NANDHA ENGINEERING COLLEGE

(Autonomous)

Approved By AICTE, New Delhi and

Affiliated to Anna University, Chennai

MASTER OF BUSINESS ADMINISTRATION

OUTCOME BASED EDUCATION (OBE)

1. OUTCOME-BASED EDUCATION (OBE)

OBE is a student-centric teaching and learning methodology which focuses on what students know and can actually do, by restructuring of curriculum, pedagogy and assessment practices to reflect the achievement of high-order learning.

OBE is focusing on "what the students are capable of doing". There is clarity on what is to be achieved and that achievement (outcome) is pre-determined. OBE goes beyond usual 'structured tasks'. It demands the students to actively engaged in the learning process and demonstrate his/her skills through more challenging tasks and higher order of thinking. OBE provides a focus for assessment and help employers understand program benefits.
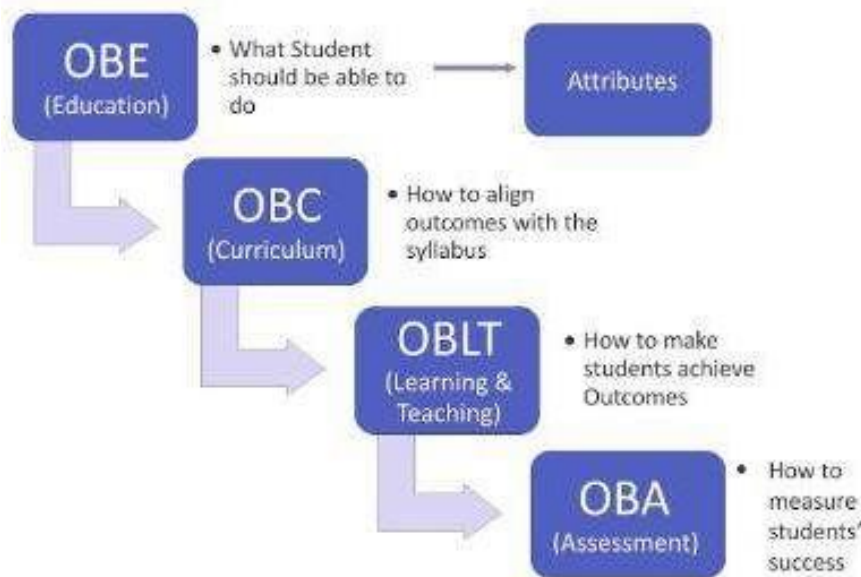

FIGURE 1.1 OUTCOME BASED EDUCATION

The implementation of an outcomes-based education adopts the OBE Framework which revolves around three important elements:

a) OBE Curriculum

b) OBE Teaching and Learning and

c) OBE Assessment
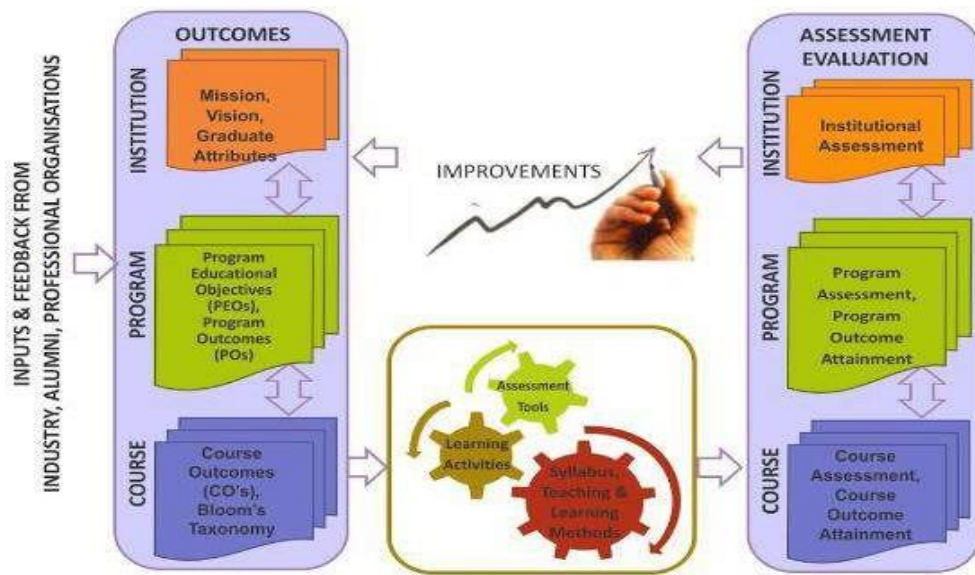
FIGURE 1.2 OUTCOME BASED EDUCATION FRAMEWORK

1.1 OUTCOME BASED CURRICULUM DEVELOPMENT (OBCD)

It focuses on the four distinct major components of the OBCD i.e. Curriculum Planning, Curriculum Designing, Curriculum Implementation and Curriculum Evaluation.

Input
- Vision and Mission of the Institution & Department
- Graduate Attributes from NBA
- Stake Holders Feedback via Programme Assessment Committee (PAC), Department Advisory Board (DAB)

Process
- Framing of Draft Curriculum
- Framing Course Objectives
- Defining Course Outcomes
- Framing Draft Syllabus
- CO - PO Mapping
- Obtaining Feedback from 2 Industrial and 2 Academic Experts

Approval
- Approval of Curriculum and Syllabus by BoS
- Passing approved copy of Curriculum and Syllabus in Academic council

FIGURE 1.1.1 OUTCOME BASED CURRICULUM DEVELOPMENT

1.2 OUTCOME BASED TEACHING AND LEARNING (OBTL)

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

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FIGURE 1.2.1 OUTCOME BASED TEACHING LEARNING PROCESS
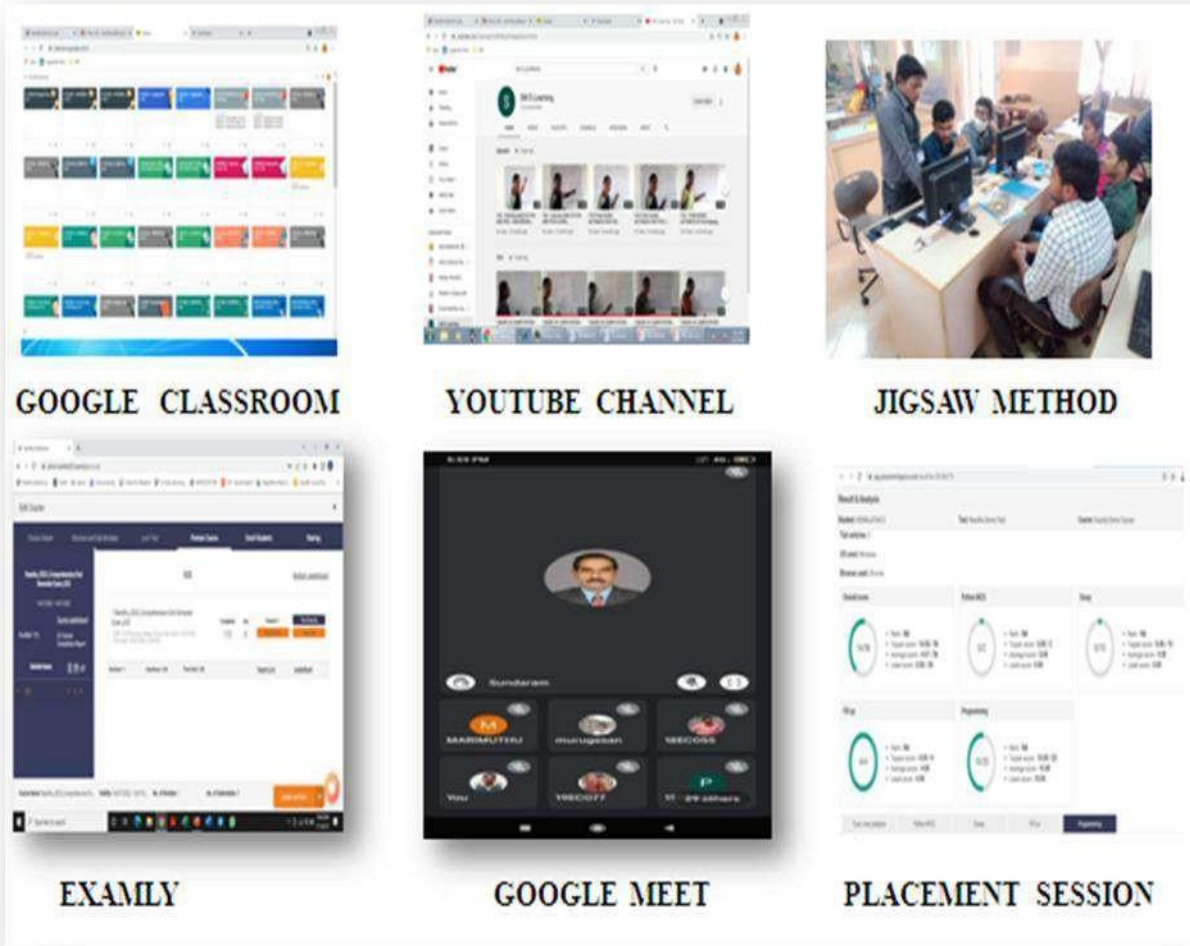
FIGURE 1.2.2 GLIMPSE OF INNOVATIVE TEACHING METHODOLOGIES

