

SWARRNIM STARTUP & INNOVATION UNIVERSITY
SWARRNIM SCHOOL OF COMPUTING & IT
CO-PO METHODOLOGY

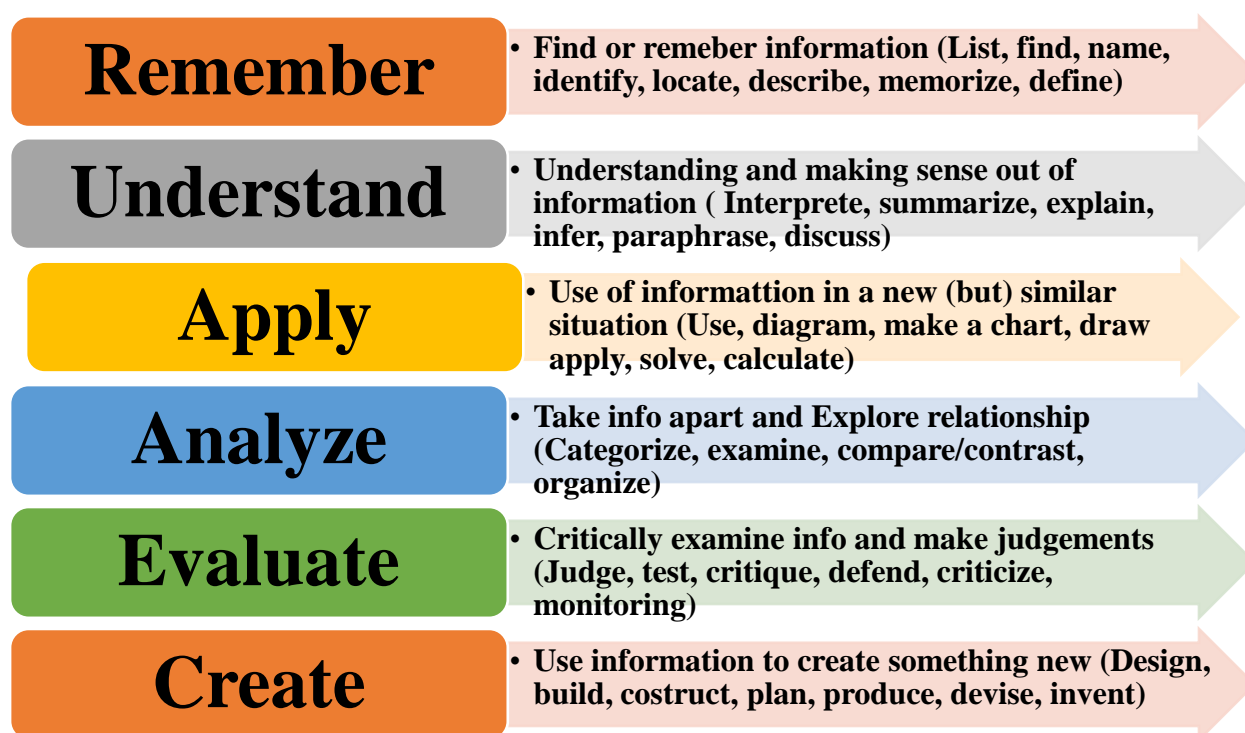
3. Course Outcomes (COs) and Program Outcomes (POs)

3.1. Establish the correlation between the courses and the Program Outcomes & Program

3.1.1 Course Outcomes (COs) (05)

Course outcomes (COs) are the statements indicating what a student can do after the successful completion of a course. Every Course leads to some Course Outcomes. The CO statements are defined by considering the course content covered in each module of a course. For every course there may be 3 to 6 COs. The keywords used to define COs are based on Bloom's Taxonomy. The Course Outcomes are defined in accordance with the University curriculum.

Bloom's Taxonomy:



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CO-PO matrices Methodology

- There are certain characteristics the students ought to have in order to make their impact on development of the industry, academics and society. The characteristics are framed into Program Outcomes. The syllabi are designed so that the required characteristics can be cultivated.
- Looking at the course contents and the extent it helps to attain respective POs, i.e. PO1, PO2, PO3, etc., the courses are mapped substantially -3, moderately -2, slightly – 1.
- The faculty members sharing the courses, map the Course Outcomes with POs keeping in mind the overall perspective and relevance of the course. After deliberation in the department level committee meeting and institute level faculty meeting, the CO-PO Matrix is prepared.
- The correlation between COs and POs are established through the process given below:
 - Step 1:** COs defined by the faculty or given by council are mapped with the Programme outcomes.
 - Step 2:** For each course, the average value of POs is obtained.
 - Step 3:** Step 2 is carried out for all the courses in the program.



