

CUST Quality Policy – PSG 23



**Capital University of Science and
Technology**

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Chapter 1 Introduction

1.1 Academic Quality

Academic quality refers to the set of standards and guidelines, related to educational programs, and research activities being followed within an institution. It encompasses the effectiveness, integrity, and continuous improvement of academic programs, ensuring the attainment of intended learning outcomes, accreditation requirements, and the expectations of students, employers, and society.

1.2 Rationale

Higher Education Institutes through pursuit of quality teaching & research intends to create new knowledge and prepare future leaders/Professionals responsibly contributing towards economic, social and political development of the country. HEIs plays important role in attainment of sustainable economic growth through transformation of traditional knowledge into knowledge-based economy. The higher education delivered through academic programs of institutions have to prepare graduates with requisite knowledge and skill sets as per market requirement. Strengthening and raising of quality standards through effective quality policies, enable HEIs to compete and become compatible with international higher education institutions.

The institutional vision and mission have a direct and significant relationship with quality policy. It defines purpose and provides direction in developing the institutional quality strategies and policies ensuring effective implementation of quality assurance mechanism. The CUST quality policy is conceived from its vision, envisaging as a leading institution aiming to transfer students into competent professional, instrumental in societal growth. The institutional quality policy derived from Vision and Mission devised strategies/processes, translated further into actionable and quantifiable performance indicators. Pursuit of excellence as envisioned in the CUST Vision, reinforce institutional commitment towards supporting ethical values and continuous improvement in the quality of teaching and research.

CUST quality policy document is prepared in accordance with the HEC, Precepts, Standards and guidelines QA Framework- 2023, emphasizing on excellence in higher education, fostering a culture of quality, transparency & accountability and continuous quality improvement. Active participation of university stakeholders contributes towards promoting a culture of quality across the institution by implementing best QA practices to enhance academic standards. As per PSG-2023, establishment of IQAE and IQC forums, headed by the university Vice Chancellor is considered to be the focal point for planning

and implementation of all quality assurance policies and practices as per HEC guidelines. Being innovative internal quality intervention, these forums are considered to facilitate the planning/development and effective delivery of internal and external quality practices within HEIs.

The Institutional quality policy recognizes the pivotal role of faculty in quest of excellence, especially in promoting the quality standards of teaching and learning and expects that they will assist the institution in effective implementation of IQA and EQA practices. Underscoring student's and stakeholders' role/engagement in learning process and shift from faculty centered to student-centered approach, policy expect major participation of students in the academic quality processes. The proposed IQA and EQA processes/practices detailed under quality policy, encourage institution to promote quality culture, through infusing all facets and improve educational excellence and student achievements.

1.3 The Concept

The CUST quality policy is devised on the philosophy of de-centralizing the concept of quality, emphasizing that, quality is everyone's responsibility, within the intuition. The policy spearheads, thrust and commitment, to achieve excellence through continuous improvement in the quality of its services and improvement in the performance standards in line with CUST vision and mission. It serves as guiding principle in creating and facilitating quality culture through the active engagement of teaching faculty and University administration/staff. It helps CUST to communicate university's quality obligation with stakeholders (Students, Staff, Faculty, Employers). Effective implementation of IQA and EQA best practices/processes under the Policy, enables university to enhance university reputation and credibility, and develops ethically sound professionals equipped with core values of inclusion, scholarship, innovation & leadership.

CUST Quality Policy as per vision and mission has firm resolved to elevate educational standards, evolves strong internal quality assurance mechanisms and encourage institutional focus to towards developing 'quality culture' at all levels. It should be an integral part of academic's practices and promote conducive learning environment for students. All stakeholders of the institution, decisively committed to contribute substantively in institutionalizing the culture of quality. The process being facilitated by a highest centralized forum (Institutional Quality Circle) IQC, designated by HEC, PSG-2023 QA framework.

