Quality Manual
Outcome Based Education

with effect from 2017-18

PREFACE

Outcome-based Education is a student-centric instruction model that measures student performance through outcomes. Outcomes include knowledge, skills, and attitudes. Its focus remains on the evaluation of outcomes of the program by stating the knowledge, skill, and behavior a graduate is expected to attain upon completion of a program. OBE is a performance-based approach that offers a powerful and appealing way of reforming and managing Education. The emphasis is on the product, what sort of graduates would be produced, rather than the educational process. In OBE, the educational outcomes are clear and specified. It determines the curriculum content and its organization, courses offered, teaching methods and strategies, and the assessment processes.

Outcome-based Education should have a broader perspective of grooming students as good citizens and strengthening democracy. And this would come only with the cooperation of all teachers when they played an active role. OBE is moving from teacher-centric learning to learner-centric learning. The teacher and learner both need to be engaged. The teacher has to be an active agent of teaching, which has to deeply engage the learner by allowing space for questions and arguments and making the teaching-learning process lively. Our college graduates should have a combination of knowledge, skills, and attitudes.

OBE Manual

1. COLLEGE VISION

We are developing ideas and leaders that transform the world—from the very centre of business.

2. COLLEGE MISSION

We are committed to educating and developing leaders and builders of enterprises who create value for their stakeholders and create and disseminate path-breaking knowledge, concepts, and tools that advance the understanding and practice of management.

3. OBE PROCESS AND FRAMEWORK

There are four levels of outcomes considered in OBE Processes Course Outcomes (CO), Program Outcomes (PO), Program Specific Outcomes (PSO), and Program Educational Objectives (PEO).

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO refers to specific goals consistent with the institution's mission and vision that are responsive to the expressed interest of program stakeholders, in particular, the requirements of professional bodies. PEOs describe the expected achievements of graduates in their career and professional life a few years after graduation.

PROGRAMME OUTCOMES (POs)

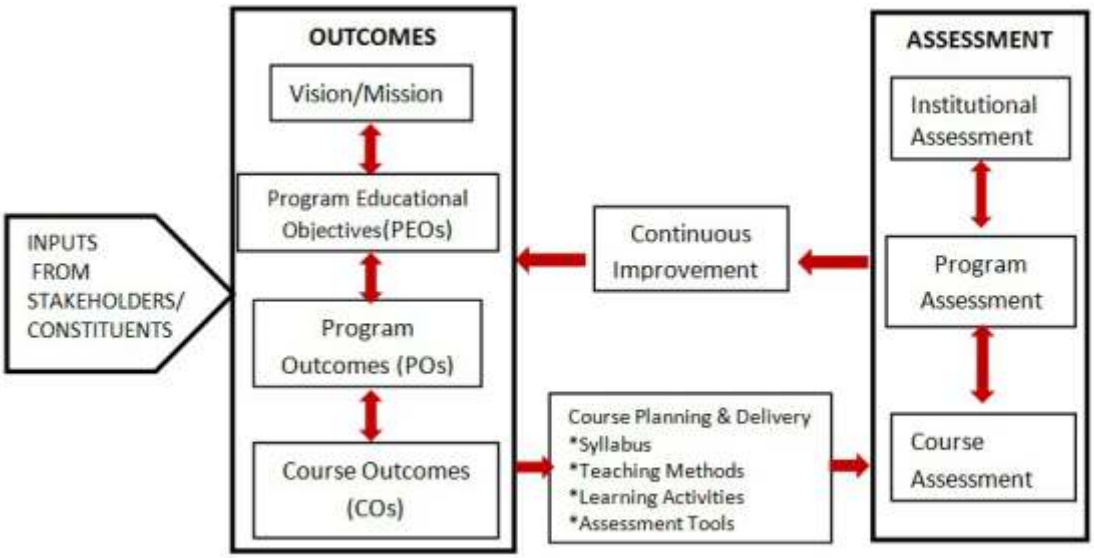
PO refers to the statements describing what students are expected to know and be able to perform or attain by graduation. These relate to the skills, knowledge, and behavior students acquire through the program. Lecturers and students need to visualize the relevance of POs in achieving the overarching PEOs of their program.

PROGRAM SPECIFIC OUTCOMES (PSOs)

Program Specific Outcomes are statements that assert what the grandaunts of a specific program should do as they can.

COURSE OUTCOMES (COs)

Course Outcome is a statement that describes what students are expected to know and be able to perform or attain upon completion of a course. Each CO contributes to the achievement of PO via curriculum design, course delivery, and assessment tasks that are most appropriate to attain that CO.



OBE ADDRESSES THE FOLLOWING

- ✓ What should the students be able to do? – OBE(Education)
- ✓ How to align outcomes with the syllabus? – OBC(Curriculum)
- ✓ How to make the students achieve the outcomes? – OBLT (Learning and Teaching)
- ✓ How to measure the student's success? – OBA(Assessment)