1.3 OUTCOME BASED ASSESSMENT (OBA)

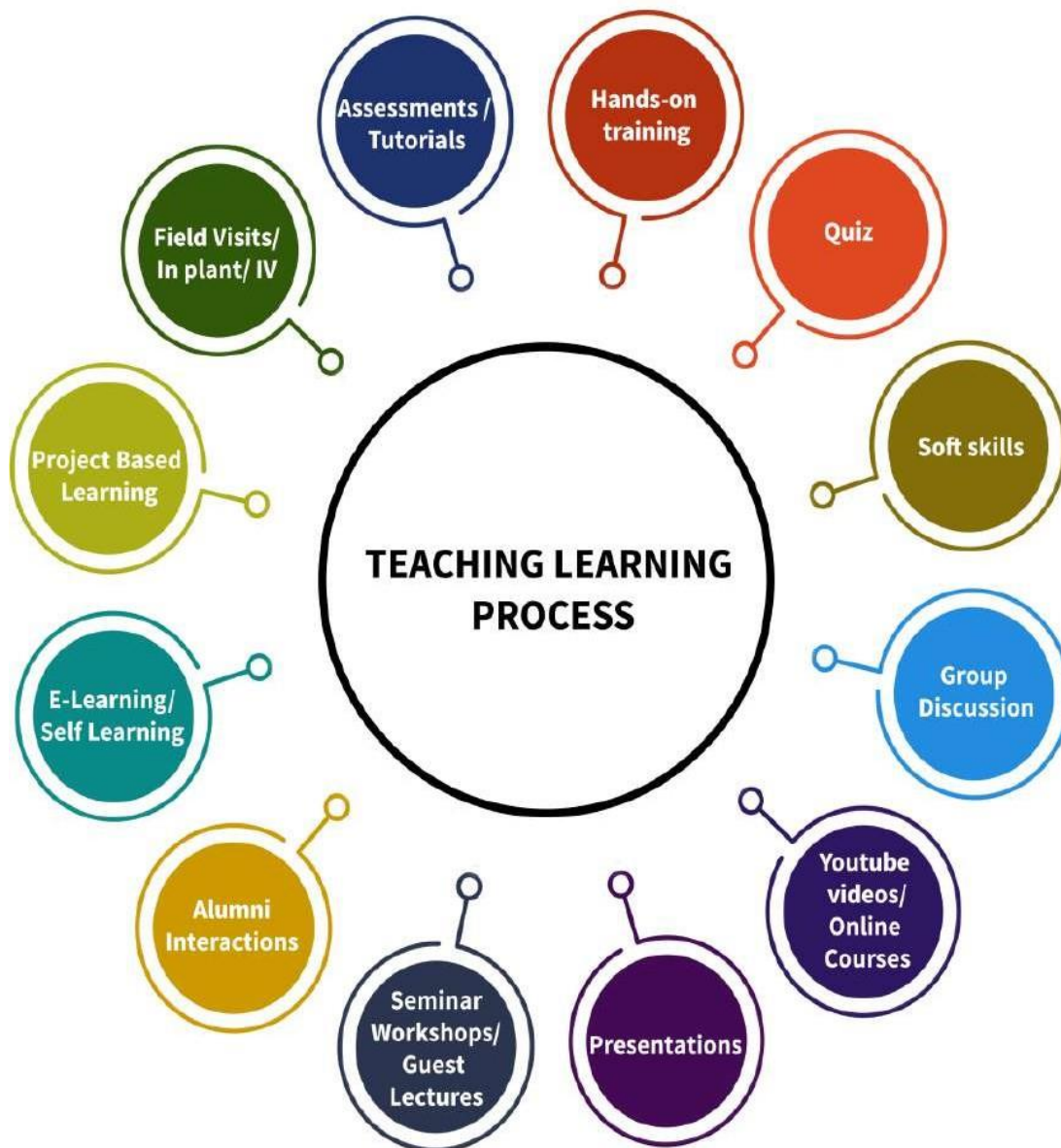Outcomes-based assessment is a process of gathering evidence on learning based on the number of learning outcomes achieved rather than the sum of marks on different assessment tasks.
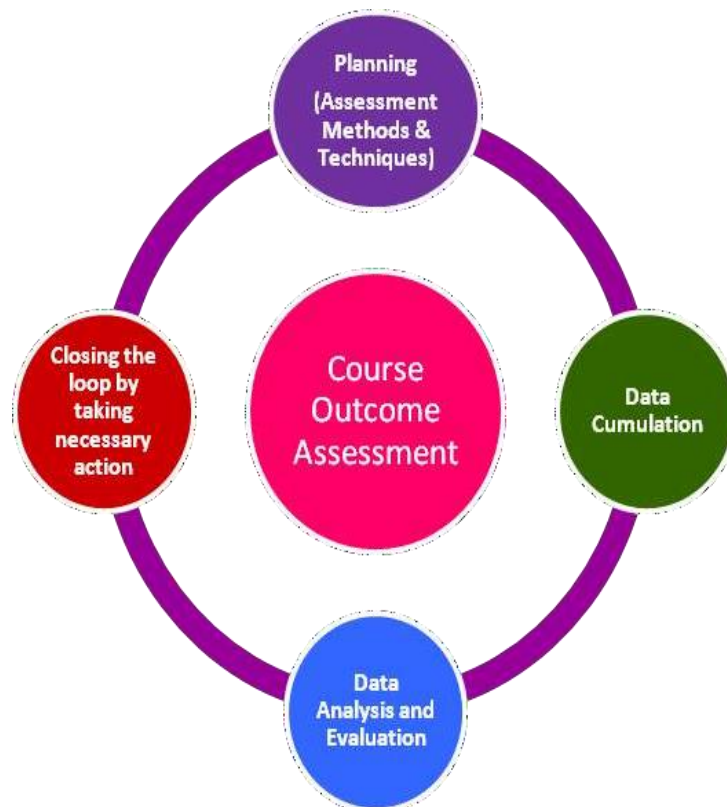
FIGURE 1.3.1 OUTCOME BASED ASSESSMENT

2. VISION AND MISSION

VISION OF THE INSTITUTE

To be an Institute of excellence providing quality Engineering, Technology and Management education to meet the ever changing needs of the society.

MISSION OF THE INSTITUTE

☐ To provide quality education to ethical and competent professionals with social Responsibility

☐ To excel in the thrust areas of Engineering, Technology and Entrepreneurship by solving real- world problems.

☐ To create a learner centric environment and improve continually to meet the changing global needs.
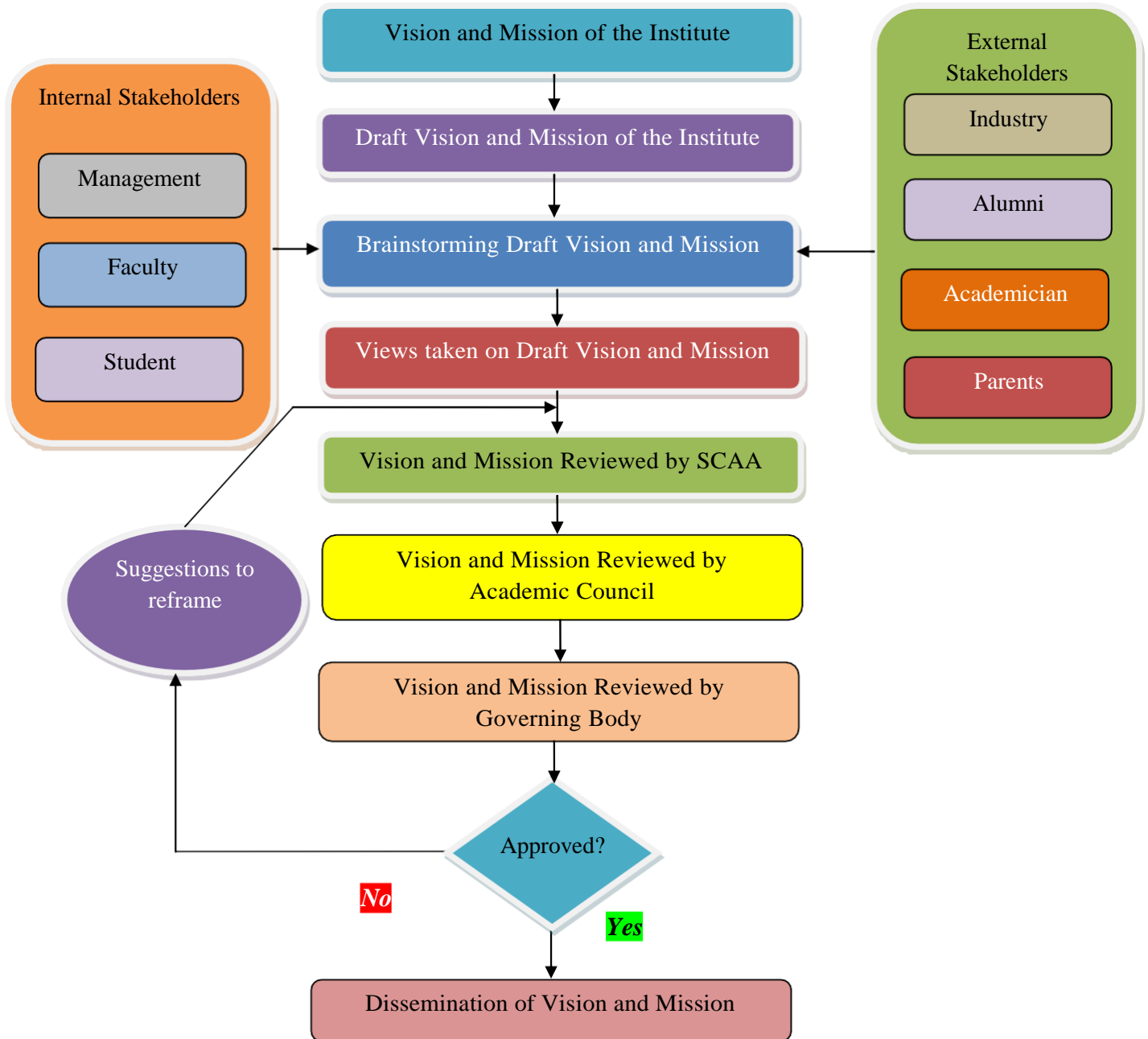
FIGURE 2.1 DEFINING THE VISION AND MISSION OF THE INSTITUTE