The concept of this policy document begins with a clear emphasis on identifying its importance and aligning with HEC-PSG-23 principles like shared responsibility, good governance, accountability, and social contribution. It further describes a well-defined Governance and Management Structure, supported by statutory bodies and university offices that ensure effective leadership, transparency, and alignment

with national and international standards. In academic domain, curriculum development, student assessment and academic integrity are defined with relevant academic policies. Moreover, the concept of Student Engagement is introduced through the office of Student Council for Academic Learning & Enhancement (SCALE), represented by Lead Student Representatives (LSRs), and structured student surveys, ensuring the active involvement of students in the institutional growth. A robust system of Quality Assurance Strategies pertaining to institutional reviews such as IPR, PREE, and PGPR, is proposed to benchmark performance of educational standards and upholding improvements. Subsequently, the idea of Continuous Quality Improvement (CQI) describes the alignment of learning outcomes with market and societal needs through a regular process of evaluation of CLOs, PLOs, and PEOs. Finally, the CUST QA policy undermines the implementation framework, demonstrates institutional commitment towards creation of quality culture defined procedures, and practices being implemented by QEC and IQC.

1.4 CUST Quality Policy Statement

CUST shall strive to achieve excellence in continuous quality improvement by creating a quality culture and enhancing the ownership and shared responsibility of quality education to all stakeholders by ensuring effective and efficient quality assurance mechanisms. The university shall make efforts to develop ethically sound professionals by integrating the core values of inclusion, scholarship, innovation, and leadership.

1.5 Purpose

CUST as per its vision and mission statements, is highly committed to promote ethically sound quality culture, demonstrate institution dedication and desire to achieve academic excellence through continuous improvement and innovation. The objective of the policy is to provide an inclusive, efficient, EQA & IQA system, supporting current academic quality standards and tends to continuously improve the same on the basis of stakeholder's feedback.

1.6 Aims and Objectives

Quality Assurance practices in education play a pivotal role in ensuring the consistent delivery of high-quality education and fostering continuous improvement in academics. CUST is committed to elevating the standard of education by implementing a comprehensive strategy across all the faculties. Therefore, the main aim of the quality policy is to serve as the ultimate quality assurance guide to pave the way for all the stakeholders in implementing and fostering the quality culture in the university through CQI. It provides and sets out imprints of all the quality processes whether internal or external to achieve the

following objectives:

- To provide guidance in understanding, developing, implementing, and reviewing internal and external quality assurance procedures and practices.
- To ensure that the quality of academic programs of all faculties at CUST meets standards laid out by the Higher Education Commission (HEC) and all the relevant councils.
- To ensure the development and transformation of students into excellent intellectuals and skilled professionals.
- To provide a foundation to all the stakeholders in practicing and implementing quality assurance practices through enhanced support processes.
- To facilitate the development of a culture of continuous quality improvement to achieve inclusive, innovative, and ethically sound academic excellence.

1.7 Adaptation of the HEC-PSG-23 Principles

CUST is committed to ensure continuous quality improvement through pursuit of highest standards in teaching, research and services. Quality principles envisioned to promote student's needs, learning experiences and success through regular assessment and enhancement of QA process. By focusing on the following quality guidelines, CUST ensures its obligation towards accomplishing quality culture, academic excellence, continuous improvement, accountability, collaboration and partnership, integrity and ethics, staff development, resources and infrastructure. Provision and graduates' achievement:

1. Practicing High Quality innovative teaching pedagogy.
2. Continuous Improvement through regular assessment and enhancement of academic programs.
3. Maintenance of highest standards of academic honesty and ethics.
4. Accountability and Transparency in decision making.
5. Encouraging original research, knowledge creation and innovation.
6. Building partnership and collaboration with industry, community and academia.
7. Preparing graduates for successful careers progression and employability.
8. Developing faculty/support staff professionally.
9. Providing suitable resources and infrastructure.

In view of the above inevitably reflecting Quality guiding pillars, CUST develop its QA policy framework in accordance with the following laid down HEC-PSG 2023, six (6) Quality principles, as shown in Figure 1.1, are to be practiced for evaluation and improvement of teaching, research and governance: -