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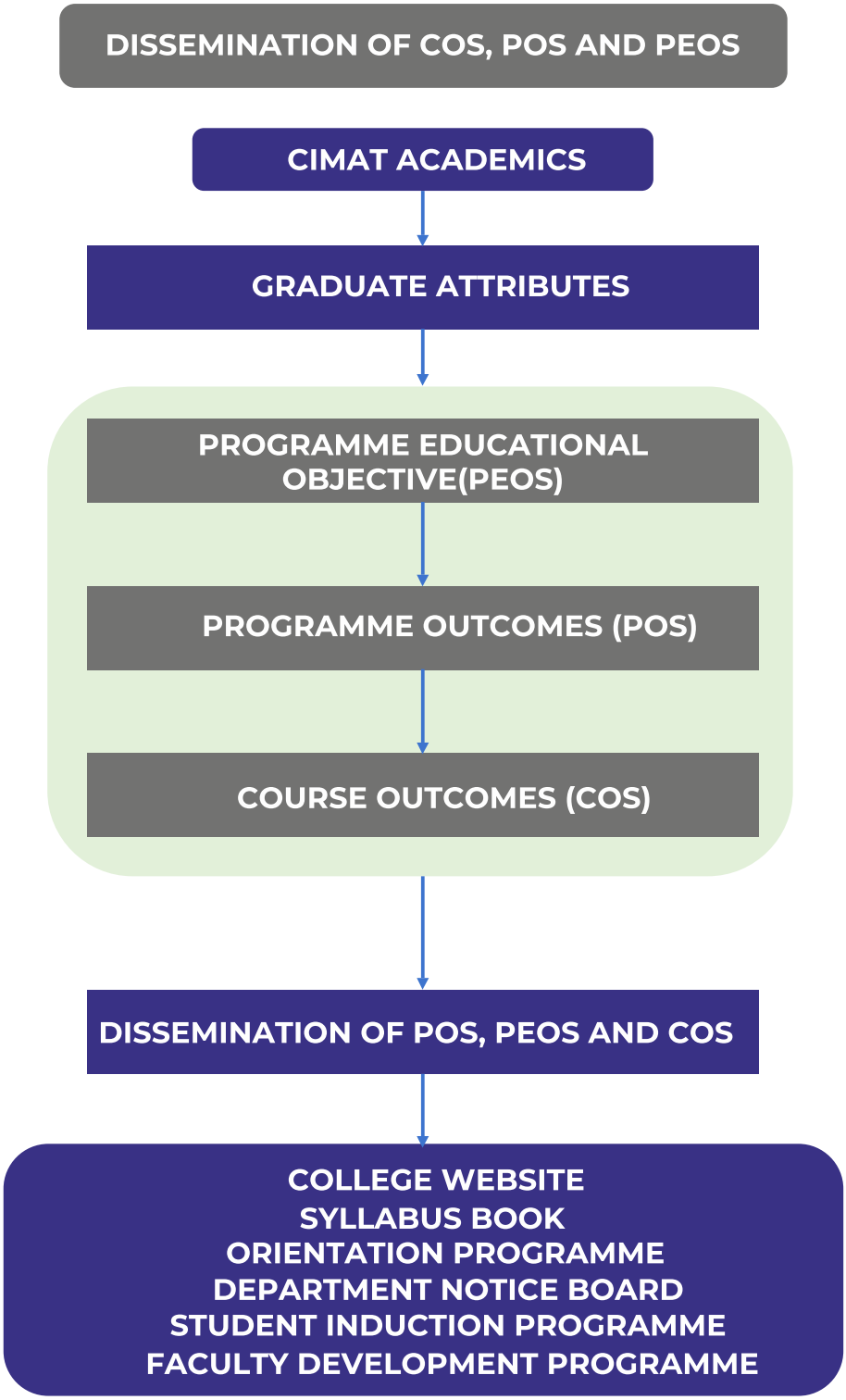
DISSEMINATION OF COS, POS AND PEOS
CIMAT ACADEMICS
GRADUATE ATTRIBUTES
PROGRAMME EDUCATIONAL OBJECTIVE(PEOS)
PROGRAMME OUTCOMES (POS)
COURSE OUTCOMES (COS)
DISSEMINATION OF POS, PEOS AND COS
COLLEGE WEBSITE
SYLLABUS BOOK
ORIENTATION PROGRAMME
DEPARTMENT NOTICE BOARD
STUDENT INDUCTION PROGRAMME
FACULTY DEVELOPMENT PROGRAMME

3.1. OUTCOME-BASED CURRICULUM

Outcome-based Education approaches the curriculum decision-making based on the competencies students should demonstrate at the end of their educational program. Thus the outcomes or competencies dictate the curriculum content and organization, the teaching methods and strategies, the course offered, the academic environment, and the assessment strategies. All curriculum and teaching decisions are based on how best to facilitate the desired outcome.

Steps for planning and implementing an outcome-based curriculum:

1. Deciding on the outcomes:

The educational outcomes are identified and unambiguously specified regarding the content, context, and competence.

2. Demonstrating outcomes:

The expected outcome should be defined by setting benchmarks for each program level. Each benchmark is a skill that the student must demonstrate. Benchmarks should tackle and explain the curriculum's goals and verify ways to assess whether students have reached these goals at that level of study.

3. Deciding on content and teaching strategies:

OBE can be implemented as a whole class model, which aims to bring all learners in a classroom up to high levels of learning before proceeding further, or by the Flexible models, which use flexible grouping, continuous progress, technological approaches, and instructional management.

4. Assessments in OBE:

OBE is driven by assessments that focus on well-defined learning outcomes and not other factors such as what is taught, the duration taken by the ten students to achieve the outcomes, or which path the students take to achieve their targets.

The outcome-based curriculum is based on the following levels,

1. Institution Level

Vision and Mission of the Institution and Department
Framework of Curriculum

2. Programme Level

PEOs, POs, PSOs

3. Course Level

Course Design (COs)
Content Delivery (Theory, Practical, Project, Assignment, Tutorial etc….)

3.2. OUTCOME-BASED LEARNING AND TEACHING

Outcome-based Teaching and Learning (OBTL) is a student-centered education approach in which the program's intended learning outcomes are explicitly defined for students to achieve. Teaching and learning activities are then carefully designed to facilitate students to achieve these outcomes. The success of OBTL is based on evidence from the assessment results and student learning experience. Periodic reviews of this evidence will lead to continuous improvement of program quality.

The Outcome-based Teaching and learning approach focuses on the following:

- ✓ The alignment of the desired graduate attributes, program-intended learning outcomes, and module-intended learning outcomes.
- ✓ The development of teaching and learning activities in enhancing student learning experiences.
- ✓ The design of assessment processes to monitor students' learning progress and the achievement of the desired outcomes and attributes.
- ✓ The collection of stakeholders' feedback for continuous improvement.

Delivery of an Outcome Based Curriculum to the students by providing the,

- ✓ Syllabus
- ✓ Course Plan
- ✓ Lecture Notes
- ✓ Learning Styles

3.3. OUTCOME-BASED ASSESSMENT

Assessment is one or more processes carried out by the institution that identify, collect and prepare data to evaluate the achievement of course outcomes and program outcomes.

Attainment is achieving an expected result toward the accomplishment of desired goals. Primarily attainment is the standard of academic attainment observed by test and examination results.