2.1 THE PROCESS FOR DEFINING THE VISION AND MISSION OF THE DEPARTMENT

The department defines the Vision and Mission statements by brainstorming with all the stakeholders, through Program Assessment Committee (PAC), Department Advisory Board (DAB), Board of Studies (BoS) and Academic Council (AC) based on the future scope of the department and the societal requirements.
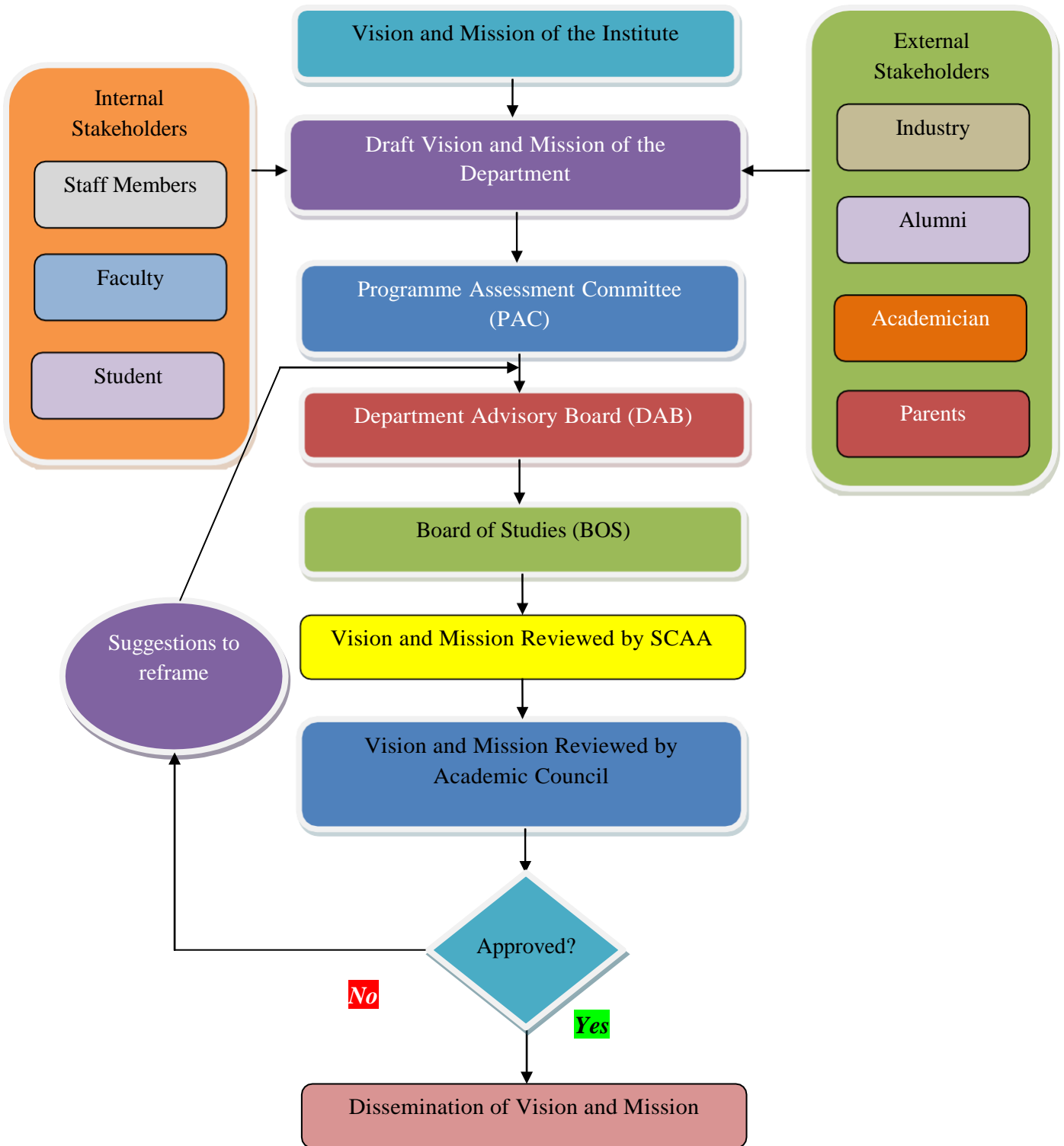
FIGURE 2.1.1 THE PROCESS FOR DEFINING THE VISION AND MISSION OF THE DEPARTMENT

➢ **Program Assessment Committee (PAC)**

Program Assessment Committee (PAC) comprises of Head of the Department (HoD) and all faculty members in the department.

The responsibilities of the PAC are as follows:

- To monitor and assess the COs, POs.

- Planning the curricular and co-curricular activities in accordance with PEOs.

- Scheduling of the program activities during each semester.

- Implementation and control of the program activities for attainment of POs.

- Formulation of drafted Vision, Mission and PEO statements of the department.

The PAC analyzes the direct and indirect survey reports of all the courses along with the feedback from the course coordinator concerned for finalizing the revision to be made in the course content.

➢ **Department Advisory Board (DAB)**

Department Advisory Board (DAB) consists of HoD, BoS Coordinator, Senior faculty members, Students, Alumni, Parents, Industry and Academic experts. The DAB supports in formulating the Vision, Mission, PEOs.Based on the review of attainment of the POs from PAC, necessary changes in curriculum with respect to course content, updating of syllabi, electives, practical components etc. are revised and forwarded to Board of Studies (BoS) for discussion. Suitable changes suggested by the BoS members are incorporated in the final curriculum and syllabi and submitted for the approval of the Academic Council through Standing Committee for Academic Affairs (SCAA).

➢ **Board of Studies (BoS)**

Board of Studies takes up planning of appropriate programs of study and the implementation of effective teaching.

The Board of Studies of a Department in the college

- Prepares syllabi for various courses keeping in view the objectives of the college, reviewing and updating syllabi from time to time, introducing new courses of study, determining details of continuous assessment with the interest of the stakeholders and national requirement for consideration and approval of the Academic Council.

- Suggest methodologies for innovative teaching and evaluation techniques.

- Suggest panel of Examiners to the Academic Council for appointment of examiners.
- Coordinate research, teaching, extension and other academic activities in the department/ college. Board of Studies meetings are conducted regularly.

Composition of Board of Studies:

- Head of the Department concerned (Chairman).
- The entire faculty of each specialization.
- Two subject experts from outside the Parent University to be nominated by the Academic Council.
- One expert to be nominated by the Vice-Chancellor from a panel of six recommended by the college Principal.
- One representative from industry/corporate sector/ allied area relating to placement.
- One postgraduate meritorious alumnus to be nominated by the Principal.

➢ **Standing Committee for Academic Affairs (SCAA)**

The Standing Committee consolidates the inputs received from Board of Studies and submits to the Academic Council for its consideration and approval.

➢ **Academic Council (AC)**

Academic Council scrutinizes and approves the proposals of the Boards of Studies with regard to courses of study, academic regulations, curricula, syllabi and modifications. The council involves faculty at all levels, experts from outside, including representatives of University and Government. Academic Council recommends to the Governing Body proposals for institution of new programmes of study.

Composition of Academic Council:

- The Principal (Chairman)
- All the Heads of Departments in the college
- Four teachers of the college representing different categories of teaching staff by rotation on the 11 basis of seniority of service in the college

- Not less than four experts/academicians from outside the college representing such areas as Industry, Commerce, Law, Education, Medicine, Engineering, Sciences etc., to be nominated by the Governing Body
- Three nominees of the university not less than Professors
- A faculty member nominated by the Principal (Member Secretary)

➢ **Governing Body (GB)**

The function of Governing Body is to decide on the overall development of the Institute which includes infrastructure, resource allocation, welfare measures, institute scholarship, medals, prizes and certificates on the recommendations of academic council and approval of new programs for the Institute.

NUMBER	CATEGORY	NATURE
5 Members	Management	Trust or Management as per the constitution or byelaws, with the chairman or the president/ Director as the chairperson
2 Members	Teachers of the College	Nominated by the Principal based on Seniority by rotation
1 Member	Educationalist or Industrialist	Nominated by the Management
1 Member	UGC Nominee	Nominated by the UGC
1 Member	State Government Nominee	Academician not below the rank of Professor or State Government Official of Directorate of Higher Education/ State Council of Higher Education
1 Member	University Nominee	Nominated by the University
1 Member	Principal of College	Ex- Officio

2.2 PROGRAM EDUCATIONAL OBJECTIVES, PROGRAM OUTCOMES

2.2.1 PROCESS OF DEFINING PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Program Educational Objectives are broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve.

The Program Educational Objectives (PEOs) were formulated as a result of a series of meetings, comprising of faculty, Quality Improvement Committee (QIC), students, alumni and recruiters. Program Educational Objectives (PEOs) are reviewed through a consultative process involving the stakeholders including students, alumni, industry, employers, faculty and staff members.

The inputs from stakeholders typically the faculty, alumni, industry and professional bodies are collected to formulate our PEOs.