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Course co-ordinator: Prepare proper CO's and finalize CO-PO mapping

Criteria 3 Academic Committee: Set CO attainment target level

Criteria 3 Institute Academic Committee: Consolidated CO attainment of respective year

Criteria 3 Institute Academic Committee: Consolidated PO attainment through direct assessment and indirect assesment

Criteria 3 Institute Academic Committee: Drawn conclusion/ observation and suggested for any action to be taken for fullflmlent of CO and PO attainment

Figure 1: Process involved in CO-PO mapping and attainment

- Target level set for CO attainment from results

TARGET SET	PERCENTAGE
Level 1	≤ 55
Level 2	>55 to $64<$
Level 3	>65

Course-PO matrix of courses for all years of study (4 years)

The mapping of all the courses with PO's is summarized and presented in table 3.1.

Note: Correlation levels 1, 2 or 3, as defined below:

1: Slight (Low)

2: Moderate (Medium)

3: Substantial (High)

‘-’ Indicates there is no correlation,



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CO-PO METHODOLOGY

Table: 3.2 Correlation of CO with POs (All courses)

3.1.3 CORRELATION OF COS WITH POS (ALL COURSES)											
SWARNIM SCHOOL OF COMPUTING AND IT											
PROGRAM NAME:- BCA											
YEAR: - 1ST - 3RD YEAR											
CO PO MATRIX ALL COURSES											
SUBJECT CODE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	OVERALL PO AVG
13030101	2.60	2.00	2.20	-		1.80			1.80	2.20	2.10
13030102	2.60	2.60	2.20			1.80			2.60	2.00	2.30
13030103	2.80	2.20	1.80	2.00		2.00			2.00	2.20	2.14
13030104	2.40	2.40	2.20						2.00	2.00	2.20
13030105		1.20	2.00	2.80	3.00	2.00				2.20	2.20
12300009					2.40	2.40	2.80			2.20	2.45
13030201	2.80	2.80	2.60							2.20	2.60
13030202	2.60	2.80	2.80			1.80			1.40	2.20	2.27
13030203	3.00	2.20	2.00			2.00			2.00	2.20	2.23
13030204	3.00	2.00	1.50			1.75			2.00	1.75	2.00
13030205	3.00	2.60	2.20			1.80			1.80	2.00	2.23
12300010					2.00	2.00	3.00			2.25	2.31
13030301	3.00	2.71	2.43			1.86			1.86	2.14	2.33
13030302	2.71	2.29	2.14			1.86			2.14	2.29	2.24
13030303	3.00	2.00	2.33			2.11			2.00	1.89	2.22
13030304	3.00	2.75	2.88			2.00			2.00	2.25	2.48
13030305	2.57	2.57	2.29			2.14			2.29	2.00	2.31
12300011	2.80	2.60	2.80		1.60				2.40	2.00	2.37
13030401	3.00	2.75	2.38						1.75	1.75	2.33
13030402	2.86	2.57	2.43			2.00			2.14	1.71	2.29
13030403	2.75	2.63	2.63			2.57			1.88	2.00	2.41
13030404	3.00	2.43	1.86			1.86			2.00	1.71	2.14
13030405	2.56	2.44	2.33			1.67		1.89		2.44	2.22
12300012					2.00	2.00	3.00			2.25	2.31
13030501	2.38	2.38	2.50			2.25			2.00	1.88	2.23
13030502	2.63	2.25	2.13			1.88			1.63	2.25	2.13
13030503	2.38	2.50	2.25			2.00			2.00	2.38	2.11
13030504	2.38	2.00	2.38			1.88			1.75	2.25	2.25
12300013					2.25	2.13	2.75			2.25	2.35
AVERAGE	2.74	2.39	2.29	2.40	2.21	1.98	2.89	1.89	1.97	2.10	2.27



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3.2. Attainment of Course Outcomes (40)

3.2.1 Describe the assessment components and processes used to gather the data upon which the evaluation of Course Outcome is based (10)

The various assessment components and processes used to gather the data for the evaluation of Course Outcome are described as follows. The maximum marks and the weightage of each assessment component in the final grade are also summarized in the Table

Below table shows the list of assessment processes:

Table 3.3 (A) : List of assessment processes

Academic year	Semesters	Particulars	Marks
2022-2023	Odd semester	Mid Sem Exam	20
		Assignment/Quiz/ Presentation/Case Study	25
		Class Attendance and Participation	05
		University Exam	50
	Even Semester	Mid Sem Exam	20
		Assignment/Quiz/ Presentation/Case Study	25
		Class Attendance and Participation	05
		University Exam	50