Two types of CO assessment methods are employed in Outcome Based Assessment,

1. Direct Assessment
2. Indirect Assessment

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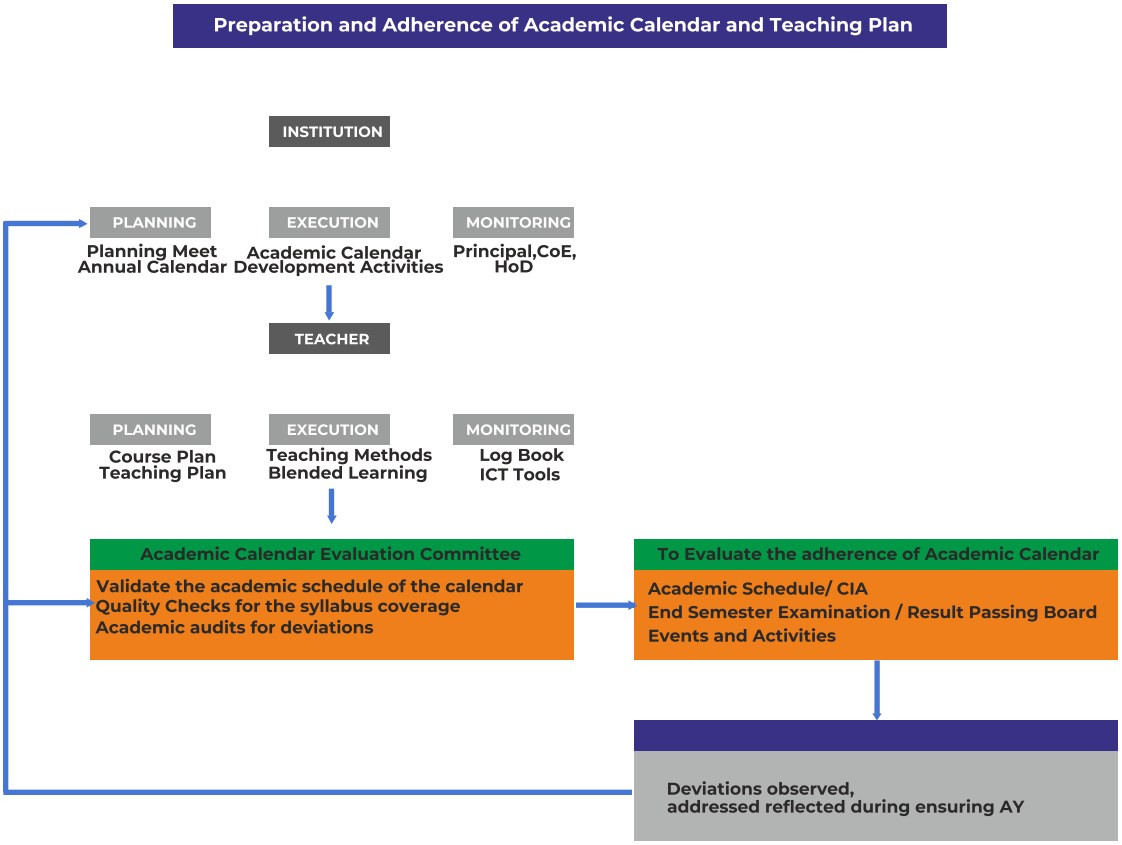

Preparation and Adherence of Academic Calendar and Teaching Plan
INSTITUTION
PLANNING
Planning Meet
Annual Calendar
EXECUTION
Academic Calendar
Development Activities
MONITORING
Principal,CoE,
HoD
TEACHER
PLANNING
Course Plan
Teaching Plan
EXECUTION
Teaching Methods
Blended Learning
MONITORING
Log Book
ICT Tools
Academic Calendar Evaluation Committee
Validate the academic schedule of the calendar
Quality Checks for the syllabus coverage
Academic audits for deviations
To Evaluate the adherence of Academic Calendar
Academic Schedule/ CIA
End Semester Examination / Result Passing Board
Events and Activities
Deviations observed,
addressed reflected during ensuring AY

The direct methods (Mark based Assessments) display the student's knowledge and skills from their performance in the continuous internal assessment tests, semester examinations, and supporting activities such as seminars, assignments, case studies, group discussion, online quizzes, mini projects, etc., These methods provide a sampling of what students know and can do and provide strong evidence of student learning.

The indirect method (Survey based Assessments) is done through surveys and interviews; it asks the stakeholders to reflect on their views on students' learning. The institute assesses opinions or thoughts about graduates' knowledge or skills by different stakeholders.

4. GRADUATE ATTRIBUTES (GAs)

On the successful completion of the program, the following are the Graduate Attributes.

At the end of the MBA programme, the learner shall exhibit:

GA1: Managerial competence

GA2: Proficiency in Communication, Collaboration, Teamwork and Leadership

GA3: Competence in Creativity & Innovation

GA4: Research Aptitude, Scholarship & Enquiry

GA5: Global Orientation

GA6: Proficiency in ICT & Digital Literacy

GA7: Entrepreneurship & Intrapreneurship Orientation

GA8: Cross-functional & Inter-disciplinary Orientation

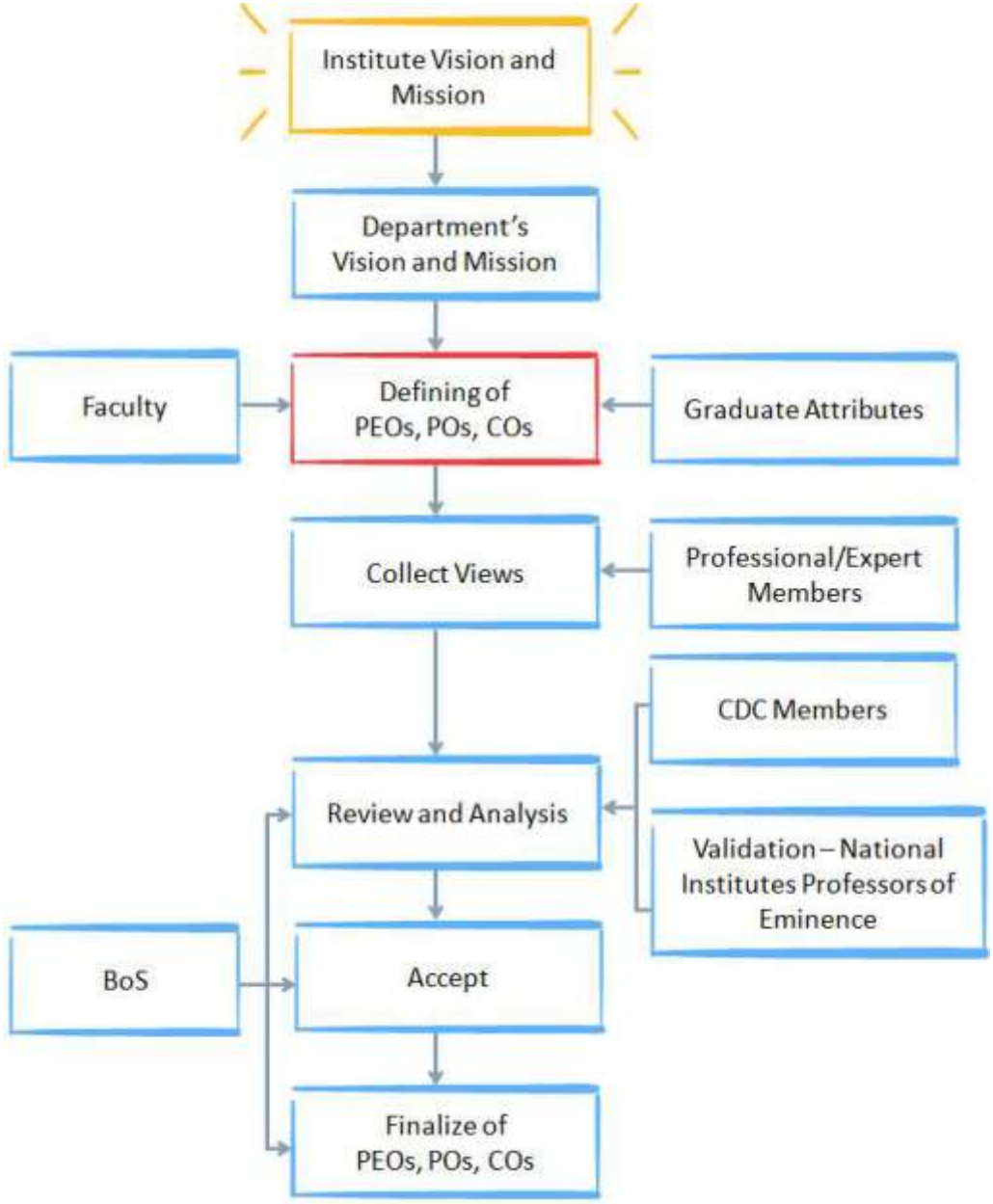
GA9: Results Orientation

GA10: Professionalism, Ethical, Values Oriented & Socially Responsible behaviour

GA11: Life-Long Learning Orientation

5. PROCESS TO DEPICT PEOs, POs, AND COs OF THE DEPARTMENT

The process steps followed for establishing the Vision, Mission, PEOs, POs, and Cos for programs are illustrated in the flow chart.



6. BLOOM'S KNOWLEDGE LEVELS& ACTION VERBS

Action Verbs to be used for different knowledge levels while framing the question paper

Level	Knowledge Area	Item
K1	Remembering	Choose / Define / Find / How / Label / List / Match / Name /Omit / Recall / Relate / Select/ Show / Tell / What / When / Where / Which / Who / Why
K2	Understanding	Classify / Compare / Contrast / Demonstrate / Explain / Extend / Illustrate / Infer / Interpret / Outline / Relate / Rephrase / Show / Summarize / Translate / Journalize
K3	Applying	Apply / Build / Choose / Construct / Develop / Experiment with / Identity / Make use of / Model / Organize / Plan / Select / Solve / Utilize /Prepare
K4	Analyzing	Analyze / Assume / Categorize / Classify / Compare / Conclusion / Contrast / Discover /Dissect / Distinguish / Divide / Examine / Function / Inference / Inspect / List / Motive /Relationships / Simplify / Survey / Take part in / Test for / Theme /Journalize.
K5	Evaluating	Agree / Appraise / Assess / Award / Choose / Compare / Conclude / Criteria / Criticize /Decide / Deduct / Defend / Determine / Disprove / Estimate / Evaluate / Explain /Importance / Influence / Interpret / Judge / Justify / Mark / Measure / Opinion / Perceive / Prioritize / Prove / Rate / Recommend / Rule on / Select / Support / Solve
K6	Creating	Adapt / Build / Change / Choose / Combine / Compile / Compose / Construct / Create /Delete / Design / Develop / Discuss / Elaborate / Estimate / Formulate / Happen / Imagine /Improve / Invent / Make up / Maximize / Minimize / Modify / Original / Originate / Plan /Predict / Propose / Solution / Solve / Suppose / Test / Theory

7. RUBRICS

A rubric is "a scoring guide used to evaluate the quality of students' constructed responses." It is a criterion for grading assignments, seminars, class participation, etc.

RUBRICS ASSESSMENT

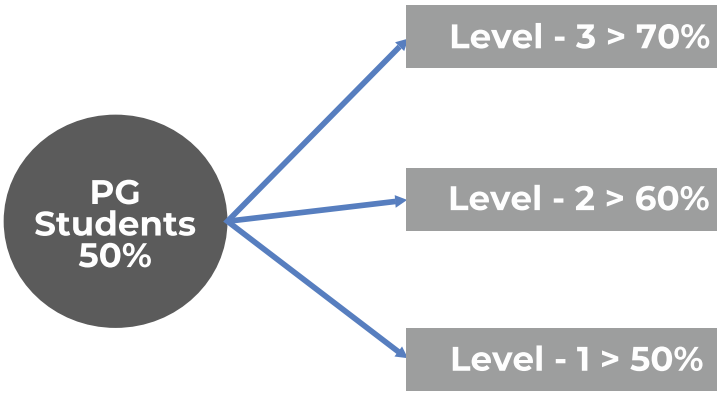
		RUBRICS ASSESSMENT (SELECT ANY ONE)														
		THEORY / PRACTICAL & LIBRARY CLASS PARTICIPATION (15) (Compulsory)				PAPERS / REPORTS (15)			ASSIGNMENTS (15)			CLASS PRESENTATION (15)				
S. No.	REG. NO	Library	Integration of Knowledge	Interaction& Participation	Demonstration of Knowledge	Organization& Knowledge	Format & Spelling	Reference / Experiments	Demonstration of Knowledge	Format & Spelling	Reference	Content & Coherence	Creativity and Speaking Skills	Duration of Presentation	Total Marks out of 30	Total Marks out of 16 / 10 / 08 /04