➢ **Faculty**

The faculty members of the department are one of the key stakeholders empowered to evaluate the feedback received from all other stakeholders, proposing improvements in the curriculum, the outcomes and objectives, and in implementing any ratified changes. All changes in the curriculum are initiated by the faculty. Additionally, all the faculty members continually interact with all of the other stakeholders, allowing for the opportunities to receive, apart from formal, the informal feedback.

➢ **Alumni**

Alumni provide vital inputs for drafting and to review our PEOs. The inquiry includes opinion on the current courses, its shortfall, suggestive changes to be considered in revising curriculum, their success in career and suitability of preparation attributed to the curriculum they were tutored in, any advice they have to give to current students, and what they have to do for succeeding in their career. Regular inputs from alumni are obtained via following interactions:

Department Vision and Mission	Institute Vision and Mission	POs prescribed by NBA

Internal Stakeholders
- Students
- Faculty Members
- Supporting Staff Members

Suggestions from Stakeholders

External Stakeholders
- Alumni
- Industry Experts
- Academic Experts
- Employers
- Parents

Program Assessment Committee (PAC)

Department Advisory Board (DAB)

Board of Studies (BOS)

Academic Council

Periodic Review by Stakeholders

No

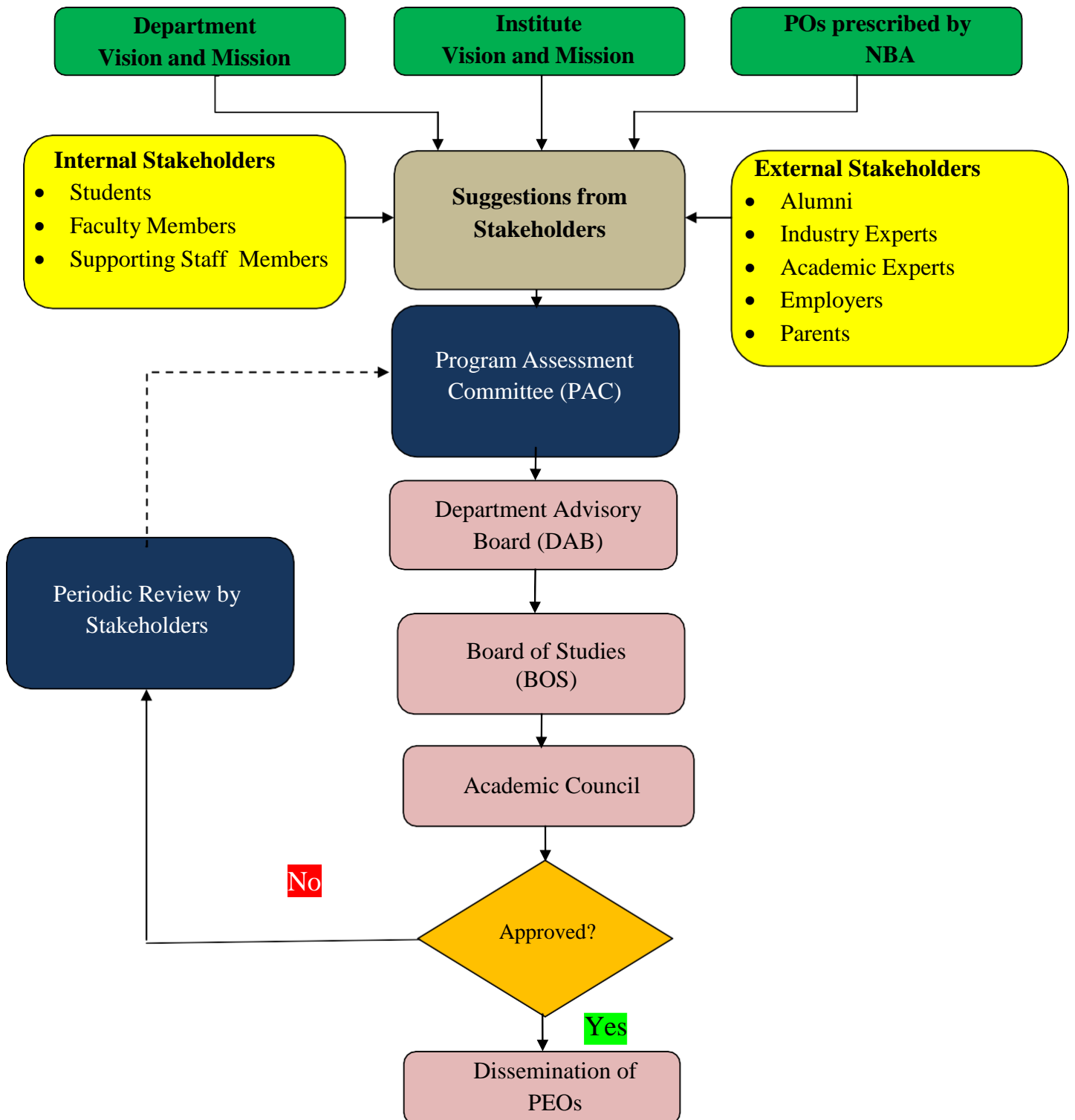**Approved?**

Yes

Dissemination of PEOs

FIGURE 2.2.1.1 THE PROCESS FOR DEFINING THE PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

☐ **Alumni Survey:** Formatted Survey data is utilized to gather comprehensive information for scrutiny and analysis.

☐ **Alumni visits:** Formal and informal visits by alumni give scope for direct personal interaction, discussions and also give an opportunity to collect and record information required for improving the program based on their professional experiences.

☐ **Alumni faculty interaction:** Alumni will be regularly interacting with some of the faculty with whom they are more conversant and they share their experiences, feelings, problems, etc., which will be more useful in redesigning the program.

➢ **Employers**

Input from employers plays a vital role in the formulation and review of the PEOs which reflect on the success and relevance of the designed courses. Employers are at the forefront of the practice of the profession; hence their feedback is important. They give us early indications of changing or new trends in the profession. The information is gathered from employers using both formal surveys and various informal interactions. In such interactions, employers are inquired about their views on the needs and direction of growth of the domain and correspondingly what the goals should be in educating the students. Regular input from employers is obtained via the following interactions:

- **Surveys:** Industry is directly or indirectly interacting with the Institution, during their institutional visits for guest lectures, workshops, seminars, placement drives or for any other informal interaction and the opportunity is utilized to fill in the Survey Form designed for formulating the PEOs.

- **Industrial Visits**: The department regularly arranges visit to industries as part of their education process. Discussions with the industries and the visiting faculty help to gain additional information on the current needs of industry with regard to our graduates, and thereby contribute to the understanding needed to formulate or revise the PEOs.

2.2.2 PROGRAM OUTCOMES (POs)

Program Outcomes describe what student are expected to know and would be able to do by the time of graduation. These are resulted to the Knowledge, Skills, and Attitude of the students acquire as they progress through the program.

Program outcomes can be defined as the objectives achieved at the end of any specialization or discipline. These attributes are mapped while a student is doing graduation and determined when they get a degree. POs are adopted from the graduate attributes (GA) lay down by the National Board of Accreditation (NBA).

The Vision, Mission and PEOs of the Department along with the Graduate Attributes given by NBA are used in defining the POs:

The students of post graduates in Business Administration will be able to

PO 1. Apply knowledge of management theories and practices to solve business problems.

PO 2. Foster analytical and critical thinking abilities for data-based decision making.

PO 3. Develop Value based Leadership ability.

PO 4. Understand, analyze and communicate global, economic, legal, and ethical aspects of business.

PO5. Lead themselves and others in the achievement of organizational goals, contributing effectively to a team.

FIGURE 2.2.2.1 OUTCOME BASED EDUCATION PROCESS

Design of curriculum was carried out during the years 2013, 2015,2017 and 2022 to meet the evolutionary requirements in the industry and business sectors in compliance with the POs in line with the recommendations of PAC through DAB and BoS.

- To identify the extent of compliance of the curriculum for attaining the POs different processes or methods are adopted through direct and indirect methods
- To identify the shortcomings and to satisfy the compliance of POs feedback analysis is adopted through the following methods:

  i.   Direct assessment is done by processes of analyzing performance of students by
  - Continuous Assessment Test
  - Assignment
  - Case study
  - End Semester Examinations

  ii. Indirect assessment is done by conducting
  - Alumni survey
  - Employer survey
  - Student exit survey
  - Course end survey
  - Evaluation of the quality of projects

Suggestions for improvement of teaching and learning process are collected during the survey. The course coordinators periodically monitors the attainment levels of COs, POs.

