	50.00	43
36	Ruchita Vijay Kumeriya	1.5	2	2	1	2	8			4	1	21	3	42.86	7	36.84	11	57.89	53
37	Runali Dilip Bhumbar	2	1	1.5	2	2	7.5			4	2	21.5	4	57.14	7	36.84	11	55.26	41
38	Sahil Yogeshwar Manapure	2	1.5	2	1.5	2	7			2	3.5	20.5	5	71.43	5.5	28.95	10	52.63	46
39	Sakshi Nilkanth Tapre	1	1	2	2	2		8		4	4	24	6	85.71	15	78.95	3	15.79	48
40	Sakshi Rajkumar Pandey	1.5	1	1	1		7.5				3.5	15.5	3.5	50.00	2.5	13.16	9.5	50.00	41
41	Saniya Sattar Sheikh	1	1	2	1.5	2	6		2.5	4		19.5	2	28.57	6.5	34.21	11	57.89	41
42	Sanket Sanjay Yede				0.5			1				1.5	0	0.00	1	5.26	0.5	2.63	14
43	Sayali Jitendra Kapse	1		2	1	2	7				3	15.5	4.5	64.29	3	15.79	8	42.11	35
44	Sejal Anil Dubey	2	2	2	2	2	8		4		4	26	6	85.71	4	21.05	16	84.21	54
45	Shahebaz Ali Nisar Sayyad	1.5	1	1	1	1	2		2.5		2	12	3	42.86	2.5	13.16	6.5	34.21	27
46	Sheefarnoorie Ahmad Ansari	2	1	2	2	2	8		3.5		4	24.5	6	85.71	4	21.05	15	76.32	46
47	Shikha Rajendra Shahu	2	1	2	2	2		7.5		4	4	24.5	6	85.71	16	81.58	3	15.79	34
48	Shivam Suraj Gour	2	2	2	2	2		8.5			3.5	21.5	5	71.43	13	65.79	4	21.05	42
49	Shraddha Umesh Motghare	2	2	1.5	1.5	2	8.5			4	3.5	24.5	5.5	78.57	7	36.84	12	63.16	45
50	Shrihali Pradip Hedau	2	1	2	1	2	5			4	3.5	20	5.5	78.57	7.5	39.47	7	36.84	42
51	Shriya Rajendra Bagh	2	1		1	1	6		1	1		13	1	14.29	3	15.79	9	47.37	32
52	Soumya Anoop	2	2	2	2	2	8.5			4	4	26.	6	85.7	8	42.1	13	65.79	45

	Pandey											5		1		1			
53	Sushant Jayant Dhatrak	2	1		1		0.5					4.5	0	0.00	2	10.5 3	2.5	13.16	AB
54	Syad Ahefaz Ali	2	1	2	2	2	7			4	4	24	6	85.7 1	8	42.1 1	10	52.63	52
55	Tanmay Chandrahas Gotmare	1	2	2	2	1	7.5				4	19. 5	5	71.4 3	3	15.7 9	12	60.53	42
56	Vaibhav Namdev Turkar	1.5	2	2	1	2	8				4	20	5.5	78.5 7	3.5	18.4 2	11	57.89	43
57	Vaibhavi Vilas Yeskar	2	2	2	1	2	8.5			4	4	25. 5	6	85.7 1	8	42.1 1	12	60.53	51
58	Vaishnavi Anil Gedam	1		1	1	1	7			2	2	15	3	42.8 6	4	21.0 5	8	42.11	31
59	Virendra Vijay Aadle	1		2	1	2	7.5	2	1. 5		2	18. 5	3.5	50.0 0	5	26.3 2	10	52.63	41
60	Vishal Ashok Yadav	1		2	1.5	2	3		2. 5	3		14. 5	1.5	21.4 3	6	31.5 8	7	36.84	26
61	Vishal Manoj Sarse	1	2	2	1	1		8		1		16	1	14.2 9	12	63.1 6	3	15.79	38
62	Yashika Bhattad	2	2	2	1.5	2	9			4	4	26	6	85.7 1	7.5	39.4 7	13	65.79	50

Total no of Students scored 50% and More in respective CO
% of students scored 50% and More in respective CO (count no of students who attempted question)

32 9 35
58.18 14.5 57.4

Total no of Students scored 40% and More marks in End Sem Exam (total students 60)
% of students scored 40% and More in ESE (count no of students who appeared for exam)

52
86.7

(0.25 X Internal + 0.75 X External)

11.63.+69.3 2. 2.9+69.32 11.47+69.32
80.95 72.2 80.8
3 2 3

Levels 3 -- >75%
Levels 2 -- 60% to 74%
Levels 1 -- < 60%