8. KNOWLEDGE LEVELS IN QUESTION PAPER

Question paper pattern for PG Courses

Section	Knowledge Level
Section A	K2
Section B	K2, K3
Section C	K4

CO & PO ATTAINMENT CALCULATION METHODOLOGY

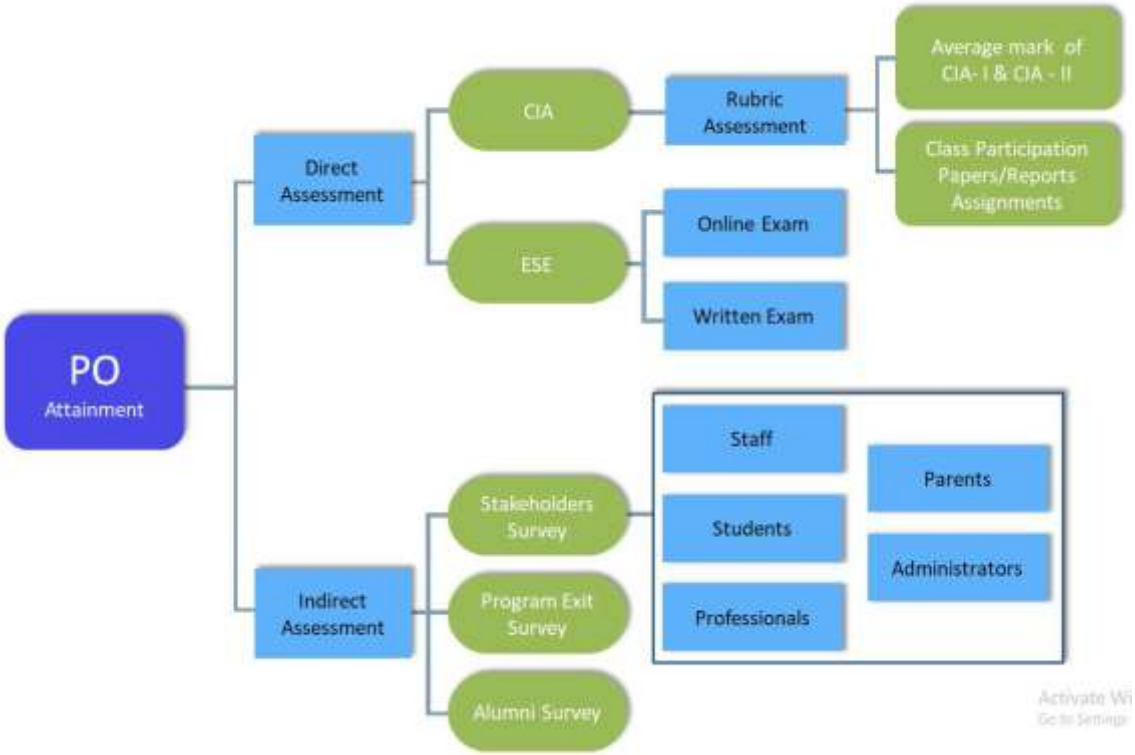


Section	Marks allotted	Pattern	Knowledge level
Section A	30	5 Q x 6M = 30 Marks (Internal Choice)	K2
Section B	50	5 Q x 10 M = 50 Marks (Internal Choice)	K2, K3
Section C	20	1 Q x 20 M=20 Marks (One Compulsory question from any of the 5 units)	K4

9. PROGRAMME OUTCOMES ASSESSMENT

POs are assessed in two methods, as given in the table.

Assessment	The weightage (%)	Tool
Direct	80%	Assignment, Seminar, Unit Test, CIA, ESE, Online
Indirect	20%	Course End Survey, Stakeholder feedback, Program Exit Survey,



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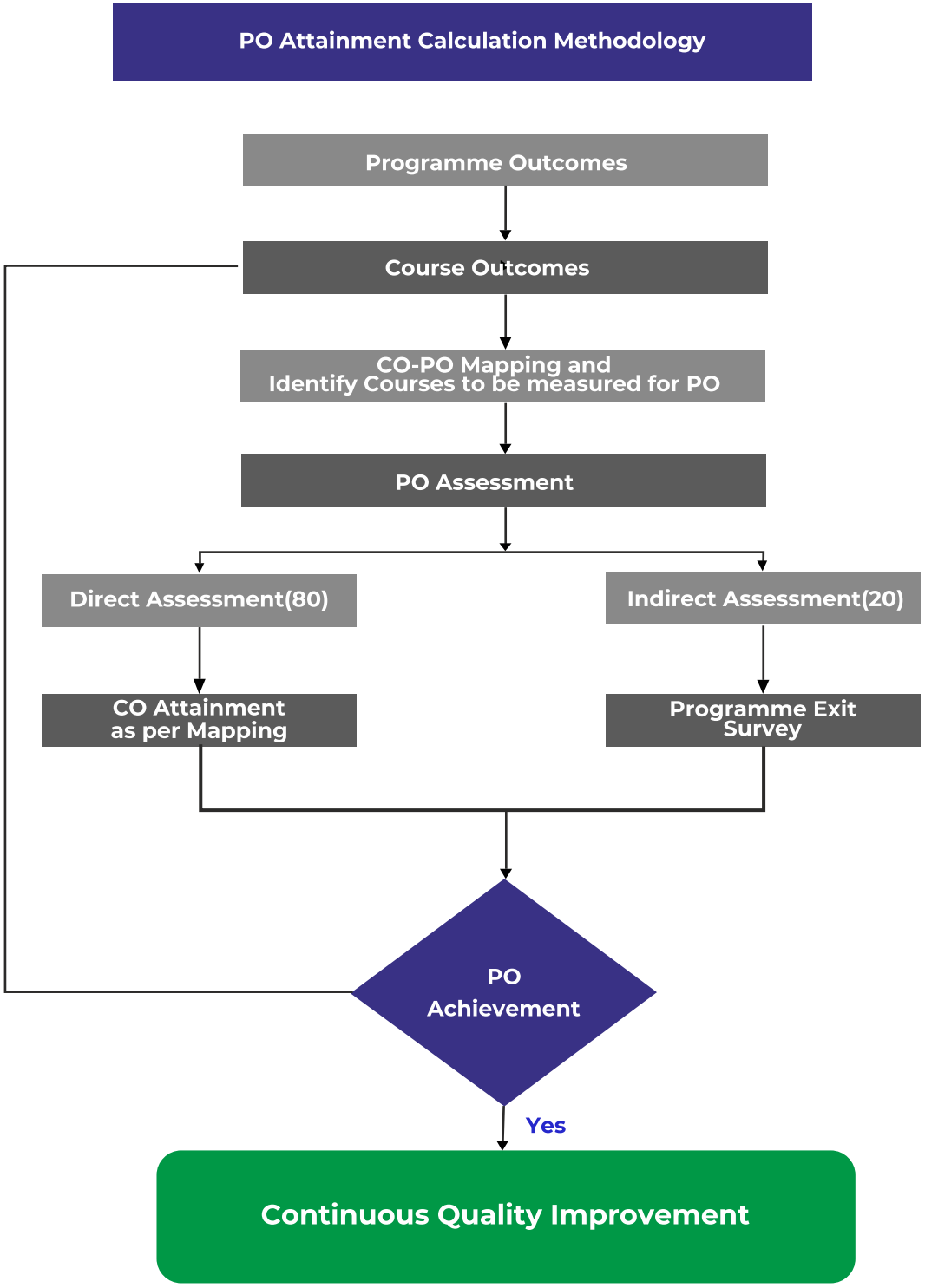
PO Attainment Calculation Methodology
Programme Outcomes
Course Outcomes
CO-PO Mapping and Identify Courses to be measured for PO
PO Assessment
Direct Assessment(80)
Indirect Assessment(20)
CO Attainment as per Mapping
Programme Exit Survey
PO Achievement
Yes
Continuous Quality Improvement

10. CO - PO ASSESSMENT TOOLS

The various direct and indirect assessment tools used to evaluate COs & POs and the frequency with which the assessment processes are carried out are detailed in the table.