3. BLOOM'S TAXONOMY

Bloom's Taxonomy was created in 1956 under the leadership of educational psychologist Dr Benjamin Bloom in order to promote higher forms of thinking in education, such as analyzing and evaluating concepts, processes, procedures, and principles, rather than just remembering facts. It is most often used when designing educational, training, and learning processes. Lower Order Thinking and Higher Order Thinking of Bloom's Taxonomyis shown in Figure 3.1.
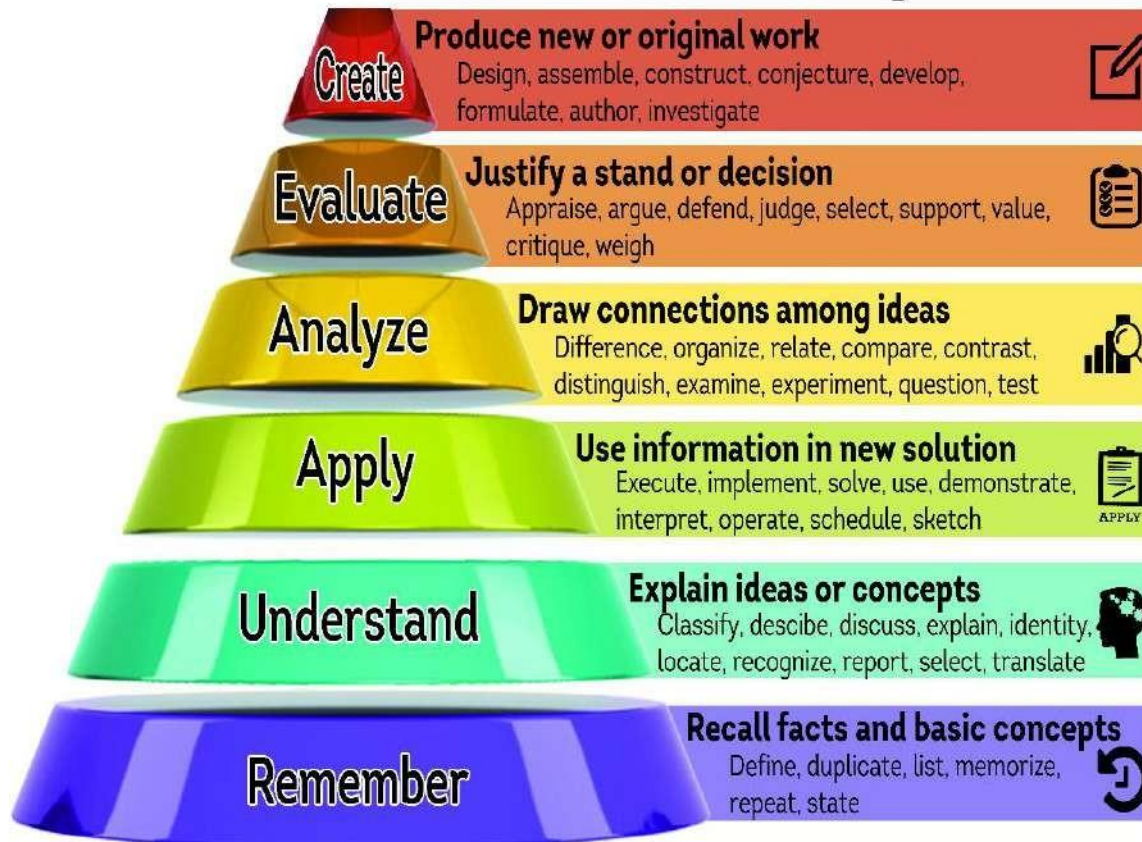
FIGURE 3.1 PICTORIAL REPRESENTATION OF BLOOM'S TAXONOMY
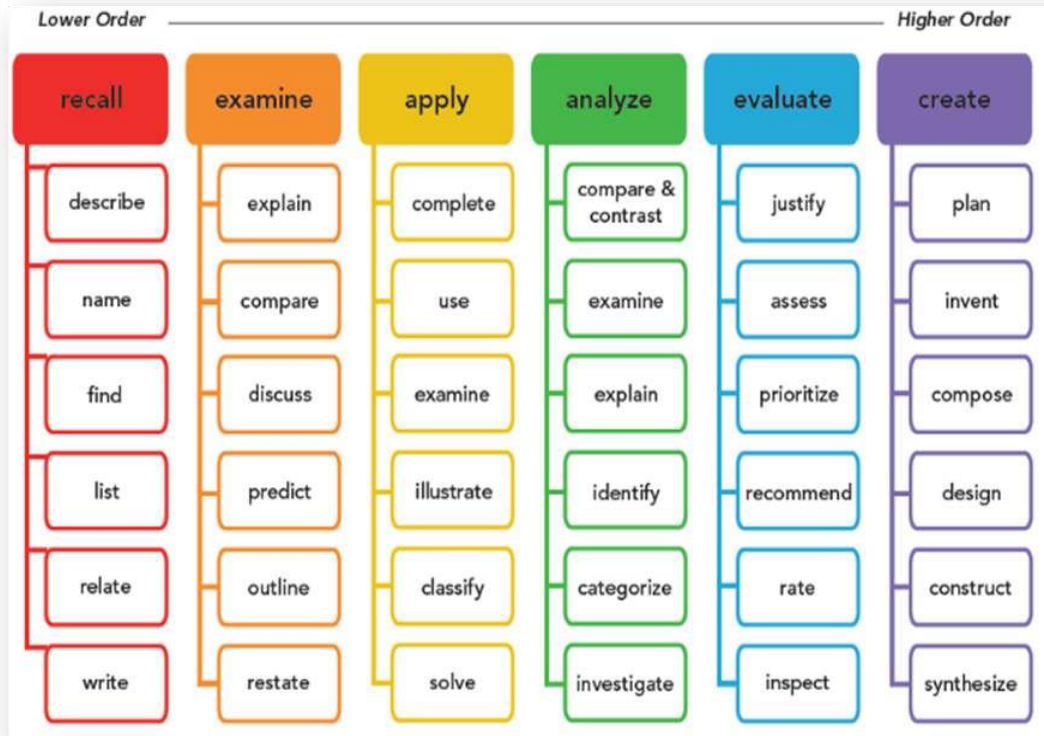
FIGURE 3.2 **REVISED BLOOM'S TAXONOMY ACTION VERBS**

4. COURSE OUTCOME

Course Outcomes are the statements that help the learners to understand the reason for pursuing the course and helps him to identify what he will be able to do at the end of the course.

4. 1 SAMPLE COURSE OUTCOMES

CO	22BAB16 - STRATEGIC MANAGEMENT
CO1	The students will be able to understand the Strategic management process and social responsibility of business organizations.
CO2	The students will be able to gain in-depth understanding about the need for developing competitive advantage for organizations.
CO3	The students will get insights into various corporate and business level strategies.

CO4	The students will be able to identify the various control systems required for organizational strategy implementation process.
CO5	The students will be able to enhance the cognitive knowledge about various strategic issues and development of new business models.

The Course Outcomes developed will be S.M.A.R.T – Specific, Measurable, Achievable,Relevant and Time Bounded.

- **Specific -** Students should be able to understand that it's mapped to which unit of that particular course.

- **Measurable -** After the completion of the unit, if the faculty is able to assess the understanding of the course content by using various assessment tools, then the CObecomes measurable.

- **Achievable -** When the student is able to express the verb given in the CO, then it becomes achievable.

- **Relevant -** Here it refers "How far" the Course Outcome is correlated with the Course
Content.

- **Time Bounded -** Specific time bound should be given to each course outcome. The course content has to be designed accordingly.

➢ Considering the CO1 from the above table,

CO	22BAB16 - STRATEGIC MANAGEMENT
CO1	The students will be able to understand the Strategic management process and social responsibility of business organizations.

All the five characteristics are considered in developing the Course Outcomes.

CO1 is attained within 9 hours as given in the syllabus

How far the CO1 is correlated with the course content

The verb "describe" in CO1,helps to express the understanding

CO 1 is able to understand the Strategic management and Social responsibilty of business organisation

CO 1 is mapped to unit 1 of the Course STM
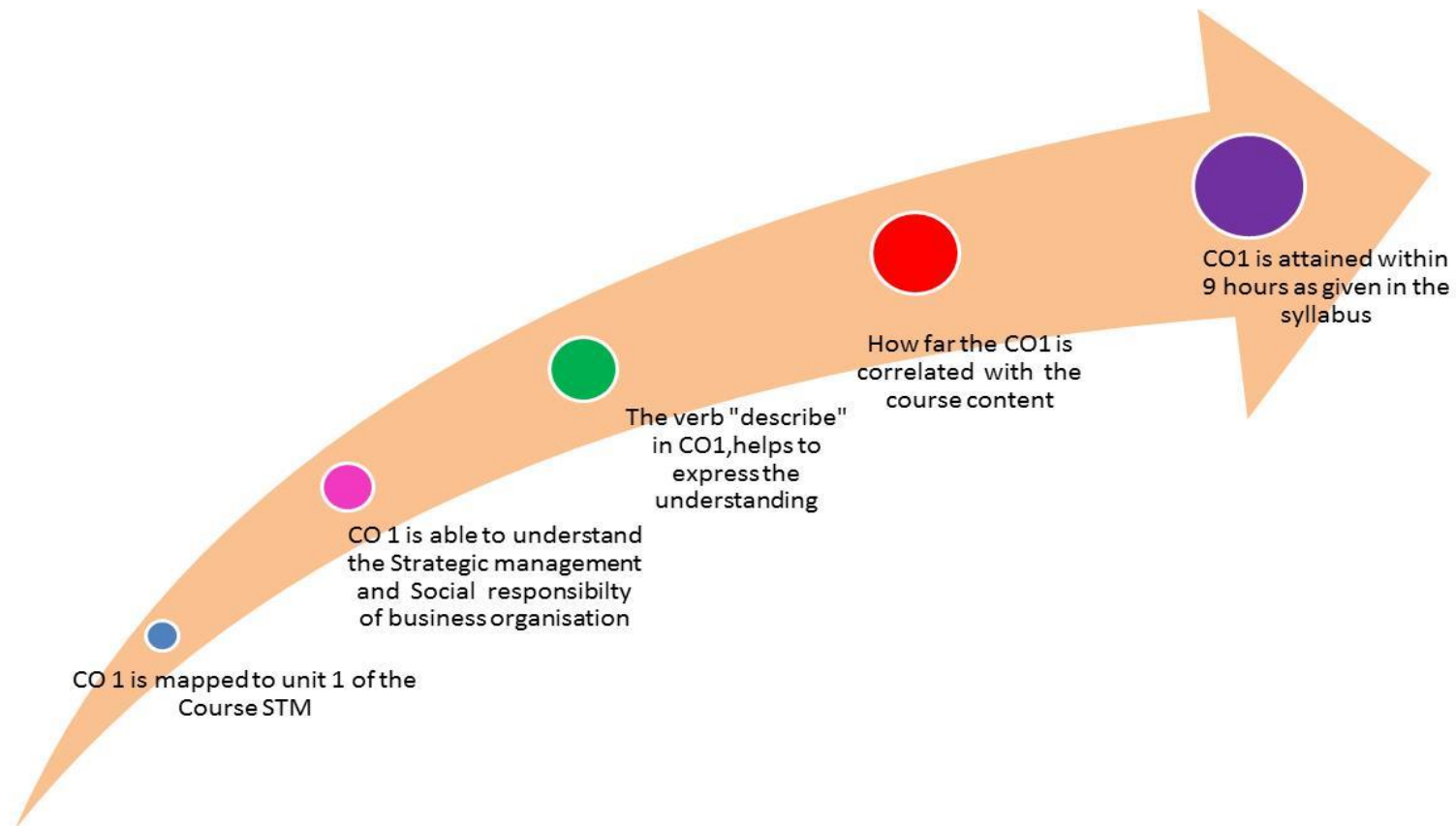
FIGURE 4.1 S.M.A.R.T COURSE OUTCOMES