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Table 3.3 (B): Assessment components and processes used for the evaluation of Course Outcome

Assessment components	Marks	Weightage	Quality/Relevance of assessment process
Internal assessment (IA)	50	50%	<ul style="list-style-type: none"> ✓ For odd sem of 2022-2024, one mid-sem exam and Three Assignments ✓ For even sem of 2022-2024, one mid-sem exam and Three Assignments to every semester to assess the ability of students to understand/apply/analyze/evaluate the various aspects of the respective course for theory component. ✓ Final Internal Assessment marks are awarded as per University guidelines. This is in accordance with the weightage given in University curriculum. ✓ These exams will prepare the students for the University examination.
University assessment (End semester Examination)	50	50%	<ul style="list-style-type: none"> ✓ End semester examination is intended for making a comprehensive assessment of the ability of students to understand /apply/analyze/evaluate the various aspects of the respective course based on the entire syllabus. ✓ The University exam with a much wider scope and covering complete syllabus. University examinations are more focused on attainment of course outcomes as well as Programme outcomes. The university theory and practical exams are conducted for total of 50 marks.



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Criteria for Pass: New syllabus implemented from 2022-2024 by the university theory and practical for a subject are combined. Candidates who have secured a minimum of 40% marks in each course (subject) shall be declared to have passed in that subject/s and exempted from appearing in that subject/s at subsequent examination and for considering the candidate to pass in the semester and forwarded to next semester require 50% overall and less than equal to 3 backlogs for cumulative previous semester not including current semester result.

3.2.2 Record the attainment of Course Outcomes of all courses with respect to set attainment levels

Following Procedure is followed for the assessment of attainment of COs through Internal Assessment marks and end semester marks:

Setting of attainment levels:

Step 1: Course Outcome attainment levels: The CO attainment levels are set for each course in the final examination as target. Accordingly the target levels for CO attainment are set.

Step 2: Criteria for setting and improvement of the target levels: For every course the target level for an assessment year is set on the basis of the target achieved in the previous year. For any course, achieving the maximum attainment level of 3 during the assessment year, the attainment level for the subsequent year shall be redefined by increasing the target marks. Table presents the target levels for CO attainment.

Step 3: Weightage and CO attainment achieved: As per the University curriculum, the total marks for the theory courses is 100, of which 50 marks (50%) for University examination and 50 marks (50%) for internal assessment.

Accordingly the weightage adopted for the program are:

- 50% weightage for University examination and
- 50% weightage for internal assessment.



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SWARRNIM SCHOOL OF COMPUTING & IT
CO-PO METHODOLOGY

Table 3.4: Target Marks and levels (Batch 2022-2024)

3.2.1 TARGET MARKS AND LEVEL FOR ACADEMIC YEAR 2022-2023											
SWARRNIM SCHOOL OF COMPUTING AND IT											
PROGRAM NAME:- BCA											
YEAR: - 1ST - 3RD YEAR											
TARGET MARKS AND LEVEL FOR ACADEMIC YEAR 2022-2023											
BCA											
TARGET LEVEL	PERCENTAGE										
1.0	<=55										
2.0	>55 to 64<										
3.0	>65										
BCA											
Course Name	Course Code	Semester	Percentage			Level			30% Internal	70% Internal	Target
			INT	CEC	EXT	INT	CEC	EXT			
INTRODUCTION TO COMPUTER AND EMERGING TECHNOLOGIES	13030101	I	55	55	55	1	1	1	0.30	0.70	1
LOGIC DEVELOPMENT AND PROGRAMMING - I	13030102	I	55	55	55	1	1	1	0.30	0.70	1
INTERNET WEB DESIGNING - I	13030103	I	55	55	55	1	1	1	0.30	0.70	1
DESCRET MATHAMATICS	13030104	I	55	55	55	1	1	1	0.30	0.70	1
COMMUNICATION SKILLS	13030105	I	55	55	55	1	1	1	0.30	0.70	1
ORIENTATION PROGRAM IN START-UP AND ENTREPRENEURSHIP	12300009	I	55	55	55	1	1	1	0.30	0.70	1
Statistical Methods and Operation Research	13030201	II	55	55	55	1	1	1	0.30	0.70	1
Logic Development and Programming	13030202	II	55	55	55	1	1	1	0.30	0.70	1
Database Management System	13030203	II	55	55	55	1	1	1	0.30	0.70	1
Internet Web Designing	13030204	II	55	55	55	1	1	1	0.30	0.70	1