Direct Assessment Tools Used for the Evaluation of CO and PO Assessment

CO and PO ASSESSMENT TOOLS					
		Course Type	**Assessment Tools**		**Minimum Frequency**
Direct (80% Weightage)	**CO Assessment**	**Theory**	Regular Class Evaluation	Class Test Group Discussion, MCQ	Minimum of four
			Internal Evaluation	Average Mark of CIA-I & CIA -II	CIA Two per course
				Seminar Assignments	One per course
			End Semester Exam		One per course
		Practical	Internal Evaluation	During Practical Days	Every practical Class
				Model Practical Exam	One per course
			End Semester Exam		One per course
		Project	Internal Evaluation - Reviews		Twice per program
			End Semester Viva- Voce		One per program
		Internship Program/ Industrial Training	End Semester Viva		One per program
		Lab on Project	Group Project		One per program

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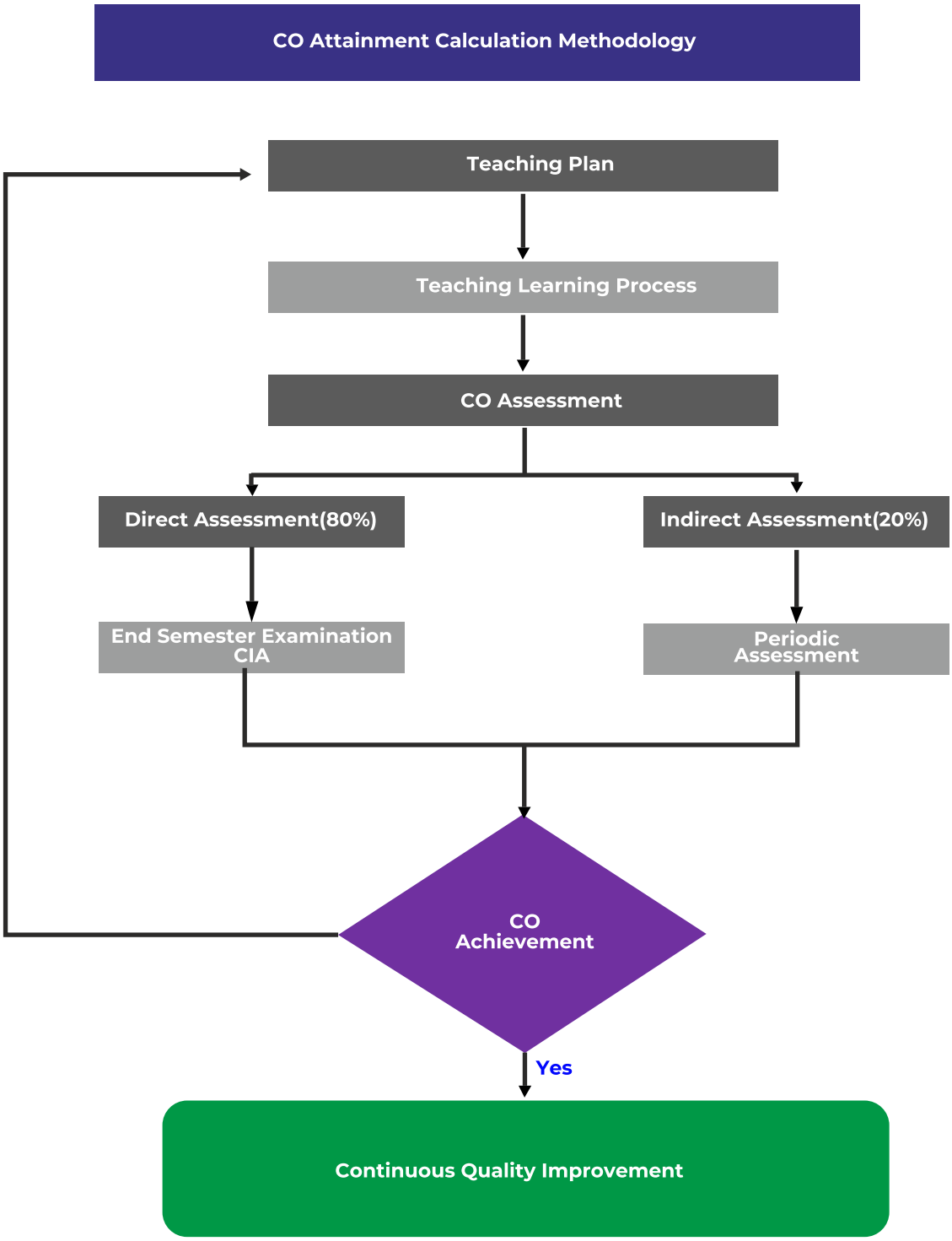
CO Attainment Calculation Methodology
Teaching Plan
Teaching Learning Process
CO Assessment
Direct Assessment(80%)
Indirect Assessment(20%)
End Semester Examination CIA
Periodic Assessment
CO Achievement
Yes
Continuous Quality Improvement