4.2 CO – PO/ CO MAPPING OF COURSE

All the courses together must cover all the POs. For a course, we map the COs to POs through the CO-PO matrix. The various correlation levels are:

"1" – Slight (Low) Correlation

"2" – Moderate (Medium) Correlation

"3" – Substantial (High) Correlation

"-" indicates there is no correlation

4.3 SAMPLE CO-PO MAPPING

Mapping of Course Outcomes (COs) with Programme Outcomes (POs)					
COs/ POs	PO1	PO2	PO3	PO4	PO5
CO1	2	2	3	2	3
CO 2	3	2	3	2	3
CO 3	2	2	2	3	2
CO 4	2	2	2	2	3
CO 5	3	2	2	2	2
CO(W.A)	2.6	2	2.4	2.2	2.6

4.2 SAMPLE QUESTION PAPER

R22   Register No.

NANDHA ENGINEERING COLLEGE, ERODE - 52
(An Autonomous Institution, Affiliated to Anna University, Chennai)

PG MBA	Continuous Assessment Test - I	Nov 2023
Year : 02	Semester: III	MBA

22BAB16 - STRATEGIC MANAGEMENT

Time : 105 Minutes		Maximum Marks : 60

Bloom's Taxonomy levels

R- Remembering (K1)	U- Understanding (K2)	Ap-Applying (K3)
An- Analysing (K4)	E- Evaluating (K5)	C- Creating (K6)

GENERAL INSTRUCTIONS TO THE CANDIDATES
1. Candidates are instructed to answer the questions as per Bloom's Taxonomy Knowledge level (K1 to K6)
2. Candidates are strictly instructed not to write anything in the question paper other than their register number.
3. Candidates should search their pockets, desks and benches and handover to the Hall Superintendent/ Invigilator if any paper, book or note which they may find therein as soon as they enter the examination hall.
4. Candidates are not permitted to bring electronic watches with memory, laptop computers, personal systems, Walkie-talkie sets, paging devices, mobile phones, cameras, recording systems or any other gadget/device/object that would be of unfair assistance to him/her.
5. Corrective measures as per NEC examination policies will be imposed for malpractice in the hall like copying from any papers, books or notes and attempting to elicit the answer from neighbors.

COURSE OUTCOMES :

CO1	The students will be able to understand the Strategic management process and social responsibility of business organizations.
CO2	The students will be able to gain in-depth understanding about the need for developing competitive advantage for organizations.
CO3	The students will get insights into various corporate and business level strategies

	Part – A (Answer All the Questions) - 6 X 2 = 12 Marks	CO	K1 to K6	Marks
A1	Define Strategy.	1	K1	2
A2	Sketch the Stakeholders in Business?	1	K3	2
A3	Classify the techniques used for Environmental scanning.	2	K2	2
A4	Interpret any two characteristics of Core Competencies	2	K2	2
A5	Write any two difference between Merger and Acquisitions.	3	K6	2
A6	Identify the reasons to pursue Expansion Strategies	3	K1	2

	Part – B (Answer All the Questions) - 3 X 16 = 48 Marks	CO	K1 to K6	Marks
B1 (a)	Explain the conceptual framework of Strategic Management.	1	K1	16
	(OR)			
B1 (b)	Explain the nature and objectives of CSR.	1	K1	16
B2 (a)	Illustrate the Porter's Five Forces Model used in external environmental analysis.	2	K2	16

		(OR)			
B2 (b)		Interpret , How an Organization can avoid failures and can sustain Competitive advantage?	2	K2	16
B3 (a)	(i)	Sketch the importance of Strategy.	1	K3	4
	(ii)	Extract the different elements of Distinctive Competence?	2	K2	4
	(iii)	Classify the types of Strategic Alliances and discuss in detail	3	K3	8
		(OR)			
B3 (b)	(i)	Sketch the characteristics of Vision statement.	1	K3	4
	(ii)	Summarize the key strategies that organizations can employ to avoid failures and sustaining Competitive advantage	2	K2	4
	(iii)	Summarize the Generic Strategic alternatives.	3	K3	8

Prepared by   Scrutiny by   Approved by

4.3 LEVEL OF OUTCOMES

There are four levels of outcome such as Course Outcome (CO), Program Outcome (PO), and Program Educational Objective (PEO). Course Outcomes are the statements that declare what students should be able to do at the end of a course. POs are defined by Accreditation Agencies of the country (NBA in India), which are the statements about the Knowledge, Skills and Attitudes, Graduate Attributes of a formal engineering program should have. Graduates Attributes (GAs) are the components indicative of the graduate's potential to acquire competence to practice at the appropriate level. GAs form a set of individually assessable outcomes of the programme. The NBA laid down the GAs relating toPOs and is to be derived by program.

The Program Outcomes reflect the ability of graduates to demonstrate knowledge in fundamentals of Basic Sciences, Humanities and Societal Sciences, Engineering Sciences and apply these principles in understanding and practically apply the knowledge in professional core subjects, electives and projects which enables the graduates to be competent at the time of graduation. The graduates must adhere to professional and ethical responsibilities in the pursuit of their careers and also for the benefit of the society.

These outcomes also enable the graduates to pursue higher studies and engage in R&D for a successful professional career. The proper definition and the attainment of POs contribute to the attainment of Program Educational Objectives which will help the graduate to perform his/ her duties, professional responsibilities, design, development, production and testing of novel products, ability to deal with finances and project management during his/her early professional career of 3 to 4 years.
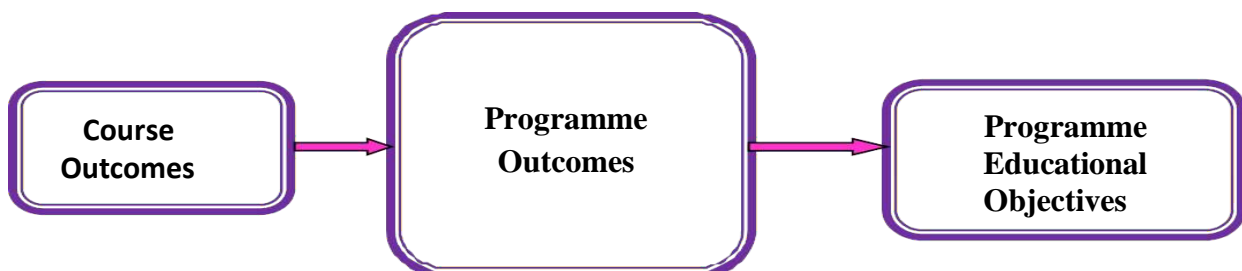

FIGURE 4.5.1 RELATING THE OUTCOMES (CO-PO/ PEO)

Program Educational Objectives are the broad statements which describe in detail about the career and professional accomplishments after significant years of graduation that the program prepare the grandaunts to achieve.

Figure 4.5.1 shows the building block of CO-PO/PO-PEO relationship. After CO statements are developed by the respective course in-charge, CO-PO matrix will be derived with each CO that will map with possible POs based on the relationship exist between them. But the POs that are not necessarily mapped with any CO may be left blank. It is mandatory that all COs should be mapped with any one of the POs are mapped with PEO which is specified in the program.

5. ASSESSMENT PROCESS

The Assessment of course outcome for theory subjects are based on

- Continuous Assessment Tests
- Assignments
- Case study
- End Semester Examinations

Laboratory courses' outcomes are evaluated based on the student's performance in regular Laboratory Classes, Model Examination and End Semester Examination performance. The course outcomes for project work I and II are evaluated based on the presentations in Project Reviews and End Semester Viva Voce Examinations.

Course Outcomes are assessed based on the performance of the students in Continuous Assessment Test and Semester End Examinations. The weightage for Internal Assessment is taken as 40% and the weightage for End Semester Examination is taken as 60%.

Course Sample

Course Outcomes

CO – PO Mapping

How to fix the attainment target?

B

- **Nature of the course**
- **Semester in which the course is offered**
- **Attainment achieved in the previous year of the same course**
- **Attainment achieved by the particular batch of students in the**

Assessments / Tutorials

Hands-on training

Field Visits/ In plant/ IV

Quiz

Project Based Learning

Soft skills

TEACHING LEARNING PROCESS

E-Learning/ Self Learning

Group Discussion

Alumni Interactions

Youtube videos/ Online Courses

Seminar Workshops/ Guest Lectures

Presentations

A

A

Assessment

- Assignment
- Case study
- Continuous Assessment Test (CAT)

Direct Assessment (80%)

Indirect Assessment (20%)

Course End Survey (20%)

Formative Assessment (40%)

Summative Assessment (60%)

End Semester Examination

Final CO/ POs attainment of a Course

Target Achieved?