Vikas C. Sharma

SWARNIM STARTUP & INNOVATION UNIVERSITY
SWARNIM SCHOOL OF COMPUTING & IT
CO-PO METHODOLOGY

Digital Electronics	13030205	II	55	55	55	1	1	1	0.30	0.70	1
ORIENTATION PROGRAM IN START-UP AND ENTREPRENEURSHIP	12300010	II	55	55	55	1	1	1	0.30	0.70	1
Data and File Structure	13030301	III	55	55	55	1	1	1	0.30	0.70	1
Relational Database Management System	13030302	III	55	55	55	1	1	1	0.30	0.70	1
Operating System	13030303	III	55	55	55	1	1	1	0.30	0.70	1
Object Oriented Programming-I	13030304	III	55	55	55	1	1	1	0.30	0.70	1
Software Engineering	13030305	III	55	55	55	1	1	1	0.30	0.70	1
Intellectual Property Rights	12300011	III	55	55	55	1	1	1	0.30	0.70	1
Object Oriented Programming - II	13030401	IV	55	55	55	1	1	1	0.30	0.70	1
Open Source Technology	13030402	IV	55	55	55	1	1	1	0.30	0.70	1
Object Oriented Web Technology	13030403	IV	55	55	55	1	1	1	0.30	0.70	1
Data Communication and Network	13030404	IV	55	55	55	1	1	1	0.30	0.70	1
Data Center Management	13030405	IV	55	55	55	1	1	1	0.30	0.70	1
Intermediate Program In Entrepreneurship	12300012	IV	55	55	55	1	1	1	0.30	0.70	1
Object Oriented Programming-III	13030501	V	55	55	55	1	1	1	0.30	0.70	1
Object Oriented Design and Analyses	13030502	V	55	55	55	1	1	1	0.30	0.70	1
Software Development Project-I	13030503	V	55	55	55	1	1	1	0.30	0.70	1
Android Programming	13030504	V	55	55	55	1	1	1	0.30	0.70	1
Advanced Program in Entrepreneurship	12300013	V	55	55	55	1	1	1	0.30	0.70	1
Cyber Security	13030601	VI	55	55	55	1	1	1	0.30	0.70	1
Cloud Computing	13030602	VI	55	55	55	1	1	1	0.30	0.70	1
Software Development Project - II	13030603	VI	55	55	55	1	1	1	0.30	0.70	1
Data Warehousing and Data Mining	13030605	VI	55	55	55	1	1	1	0.30	0.70	1
Start-Up Project	12300014	VI	55	55	55	1	1	1	0.30	0.70	1



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SWARRNIM SCHOOL OF COMPUTING & IT
CO-PO METHODOLOGY

Attainment of Cos:

The attainment of COs is taken as the average of attainment of all the CO's for the course and expressed as CO-IA (50% weightage of CO attainment through IA tests). However, the institution is not accessible to the distribution of marks to corresponding COs from University results, with that as constraint CO-FE (CO attainment through semester examination) is computed as 50% of final examination. Together is expressed as the attainment of CO for the particular course. Table 26 (A), (B) and (C) furnishes the same.

Target Set:	Percentage
Level 1	≤ 55
Level 2	$> 55 - 64$
Level 3	≥ 65

The course level attainment for the academic year 2022-2023 is presented in TABLE 3.4 Course Outcomes Attainment level and Course Attainment level for all the courses is compiled.



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CO-PO METHODOLOGY

Table 3.5: Course Outcome Attainment for 2022-2023 (Batch 2022-24)

3.2.2 COURSE OUTCOME ATTAINMENT FOR 2022-2023									
SWARNNIM SCHOOL OF COMPUTING AND IT									
PROGRAM NAME:- BCA									
YEAR: - 1ST - 3RD YEAR									
TARGET LEVEL					PERCENTAGE				
1.0					<=55				
2.0					>55 to 64<				
3.0					>65				
Course	Course Code	Exam	No. of Students appeared	No. of Students scoring more than 17/32 marks (in internal & external exam)	% students scoring defined marks	Attainment level	Weighted Score	Course Outcome attainment	
I SEMESTER OF ACADEMIC YEAR 2022-23									
INTRODUCTION TO COMPUTER AND EMERGING TECHNOLOGIES	13030101	INT	44	44	100	3	1.5	0.45	1.15
		CEC	44	44	100	3			
		EXT	43	20	46.51	1	1	0.7	
LOGIC DEVELOPMENT AND PROGRAMMING - I	13030102	INT	44	42	95.45	3	1.5	0.45	2.55
		CEC	44	44	100	3			
		EXT	43	35	81.4	3	3	2.1	
INTERNET WEB DESIGNING - I	13030103	INT	44	43	97.73	3	1.	0.4	2.55