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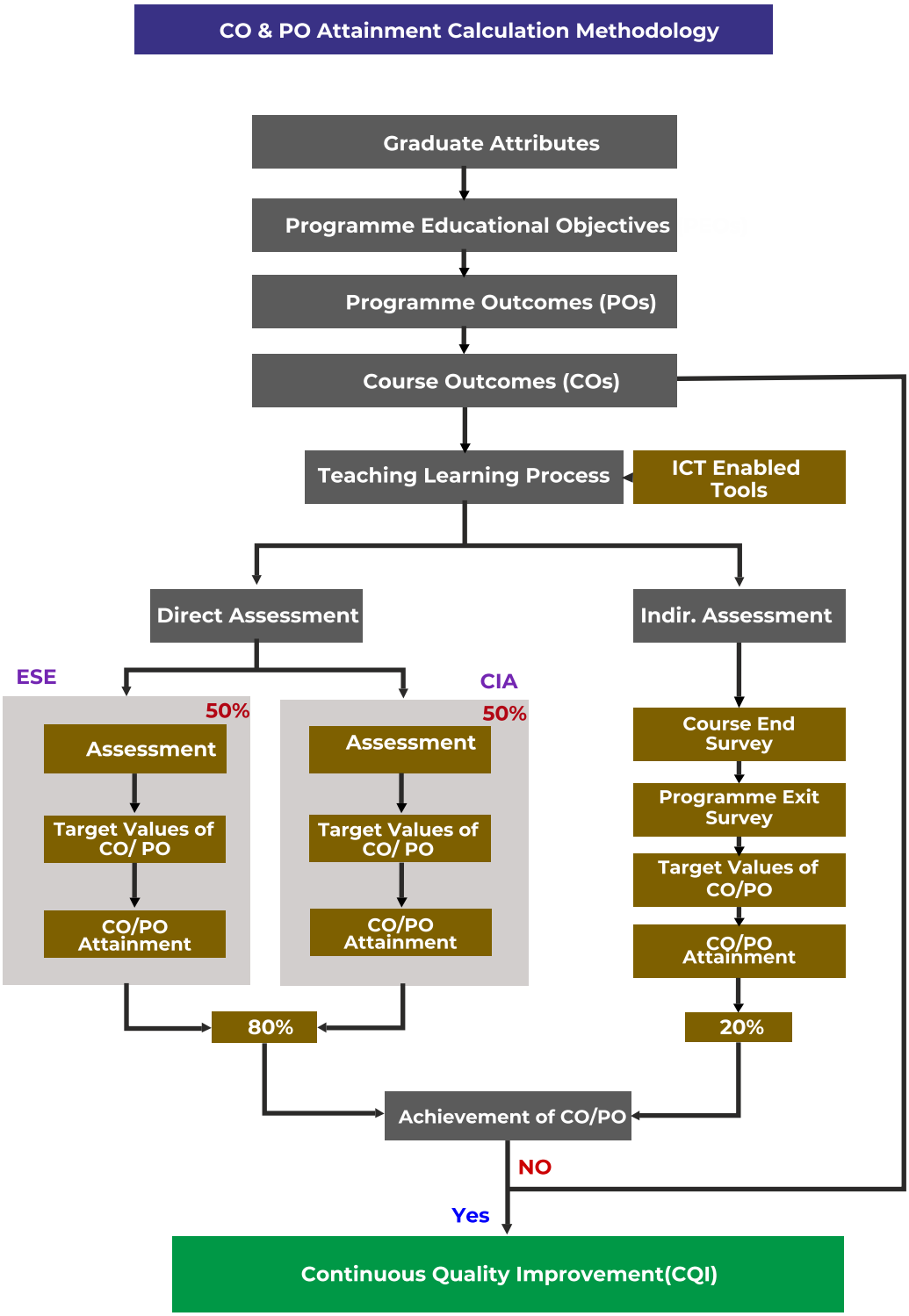
CO & PO Attainment Calculation Methodology
Graduate Attributes
Programme Educational Objectives
Programme Outcomes (POs)
Course Outcomes (COs)
Teaching Learning Process
ICT Enabled Tools
Direct Assessment
Indir. Assessment
ESE
CIA
50%
50%
Assessment
Target Values of CO/ PO
CO/PO Attainment
Assessment
Target Values of CO/ PO
CO/PO Attainment
Course End Survey
Programme Exit Survey
Target Values of CO/PO
CO/PO Attainment
80%
20%
Achievement of CO/PO
NO
Yes
Continuous Quality Improvement(CQI)

11. RECOMMENDATIONS BY PO CO COMMITTEE

The attainment of the Programme Outcome is combined with the outcome of two components, the direct and indirect assessment methods. In most cases, the direct approach is given more weightage (about 80%), and the indirect methods (about 20%) are given less weightage. The indirect process involves the 'Exit Survey' filled out by the students. The survey may contain questions that are directly related to the Programme Outcomes. In the direct method, the attainment of the course outcomes, which are already mapped with the Programme Outcomes, are cumulated, and the average is calculated, which in turn contributes to the calculation of the attainment of the Programme Outcome. This could be simplified by earmarking a few courses as culminating courses and the others as enabling courses.

The attainment of the course outcome of the culminating courses alone can be a direct component for calculating the Programme Outcome. But this requires a detailed mapping of the questions to the course outcomes. Only with a detailed mapping of the questions to the course outcomes and knowledge level, it may not be possible to calculate the attainment of the Programme Outcome effectively using the direct method. Since the implementation of Outcome-based Education is in a rudimentary stage, it is recommended to consider both direct and indirect ways (Exit Survey) to calculate the attainment of the Programme Outcome. Further, it is recommended that the process of micro-level mapping of the questions with the course outcomes, calculation of attainment of the course outcomes, and classification of culminating courses shall be done in the forthcoming academic year, i.e., 2022 – 2023.

12. CO – PO ATTAINMENT METHODOLOGY

CO ATTAINMENT - COURSE LEVEL

Direct Method** of CO Assessment (Mark Based) **Weightage: 80%

Rubrics for Attainment of COs through CIA & ESE (For the Batches 2017- 2019 & 2018 -2020)

Attainment Level - 1:

50 % of students scoring more than (40% for UG) and (50% for PG) marks out of the relevant maximum marks is considered to be the attainment of "1."

Attainment Level - 2:

60 % of students scoring more than (40% for UG) and (50% for PG) marks out of the relevant maximum marks is considered to be the attainment of "2."

Attainment Level - 3:

70 % of students scoring more than (40% for UG) and (50% for PG) marks out of the relevant maximum marks is considered to be the attainment of "3."

Table 1 shows a sample process of computing CO attainment in the Direct method for the CIA & ESE

			Course	Course Code			Course Code			Course Code		
			COs	CO1 – CO5								
			Target	3	3	3	3	3	3	3	3	3
S. No	Reg. No	Name	Marks	Int	Ext	Total	Int	Ext	Total	Int	Ext	Total
1												
2												
60												
Attainment Calculation (Direct Method)												
No. of students registered for the				60		60	60		60	60		60
No. of students attended				60		60	60		60	60		60
No. of students got >= 40%				45		52	48		50	40		39
% of student got>=40%				75%		87%	80%		83%	67%		65%
CO Attainment in CIA & ESE				3		3	3		3	2		2
weightage				25		75	25		75	25		75
CO attainment as weightage				0.75		2.25	0.75		2.25	0.5		1.5
CO Attainment for the course				3			3			2		

Indirect Method** of CO Assessment: (Survey Based) - **Weightage: 20%

Rubrics for Attainment of COs through Course End Survey

Attainment Level - 1:

50% of students giving more than 3 is considered to be the attainment of "1."