NO

Action Taken
1. Collecting feedback from students
2. Revise target for forthcoming batches
3. Change in delivery & Evaluation methods

YES

Consolidation of all courses

Direct (80%)

Indirect (20%)

- Alumni survey
- Employer survey
- Student Exit survey

B

Final CO – PO Attainment of a batch

Revise the Batch Target based on the Attainment of PO

FIGURE 5.1 PROCESS OF ATTAINMENT CALCULATION

5.1 PROCESS OF CO ASSESSMENT AND ATTAINMENT

| CO-PO Mapping | → | Selecting Assessment Tools | → | CO Assessment & Attainment |

Figure 5.1 PROCESS OF CO ASSESSMENT AND ATAINMENT

5.2 SAMPLE ATTAINMENT CALCULATION OF CO VIA CAT

NANDHA ENGINEERING COLLEGE (AUTONOMOUS), ERODE
DEPARTMENT OF MANAGEMENT STUDIES
CONTINOUS ASSESSMENT TEST - I ANALYSIS
ACADEMIC YEAR : 2023-24 SEMESTER : III COURSE NAME & CODE :22BAB16 STRATEGIC MANAGEMENT
FACULTY NAME:Ms.K.AKILA

h question expected level of attainm 70 TOTAL STRENGTH 59

ROLL NO	A1(2)	A2(2)	A3(2)	A4(2)	A5(2)	A6(2)	B1(A)	B1(B)	B2(A)	B2(B)	B3(A)			B3(b)			TEST SCORE	Marks Secured in CO1	Marks Secured in CO2	Marks Secured in CO3	CO1	CO2	CO3
							i	i	i	i	i	ii	iii	i	ii	iii							
Marks	2	2	2	2	2	2	16	16	16	16	4	4	8	4	4	8	60	24	24	12	CO1	CO2	CO3
Expected Marks to attainment	1.4	1.4	1.4	1.4	1.4	1.4	11.2	11.2	11.2	11.2	2.8	2.8	5.6	2.8	2.8	5.6		16.8	16.8	8.4	Target : 70%		
CO	1	1	2	2	3	3	1	1	2	2	1	2	3	1	2	3		1	2	3			
22BA001	2	2	2	1.5	1.5	2		13		15	3	3	5				50	20	21.5	8.5	83	90	71
22BA002	2	1.5	1.5	0	1	1	13			13	2	2	3				40	18.5	16.5	5	77	69	42
22BA003	2	1.5	1.5	2	1.5	1.5	14		13		4	4	5				50	21.5	20.5	8	90	85	67
22BA004	1.5	1.5	1	2	2	1.5	11			11	4		6.5				42	18	14	10	75	58	83
22BA005	2	2	2	2	2	2	14			15				4		7	52	22	19	11	92	79	92
22BA006	2	2	2	1	1	2		13	13					4	2	6	48	21	18	9	88	75	75
22BA007	2	2	2	2	1.5	2	14.5		14		4	4	7				55	22.5	22	10.5	94	92	88
22BA008	2	1.5	1.5	1	1.5	1.5	11		13		4	4	6				47	18.5	19.5	9	77	81	75
22BA009	2	1	2	1	1	1	10			9				3	3	5	38	16	15	7	67	63	58
22BA010	2	1.5	2	1.5	1.5	2	14.5		15		3.5	3.5					47	21.5	22	3.5	90	92	29
22BA011	2	1.5	2	1.5	2	1	13			14				4	2	2	45	20.5	19.5	5	85	81	42
22BA012	2	2	2	1	1	1	14			13	3	3	2				44	21	19	4	88	79	33
22BA013	2	1.5	2	1	1.5	2	14		14					4	3	4	49	21.5	20	7.5	90	83	63
22BA014	1.5	1	0	1	1	0.5		8	7		4	4	2				30	14.5	12	3.5	60	50	29
22BA015	2	1.5	1.5	0.5	0.5	1.5	12			10	2	2	3.5				37	17.5	14	5.5	73	58	46
22BA016	1.5	2	1.5	1	1.5	1.5		15		15				4	4	7	54	22.5	21.5	10	94	90	83
22BA017	2	2	1.5	1.5	2	2		15	12					4	3	4	49	23	18	8	96	75	67
22BA018	1.5	1.5	1.5	1	1	1.5	13			11	4	3	1				40	20	16.5	3.5	83	69	29
22BA019	2	1	2	1	1	1	10			9				3	3	5	38	16	15	7	67	63	58
22BA020	2	2	1	1	1	1	8		10					2	2	5	35	14	14	7	58	58	58
22BA021	1.5	1.5	0	1				15	14.5						3.5	4	41	18	19	4	75	79	33
22BA022	2	1.5	1.5	2	2	0	9			12				2	3	6	41	14.5	18.5	8	60	77	67
22BA023	1	1	2	2	1	1	13			9				3	3	5	41	18	16	7	75	67	58
22BA024	1.5	1.5	1.5	0	2	2	14		3.5		3	2					31	20	7	4	83	29	33
22BA025	2	2	2	1	2	2	14			14				4	4	6	53	22	21	10	92	88	83
22BA026	2	2	1.5	2	1.5	2		14	14		4	4	7				54	22	21.5	10.5	92	90	88
22BA027	2	1.5	1.5	1.5	1.5	2		10	10								30	13.5	13	3.5	56	54	29

22BA028	1.5	2	1.5	2	1.5	1.5	13		12					3	3	5	46	19.5	18.5	8	81	77	67
22BA029	2	2	2	2	2	2	15		14		4	3	8				56	23	21	12	96	88	100
22BA030	2	1.5	1.5	1	1	1	14			12	2	2	4				42	19.5	16.5	6	81	69	50
22BA031	2	2	2	2	2	2		15	16					4	4	7	58	23	24	11	96	100	92
22BA032	2	2	2	1	1.5	1.5		13	11					3	2	6	45	20	16	9	83	67	75
22BA033	2	1.5	1	2	1.5	1	11		13					4	3	6	46	18.5	19	8.5	77	79	71
22BA034	1.5	1.5	1	1	1	1	12		12					4	3	7	45	19	17	9	79	71	75
22BA035	2	1.5	1.5	1	1	2		8	15					3		4	39	14.5	17.5	7	60	73	58
22BA036	1.5	1.5	2	2	1	2	14.5			13.5	4	4	7				53	21.5	21.5	10	90	90	83
22BA037	2	2	2			1		10	13								30	14	15	1	58	63	8
22BA038	2	1	1	1			12			10				2	2	4	35	17	14	4	71	58	33
22BA039	1.5	1.5	2	1	1	2	13			13	4	2	6				47	20	18	9	83	75	75
22BA040	2	1	2	1	1	1	14			8							30	17	11	2	71	46	17
No of students scores upto expected level (70%)	58	50	45	24	36	37	32	10	23	15	20	16	10	21	17	14	0	45	32	24	Average attainment %		
% of scoring above the attainment level	98.31	84.75	76.27	40.68	61.02	62.71	54.24	16.95	38.98	25.42	33.9	27.12	16.95	35.59	28.81	23.73	0	76.27	54.24	40.68	78.4	71.1	57.8

2. Course Outcome attainment level indicator

%	>69	>49	<49
3 point scale	3	2	1
ATTAINMENT LEVEL OF ALL CO	CO1	CO2	CO3
ATTAINMENT %	78.43	71.08	57.77
ATTAINMENT IN 3 POINT SCALE(1,2 or 3)	3	3	2
Mapping with PO	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5

5.3 SAMPLE ATTAINMENT CALCULATION OF CO VIA ASSIGNMENT

NANDHA ENGINEERING COLLEGE, (AUTONOMOUS), ERODE-52.
DEPARTMENT OF MANAGEMENT STUDIES
ASSIGNMENT I

ACADEMIC YEAR:2023-2024   22BAB16- STRATEGIC MANAGEMENT
SEMESTER : III   FACULTY NAME:Ms.K.AKILA

Each question Expected Level of attainment - 70%

TOTAL STRENGTH =				59
ROLL NO	A1(8)	A2(8)	A3(4)	TEST SCORE
CO	1	2	3	20
Marks	8	8	4	
Expected Marks to attainment	5.6	5.6	2.8	14
22BA001	8	8	4	20
22BA002	8	7	4	19
22BA003	8	8	4	20
22BA004	8	8	4	20
22BA005	8	8	4	20
22BA006	7	7	4	18
22BA007	7	8	4	19
22BA008	7	8	4	19
22BA009	7	7	3	17
22BA010	8	8	4	20
22BA011	8	7	4	19
22BA012	8	8	4	20
22BA013	8	8	4	20
22BA014	7	7	3	17
22BA015	7	8	4	19
22BA016	8	8	4	20
22BA017	8	8	4	20
22BA018	8	8	4	20
22BA019	7	7	4	18
22BA020	7	6	3	16
22BA021	8	8	4	20
22BA022	8	7	3	19
22BA023	7	7	4	18
22BA024	8	8	3	19
22BA025	7	8	4	19
22BA026	7	7	4	18
22BA027	8	8	4	20
22BA028	8	8	4	20
22BA029	7	7	4	18
22BA030	7	7	3	17
22BA031	7	8	4	19
22BA032	7	7	4	18
22BA033	8	8	4	20
22BA034	8	8	4	20
22BA035	7	7	3	17
22BA036	7	7	4	18
22BA037	8	8	4	20
22BA038	7	7	4	18
22BA039	8	8	4	20
22BA040	7	7	4	18
22BA042	8	8	4	20
22BA043	8	8	4	20
22BA044	8	8	4	20
22BA045	7	7	4	18
22BA046	7	6	2	15
22BA047	7	8	4	19
22BA048	8	8	4	20
22BA049	7	8	4	19
22BA050	8	8	4	20
22BA051	7	7	4	18
22BA052	8	8	4	20
22BA053	8	8	4	20
22BA054	7	7	3	17
22BA055	8	7	4	19
22BA056	8	8	4	20
22BA057	8	8	4	20
22BA058	7	7	4	18
22BA059	7	7	4	18
22BA060	8	8	4	20
No of students scores upto expected level (65%)	59	59	58	
% of scoring above the attainment level	98.33	98.33	96.67	
2. Course Outcome attainment level indicator				
Range of attainment	3	2	1	
	>69	>49	<50	
Mapping with CO	CO1	CO2	CO3	
Attainment level of each CO	3	3	3	
ATTAINMENT LEVEL OF ALL CO	CO1	CO2	CO3	
ATTAINMENT IN 3 POINT SCALE(1,2 or 3)	3	3	3	
Mapping with PO	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5	

The direct assessment tools used to assess the student's knowledge, skills and attitudes for the specific domain through Theory and laboratory course.