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CO-PO METHODOLOGY

		CE C	44	44	100	3	5	5	
		EX T	43	36	83.72	3	3	2.1	
DESCRET MATHAMATICS	130301 04	INT	44	44	100	3	1. 5	0.4 5	
		CE C	44	43	97.73	3			1.15
		EX T	42	20	47.62	1	1	0.7	
COMMUNICATIO N SKILLS	130301 05	INT	44	44	100	3	3	0.9	
		EX T	42	34	80.95	3	3	2.1	3.3
ORIENTATION PROGRAM IN START-UP AND ENTREPRENEURS HIP	123000 09	INT	44	20	45.45	1	1	0.3	
		EX T	43	30	69.77	3	3	2.1	

II SEMESTER OF ACEDMIC YEAR 2022-23

Statistical Methods and Operation Research	130302 01	INT	45	45	100	3	1. 5	0.4 5	1.85
		CE C	45	45	100	3			
		EX T	43	25	58.14	2	2	1.4	
Logic Development and Programming	130302 02	INT	45	45	100	3	1. 5	0.4 5	2.55
		CE C	45	45	100	3			
		EX T	43	31	72.09	3	3	2.1	
Database Management System	130302 03	INT	45	45	100	3	1. 5	0.4 5	2.55
		CE C	45	45	100	3			
		EX T	44	31	70.45	3	3	2.1	
Internet Web Designing	130302 04	INT	45	45	100	3	1.	0.4	2.55



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SWARNIM SCHOOL OF COMPUTING & IT
CO-PO METHODOLOGY

		CE C	45	45	100	3	5	5	
		EX T	44	32	72.73	3	3	2.1	
Digital Electronics	130302 05	INT	45	45	100	3	1.5	0.45	2.55
		CE C	45	45	100	3			
		EX T	44	29	65.91	3	3	2.1	
ORIENTATION PROGRAM IN START-UP AND ENTREPRENEURS HIP	123000 10				100		3	0.9	3
		INT	45	45	3				
		EX T	42	32	76.19	3	3	2.1	
III SEMESTER OF ACEDEMIC YEAR 2023-24									
Data and File Structure	130303 01	INT	44	44	100	3	1.5	0.45	2.55
		CE C	44	44	100	3			
		EX T	44	31	70.45	3	3	2.1	
Relational Database Management System	130303 02	INT	44	44	100	3	1.5	0.45	2.55
		CE C	44	41	93.18	3			
		EX T	44	41	93.18	3	3	2.1	
Operating System	130303 03	INT	44	44	100	3	1.5	0.45	2.55
		CE C	44	39	88.64	3			
		EX T	44	41	93.18	3	3	2.1	
Object Oriented Programming-I	130303 04	INT	44	44	100	3	1.5	0.45	2.55
		CE C	44	34	77.27	3			
		EX T	44	31	70.45	3	3	2.1	



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SWARNIM SCHOOL OF COMPUTING & IT
CO-PO METHODOLOGY

Software Engineering	13030305	INT	44	44	100	3	1.5	0.45	2.55
		CEC	44	39	88.64	3			
		EXT	44	40	90.91	3	3	2.1	
Intellectual Property Rights	12300012	INT	44	37	84.09	3	3	0.9	3
		EXT	44	33	75	3	3	2.1	
IV SEMESTER OF ACEDEMIC YEAR 2023-24									
Object Oriented Programming - II	13030401	INT	45	42	93.33	3	1.5	0.45	2.55
		CEC	45	30	66.67	3			
		EXT	45	36	80	3	3	2.1	
Open Source Technology	13030402	INT	45	23	51.11	1	0.5	0.15	2.25
		CEC	45	32	71.11	3			
		EXT	45	35	77.78	3	3	2.1	
Object Oriented Web Technology	13030403	INT	45	36	80	3	1.5	0.45	2.55
		CEC	45	43	95.56	3			
		EXT	45	43	95.56	3	3	2.1	
Data Communication and Network	13030404	INT	45	36	80	3	1.5	0.45	2.55
		CEC	45	43	95.56	3			
		EXT	45	43	95.56	3	3	2.1	
Data Center Management	13030405	INT	45	41	91.11	3	1.5	0.45	2.55
		CEC	45	42	93.33	3			
		EXT	45	43	95.56	3	3	2.1	



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SWARNIM STARTUP & INNOVATION UNIVERSITY
SWARNIM SCHOOL OF COMPUTING & IT
CO-PO METHODOLOGY