Attainment Level - 2:

60% of students giving more than 3 is considered to be the attainment of "2."

Attainment Level - 3:

70% of students giving more than 3 is considered to be the attainment of "3."

Table 2 shows a sample process of computing CO attainment in the Indirect method.

S. No	Course Code	Course Name	CO Average from Course Exit Survey	CO Target	CO Attainment through course end survey
1			81	3	3
2			72	3	2
3			76	3	2
4			80	3	3

Table 3 shows a sample process of computing CO attainment (Direct Assessment 80% + Indirect Assessment 20%)

S.No	Course Code	Course Name	CO Attained through Direct Assessment (From Table1)	CO Attained through Indirect Method (From Table2)	Direct assessment (80%)	Indirect assessment (20%)	Overall CO Attainment	Whether CO Attained / Not attained= overall
1			3	3	2.4	0.6	3	Attained
2			3	2	2.4	0.4	2.8	Attained
3			2	2	1.6	0.4	2	Attained
4			2	3	1.6	0.6	2.2	Attained

PO Attainment – Programme Level

Overall PO Attainment (Overall PO calculation = 80%weightage for direct attainment and 20% weightage for indirect attainment)

Master Table - PO Attainment

Semester	Course Code and Name	CO Attainment from Table 3	PO 1	PO 2	PO 3	PO 4	PO 5
I		3	3				
		2.8	2.8				
		2	2				
		2.2	2.2				
II							
Direct Attainment			2.5				
Indirect Attainment (Program Exit Survey)			3				
Overall Attainment			2.6				
PO Attainment(A/NA)			A				

Direct attainment of PO1= (3+2.8+2.0+2.2)/4 = 2.5

Overall Attainment of PO1 = (0.8*2.5) + (0.2*3) = 2. 6.

Note:

CO – PO Attainment Calculation Based on CO-PO Articulation Matrix

1. ***High correlation (S – Strong) = CO Attained * 1***
2. ***Medium Correlation(M) = CO Attained *0.67***
3. ***Low Correlation (L)= CO Attained*0.33***

13. ACTION TAKEN REPORT (ATR)

Actions are taken based on the results of the evaluation of each of the POs.

Faculty		**Department**	
Batch		**Academic Year**	
POs	**Target Level**	**Attainment Level**	**Observations**
PO1	**3**	**2.9**	**PO Attained**
PO1: Actions/Suggestions:			
PO2	**3**	**2.8**	**PO Attained**
PO2: Actions/Suggestions:			
PO3	**3**	**2.5**	**PO Attained**
PO3: Actions/Suggestions:			
PO4	**3**	**2.7**	**PO Attained**
PO4: Actions/Suggestions:			
PO5	**3**	**2.7**	**PO Attained**
PO5: Actions/Suggestions:			

14. COURSE-END SURVEY SAMPLE

Degree & Branch		Regulation	
Course Name		Course Code	
Course Instructor		Semester&Class	
Designation		academic year	

Course Outcome:

CO1: Understand the basics of TQM

CO2: Learn functions and objects in TQM.

CO3: Understand working with Quality Models

CO4: Learn fundamental concepts of ISO metrics

CO5: Remember the core functions and techniques used in ISO21000.

Rate the understanding level of the following (Tick the appropriate box)

S. No	CO	Questions	Excellent	Good	Moderate	Fair
1	CO1.1					
2	CO1.2					
3	CO2.1					
4	CO2.2					
5	CO3.1					
6	CO3.2					
7	CO4.1					
8	CO4.2					
9	CO5.1					
10	CO5.2					
Any other feedback/Suggestions						

CO1.1	CO1.2	CO2.1	CO2.2	CO3.1	CO3.2	CO4.1	CO4.2	CO5.1	CO5.2
CO1Average:		CO2Average:		CO3Average:		CO4 Average:		CO5Average:	

Date: Name of Student Signature of the Student

COURSE END SURVEY (INDIRECT ANALYSIS)

Degree & Branch		Regulation	
Course Name		Course Code	
Course Instructor		Semester&Class	
Designation		academic year	

S. No.	Reg.No	Name	CO1	CO2	CO3	CO4	CO5
SUM							
AVERAGE							
PERCENTAGE OF COURSE OUTCOME							

Course Instructor Signature HOD

Note:

SUM = Total marks given by all students for CO1

Average = SUM / Total No. Of students

Percentage of CO = (SUM/ (Total No. of students*4)) *100

15. PO ATTAINMENT THROUGH PROGRAMME EXIT SURVEY SAMPLE

PROGRAMME EXIT SURVEY FORM (To assess POs)

Student Name		Roll/Reg. No	
Program	Industry4.0	Batch	2022-2024

S. No.	To what extent do you feel you have learned and will be able to do the following (which are the POs and PSOs of the Program)	Very Good(4)	Good(3)	Average(2)	Poor(1)
1	Question-related to PO 1				
2	Question-related to PO 2				
3	Question-related to PO 3				
4	Question-related to PO 4				
5	Question-related to PO 5				
Any other feedback/Suggestions					

Date Signature of the Student

PROGRAM EXIT SURVEY – (INDIRECT ANALYSIS)

Faculty		Academic Year	
Degree & Branch		Batch	

Roll No.	Name of the Student	PO1	PO2	PO3	PO4	PO5
1		4	3	3	3	3
2		3	4	3	3	4
3		4	3	2	2	3
.		3	3	4	3	4
.		3	3	3	3	3
.		4	2	3	2	2
.		1	1	1	1	1
60		2	3	3	4	3
Count of Survey Scale Values	2	11	15	7	16	9
	3	17	27	19	25	31
	4	27	10	23	4	7
(a) Target Values of PO		* Target Attainment level is 2 and above *Only Survey Scale values of 2, 3, and 4 will be considered.				
(b) No. of Survey scale values 2,3		55	52	49	45	47
PO Attainment value in %= (b)/Total Students		93	88	83	76	80
PO Attainment through Program		3	3	3	3	3

15/11/2023

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