☐ **CONTINUOUS ASSESSMENT TEST**

Continuous assessment test is carried out twice in a semester. Faculty member prepares two sets of question paper based on Bloom's Taxonomy covering the prescribed syllabus and each question will be mapped to the concern course outcomes. Any one set of question paper will be chosen by Exam Cell Coordinator by checking the knowledge levels and Bloom's Taxonomy. Then the question paper will be finalized and chosen for conducting the test. This method of assessment is used to monitor students' progression and learning across pre-defined periods of time. Results are used to assess desired course outcomes, identify the areas of skill deficiency instudents and to track the improvement of the students.

☐ **ASSIGNMENT**

Assignment is a formative assessment tool designed to assess students' knowledge in a particular topic. The assignment question will also be mapped to knowledge levels and Bloom's Taxonomy. Students' are assessed based on their performance.

☐ **RUBRICS**

A rubric explains the criteria where the students' work will be judged with the "scoring rules". Scoring rubrics are typically grids that outline identified criteria for successfully completing the task and establishing levels for meeting the levels of these criteria. Thus Rubrics produce a global score for performance.

☐ **END SEMESTER EXAMINATION (ESE)**

The purpose of End Semester Examination is to make a final review of the topics covered and assessment of each students' knowledge of the course. End Semester Examination is a metric for assessing all the Course outcomes. This examination is more focused on descriptive type of questions which has a combination of higher order thinking level and lower order thinking level questionnaires.

5.4 SAMPLE PO ATTAINMENT CALCULATION OF A BATCH

NANDHA ENGINEERING COLLEGE (AUTONOMOUS), ERODE
DEPARTMENT OF MANAGEMENT STUDIES
PROGRAM OUTCOME ATTAINMENT (DIRECT)
BATCH 2020 – 2022

Course. No	Course Code & Course Name	PO1	PO2	PO3	PO4	PO5
C101	17BAB01-Principles of Management	2.9	1.9	1.9	2.9	2.9
C102	17BAB02-Statistics for Management	1.5	1.9	1.9	1.9	1.5
C103	17BAB03-Economic Analysis of Business	2.9	2.4	1.9	2.9	1.9
C104	17BAB04-Total Quality Management	2.9	1.9	1.9	2.4	2.4
C105	17BAB05-Organizational Behaviour	2.4	2.4	2.4	1.9	1.9
C106	17BAB06-Accounting for Management	2.9	2.9	1.9	1.9	1.9
AVERAGE OUT OF 3		**2.22**	**1.88**	**1.80**	**2.08**	**1.78**

Indirect Assessment

SURVEY	PO1	PO2	PO3	PO4	PO5
ALUMNI SURVEY	2.56	2.24	2.32	2.41	2.36
EMPLOYER SURVEY	2.42	2.13	2.21	2.31	2.19
STUDENT EXIT SURVEY	2.33	2.06	2.11	2.25	2.22
INDIRECT ATTAINMENT	2.44	2.14	2.21	2.32	2.26

Over all attainment

Over All Attainment	PO1	PO2	PO3	PO4	PO5
DIRECT ATTAINMENT (Out of 3)	2.22	1.88	1.80	2.08	1.78
DIRECT ATTAINMENT (80% of Direct Attainment)	1.77	1.50	1.44	1.66	1.43
INDIRECT ATTAINMENT (Out of 3)	2.44	2.14	2.21	2.32	2.26
INDIRECT ATTAINMENT (20%of Direct Attainment)	0.49	0.43	0.44	0.46	0.45
OVER ALL ATTAINMENT	2.26	1.93	1.88	2.12	1.88
% of OVER ALL ATTAINMENT	75	64	63	71	63

6. ASSESSMENT PROCESS & ATTAINMENT PROCEDURE FOR PROGRAM EDUCATIONAL OBJECTIVES

Program Educational Objectives are the broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve. Each department has its own PEOs aligned with the keywords like Core Competency, Innovative Skill, Continuous Learning and Interdisciplinary Skill. To assess whether the educational practices prepare our students for reaching the intendedProgram Educational Objectives, the first step is to examine how the POs are mapped to the PEOs. By measuring the success level of each outcome, we can show that our students are well-prepared and will meet the intended Program Educational Objectives. The success level is measured by considering placement, higher studies, entrepreneurship, scientists, technocrats and administrator statisticsof the batch after 4 to 5 years of graduation.
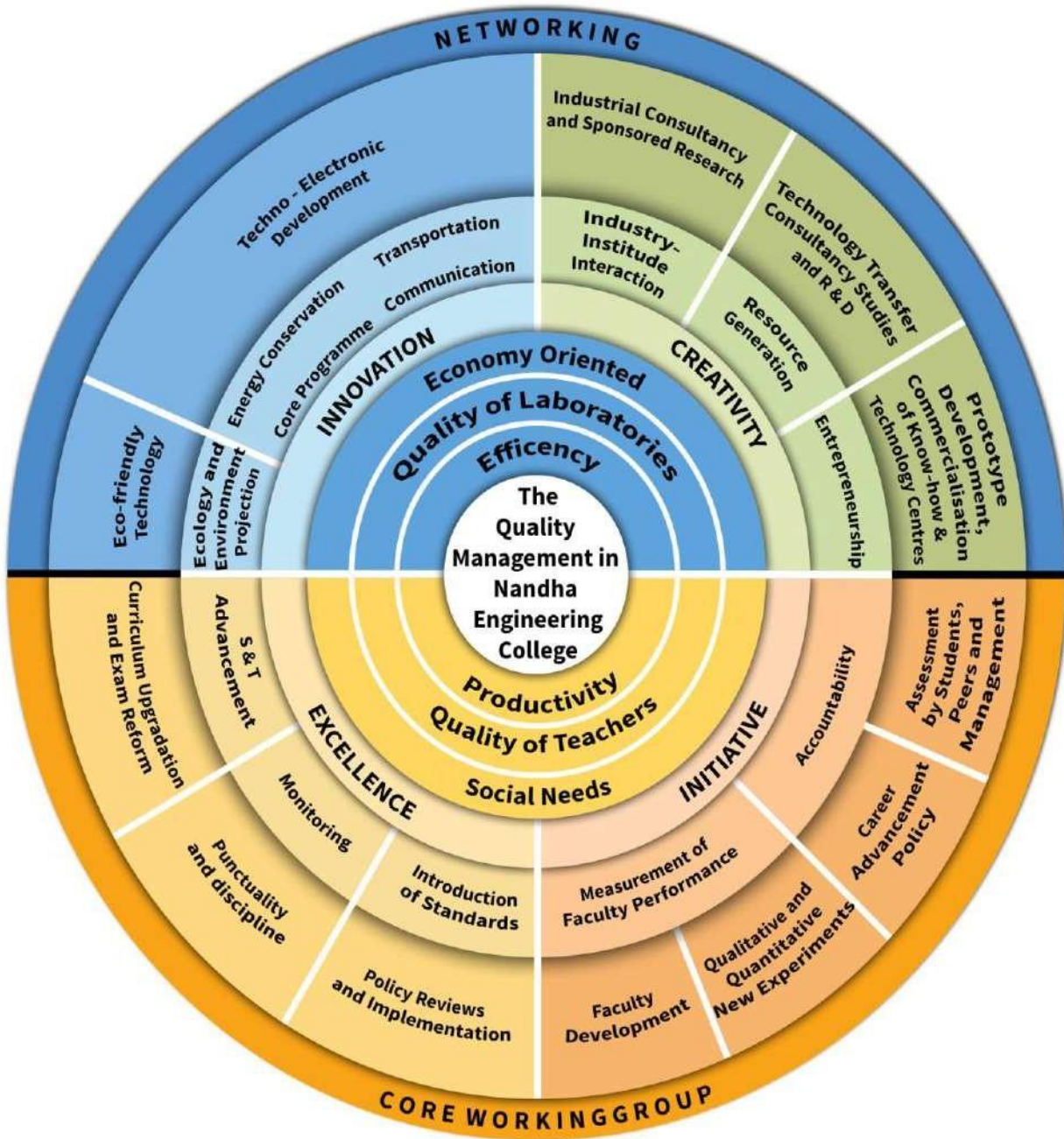
FIGURE 6.1 PROCESS OF QUALITY MANAGEMENT

IN

NANDHA ENGINEERING COLLEGE