Intermediate Program In Entrepreneurship	12300012	INT	45	24	53.33	1	1	0.3	1
		EX T	43	14	32.56	1	1	0.7	
V SEMESTER OF ACEDMIC YEAR 2024-25									
Object Oriented Programming-III	13030501	INT	45	37	82.22	3	1.5	0.45	2.55
		CE C	45	36	80	3			
		EX T	45	34	75.56	3	3	2.1	
Object Oriented Design and Analyses	13030502	INT	45	33	73.33	3	1.5	0.45	2.55
		CE C	45	41	91.11	3			
		EX T	45	45	100	3	3	2.1	
Software Development Project-I	13030503	INT - CE C	45	45	100	3	3	0.9	3
		EX T-CE C	45	45	100	3	3	2.1	
Android Programming	13030504	INT	45	32	71.11	3	1.5	0.45	2.55
		CE C	45	42	93.33	3			
		EX T	45	45	100	3	3	2.1	
Advanced Program in Entrepreneurship	12300013	INT	45	32	71.11	3	3	0.9	3
		EX T	45	45	100	3	3	2.1	
VI SEMESTER OF ACEDMIC YEAR 2024-25									
Cyber Security	13030601	INT	44	44	100	3	1.5	0.45	2.55
		CE C	44	44	100	3			



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SWARRNIM SCHOOL OF COMPUTING & IT
CO-PO METHODOLOGY

		EX T	44	44	100	3	3	2.1	
Cloud Computing	130306 02	INT	44	44	100	3	1.5	0.45	2.55
		CE C	44	44	100	3			
		EX T	44	44	100	3	3	2.1	
Software Development Project - II	130306 03	INT - CE C	44	44	100	3	3	0.9	3
		EX T- CE C	44	44	100	3	3	2.1	
Data Warehousing and Data Mining	130306 05	INT	44	44	100	3	1.5	0.45	2.55
		CE C	44	44	100	3			
		EX T	44	44	100	3	3	2.1	
Start-Up Project	123000 14	INT - CE C	44	44	100	3	3	0.9	3
		EX T- CE C	44	44	100	3	3	2.1	

From the above table it can be seen that in academic year 2022-2023 CO attainment achieved for all the Course of all the semesters.



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CO-PO METHODOLOGY

3.3. Attainment of Program Outcomes (40)

3.3.1. Describe assessment tools and processes used for assessing the attainment of each PO (10)

The tools, process and frequency of assessment adopted for evaluating the attainment of the POs are detailed in Table 3.7.

Table 3.7: Scheme for Internal assessment and End semester examination as well as the feedback analysis.

Assessment Method	Assessment tool	Aim	Assessment Frequency	Percentage Contribution			
Direct	Internal assessment	Assessing the understanding of the fundamental concepts and expression of the practical skills and knowledge gained	Once in a semester	50%	80%	100%	
	University examination		Once in a semester	50%			
Indirect	Exit survey	To assess the contribution of the Program in the overall development of the Post Graduation	Once in a year after Post Graduation	20%			
	Employer survey	To get the feedback from employers for the programme and overall performance of the students in the industrial working environment	Once in a year after placement/ after Post graduation				
	Alumni survey	To assess the effectiveness of program for the career development and placement of the Post graduates	Once in a year from alumni				



Vikas C. Sharma

SWARRNIM STARTUP & INNOVATION UNIVERSITY
SWARRNIM SCHOOL OF COMPUTING & IT
CO-PO METHODOLOGY

Following Procedure is followed to assess the attainment of POs.

- For every course the target level for an assessment year is set on the basis of the target achieved in the previous year.
- For any course, achieving the maximum attainment level of 3 during the assessment year, the attainment level for the subsequent year shall be redefined by increasing the target marks.

3.3.2 Provide results of evaluation of each PO

Table 3.8 show the target levels for POs through courses for the academic year 2022-2023

Table 3.9 show the indirect attainment levels for POs through courses for the academic year 2022-2023

Table 3.10 show the attainment levels for POs through courses for the academic year 2022-2023,



(Vikas C. Sharma)

SWARNIM STARTUP & INNOVATION UNIVERSITY
SWARNIM SCHOOL OF COMPUTING & IT
CO-PO METHODOLOGY

Tables 3.8: Target Levels for PO's for 2022-2023

3.3.1 TARGET LEVEL FOR POS THROUGH COURSES										
SWARNIM SCHOOL OF COMPUTING AND IT										
PROGRAM NAME:- BCA										
YEAR: - 1ST - 3RD YEAR										
FINAL DIRECT ATTAINMENT LEVELS FOR PO'S (ALL COURSES)										
SUBJECT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
13030101	0.87	0.67	0.73	0.00	0.00	0.60	0.00	0.00	0.60	0.73
13030102	0.87	0.87	0.73	0.00	0.00	0.60	0.00	0.00	0.87	0.67
13030103	0.93	0.73	0.60	0.67	0.00	0.67	0.00	0.00	0.67	0.73
13030104	0.80	0.80	0.73	0.00	0.00	0.00	0.00	0.00	0.67	0.67
13030105	0.00	0.40	0.67	0.93	1.00	0.67	0.00	0.00	0.00	0.73
12300009	0.00	0.00	0.00	0.00	0.80	0.80	0.93	0.00	0.00	0.73
13030201	0.93	0.93	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.73
13030202	0.87	0.93	0.93	0.00	0.00	0.60	0.00	0.00	0.47	0.73
13030203	1.00	0.73	0.67	0.00	0.00	0.67	0.00	0.00	0.67	0.73
13030204	1.00	0.67	0.50	0.00	0.00	0.58	0.00	0.00	0.67	0.58
13030205	1.00	0.87	0.73	0.00	0.00	0.60	0.00	0.00	0.60	0.67
12300010	0.00	0.00	0.00	0.00	0.67	0.67	1.00	0.00	0.00	0.75
13030301	1.00	0.90	0.81	0.00	0.00	0.62	0.00	0.00	0.62	0.71
13030302	0.90	0.76	0.71	0.00	0.00	0.62	0.00	0.00	0.71	0.76
13030303	1.00	0.67	0.78	0.00	0.00	0.70	0.00	0.00	0.67	0.63
13030304	1.00	0.92	0.96	0.00	0.00	0.67	0.00	0.00	0.67	0.75
13030305	0.86	0.86	0.76	0.00	0.00	0.71	0.00	0.00	0.76	0.67
12300011	0.93	0.87	0.93	0.00	0.53	0.00	0.00	0.00	0.80	0.67
13030401	1.00	0.92	0.79	0.00	0.00	0.00	0.00	0.00	0.58	0.58
13030402	0.95	0.86	0.81	0.00	0.00	0.67	0.00	0.00	0.71	0.57
13030403	0.92	0.88	0.88	0.00	0.00	0.86	0.00	0.00	0.63	0.67
13030404	1.00	0.81	0.62	0.00	0.00	0.62	0.00	0.00	0.67	0.57
13030405	0.85	0.81	0.78	0.00	0.00	0.56	0.00	0.63	0.00	0.81
12300012	0.00	0.00	0.00	0.00	0.67	0.67	1.00	0.00	0.00	0.75
13030501	0.79	0.79	0.83	0.00	0.00	0.75	0.00	0.00	0.67	0.63



Vikas C. Sharma

SWARRNIM STARTUP & INNOVATION UNIVERSITY
SWARRNIM SCHOOL OF COMPUTING & IT
CO-PO METHODOLOGY

13030502	0.88	0.75	0.71	0.00	0.00	0.63	0.00	0.00	0.54	0.75
13030503	0.79	0.83	0.75	0.00	0.00	0.67	0.00	0.00	0.67	0.79
13030504	0.79	0.67	0.79	0.00	0.00	0.63	0.00	0.00	0.58	0.75
12300013	0.00	0.00	0.00	0.00	0.75	0.71	0.92	0.00	0.00	0.75
SUM OF PO	21.94	19.89	19.09	1.60	4.42	16.52	3.85	0.63	14.48	20.28
COUNT OF PO	24	25	25	2	6	25	4	1	22	29
DIRECT TARGET (AVG)	0.91	0.80	0.76	0.80	0.74	0.66	0.96	0.63	0.66	0.70

Tables 3.9: Indirect Attainment level of PO's 2022-2023

Indirect Attainment Report										
Academic year 2022-2023										
Name of Survey	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
Alumni Survey	2.62	2.62	2.59	2.83	2.86	2.76	2.86	2.79	2.97	2.83
Student exit survey	2.67	2.59	2.78	2.81	2.74	3.00	2.96	3.00	3.00	2.89
Employer survey	2.63	2.63	2.42	2.95	3.00	2.89	2.63	3.00	3.00	2.95
Total	7.92	7.84	7.79	8.59	8.60	8.65	8.46	8.79	8.97	8.66
Average	2.64	2.61	2.60	2.86	2.87	2.88	2.82	2.93	2.99	2.89
20% of indirect assessment	0.53	0.52	0.52	0.57	0.57	0.58	0.56	0.59	0.60	0.58



(Vikas C. Sharma)

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SWARNIM SCHOOL OF COMPUTING & IT
CO-PO METHODOLOGY

Tables 3.10: Attainment level of PO's 2022-2024 (Direct and Indirect)

3.3.1 TARGET LEVEL FOR POS THROUGH COURSES										
SWARNIM SCHOOL OF COMPUTING AND IT										
PROGRAM NAME:- BCA										
YEAR: - 1ST - 3RD YEAR										
FINAL DIRECT ATTAINMENT LEVELS FOR PO'S (ALL COURSES)										
SUBJECT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
13030101	0.87	0.67	0.73	0.00	0.00	0.60	0.00	0.00	0.60	0.73
13030102	0.87	0.87	0.73	0.00	0.00	0.60	0.00	0.00	0.87	0.67
13030103	0.93	0.73	0.60	0.67	0.00	0.67	0.00	0.00	0.67	0.73
13030104	0.80	0.80	0.73	0.00	0.00	0.00	0.00	0.00	0.67	0.67
13030105	0.00	0.40	0.67	0.93	1.00	0.67	0.00	0.00	0.00	0.73
12300009	0.00	0.00	0.00	0.00	0.80	0.80	0.93	0.00	0.00	0.73
13030201	0.93	0.93	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.73
13030202	0.87	0.93	0.93	0.00	0.00	0.60	0.00	0.00	0.47	0.73
13030203	1.00	0.73	0.67	0.00	0.00	0.67	0.00	0.00	0.67	0.73
13030204	1.00	0.67	0.50	0.00	0.00	0.58	0.00	0.00	0.67	0.58
13030205	1.00	0.87	0.73	0.00	0.00	0.60	0.00	0.00	0.60	0.67
12300010	0.00	0.00	0.00	0.00	0.67	0.67	1.00	0.00	0.00	0.75
13030301	1.00	0.90	0.81	0.00	0.00	0.62	0.00	0.00	0.62	0.71
13030302	0.90	0.76	0.71	0.00	0.00	0.62	0.00	0.00	0.71	0.76
13030303	1.00	0.67	0.78	0.00	0.00	0.70	0.00	0.00	0.67	0.63
13030304	1.00	0.92	0.96	0.00	0.00	0.67	0.00	0.00	0.67	0.75
13030305	0.86	0.86	0.76	0.00	0.00	0.71	0.00	0.00	0.76	0.67
12300011	0.93	0.87	0.93	0.00	0.53	0.00	0.00	0.00	0.80	0.67
13030401	1.00	0.92	0.79	0.00	0.00	0.00	0.00	0.00	0.58	0.58
13030402	0.95	0.86	0.81	0.00	0.00	0.67	0.00	0.00	0.71	0.57
13030403	0.92	0.88	0.88	0.00	0.00	0.86	0.00	0.00	0.63	0.67
13030404	1.00	0.81	0.62	0.00	0.00	0.62	0.00	0.00	0.67	0.57
13030405	0.85	0.81	0.78	0.00	0.00	0.56	0.00	0.63	0.00	0.81
12300012	0.00	0.00	0.00	0.00	0.67	0.67	1.00	0.00	0.00	0.75
13030501	0.79	0.79	0.83	0.00	0.00	0.75	0.00	0.00	0.67	0.63
13030502	0.88	0.75	0.71	0.00	0.00	0.63	0.00	0.00	0.54	0.75
13030503	0.79	0.83	0.75	0.00	0.00	0.67	0.00	0.00	0.67	0.79
13030504	0.79	0.67	0.79	0.00	0.00	0.63	0.00	0.00	0.58	0.75
12300013	0.00	0.00	0.00	0.00	0.75	0.71	0.92	0.00	0.00	0.75
SUM OF PO	21.94	19.89	19.09	1.60	4.42	16.52	3.85	0.63	14.48	20.28
COUNT OF PO	24	25	25	2	6	25	4	1	22	29
DIRECT TARGET (AVG)	0.91	0.80	0.76	0.80	0.74	0.66	0.96	0.63	0.66	0.70
ATTAINMENT OF PO DIRECT (Average value found)	0.74	0.65	0.63	0.80	0.64	0.55	0.73	0.54	0.54	0.57
80% OF DIRECT ATT	0.59	0.52	0.50	0.64	0.51	0.44	0.58	0.43	0.43	0.45
20% OF INDIRECT ATTAINMENT	0.53	0.52	0.52	0.57	0.57	0.58	0.56	0.59	0.60	0.58
TOTAL	1.12	1.04	1.02	1.21	1.08	1.02	1.14	1.02	1.03	1.03



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