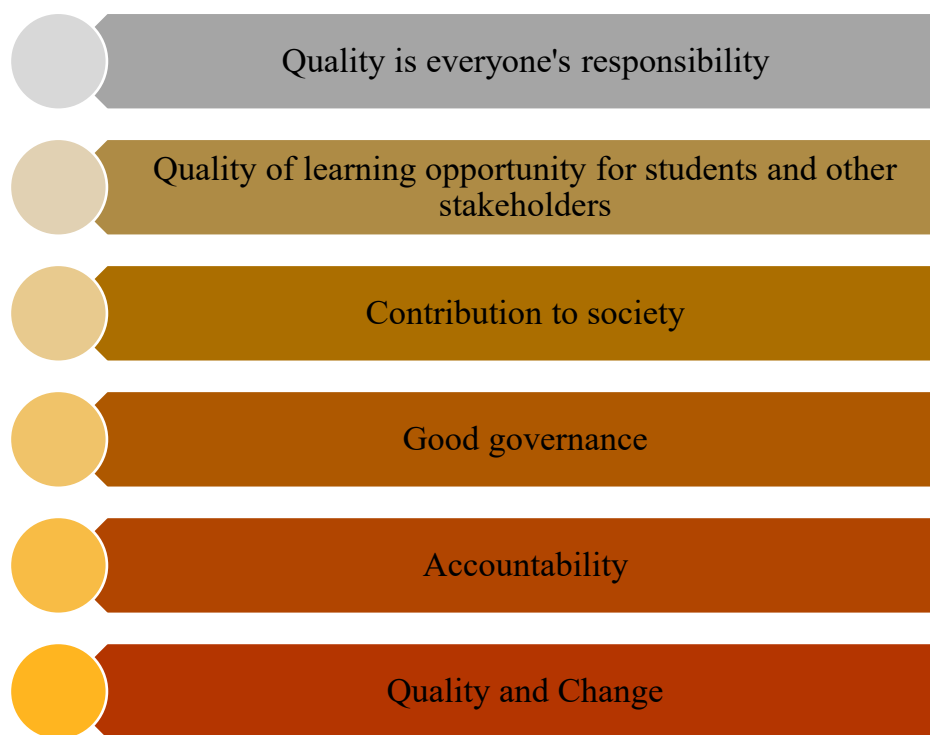


Figure 1.1: PSG-23 Quality Principles

These six principles are elaborated as follows:

1.7.1 Principle 01: Quality is everyone's responsibility

All statutory and non-statutory bodies / positions are involved in ensuring Quality assurance in all procedures, practices, and decisions of the institute. That essentially includes statutory positions such as the Vice-Chancellor, Registrar, Controller, Deans, HODs, faculty members, staff, students, and the Statutory Forums, that is, Syndicate/BOG, Academic Council, BoF, BoS, BASR, and so on. Also, QEC, ORIC, and other non-statutory positions of the university. Student / student body(s) shall also be made part of only forums where they have a role to play. Incorporation of “Quality is everyone's responsibility” at CUST, as an HEI, shall encourage all the stakeholders to develop a ‘quality culture’ as a central institutional focus at all levels. It has to be an integral part of academic practices and should promote the development of an enabling learning environment for students. It assumes that everyone has a responsibility for quality.

1.7.2 Principle 02: Quality of learning opportunity for students and other stakeholders

All the students, faculty, and staff must be provided with a high-quality opportunity for academic learning (including remedial learning), personality development, and character building.

The university shall ensure that it recruits, retains, and develops a body of faculty that could serve the institutional purpose of providing quality learning opportunities for the students and ensure that learning and teaching practices are informed by reflection, evaluation of professional practice, and subject-specific and educational scholarship. The management shall safeguard and maintain physical, virtual, and social learning environments that are safe, accessible, and reliable for all stakeholders.

The university shall be committed to expanding and strengthening academic initiatives as one of the six (6) strategic pillars, shown below. Moreover, the strategic plan provides a clear road map and required actions to achieve the outcomes prescribed in the objectives of strategic pillars. Enhancing graduate employability is one of them. University leadership pays serious attention to these concerns as they determine the sustainability of the institutes and their graduates.

1.7.3 Principle 03: Quality and contribution to society

The quality of the higher education provision is judged by how well it contributes to the socio-economic development of the surrounding areas, region, and national and international development.

University aims to achieve such a standard of educational experience that can enable the students to learn independently and enhance the capacity to develop analytical and critical thinking skills which can contribute to the socio-economic development of the state especially benefitting the marginalized areas of the society. The university's curriculum and projects are designed to achieve such outcomes with the help of specified learning objectives. Expanding civic engagement is also one of the pillars on which the strategic plan of CUST stands. The university has a special focus to make students responsible persons who are capable to know and resolve societal matters professionally and as a citizen. The course projects, problem-based learning, compulsory VIS (Volunteer in Service) activities, seminars, workshops, professional talks etc. along with Sustainability drives/activities are meant to achieve this principle.

The university also envisions achieving this outcome by strengthening the industrial linkages with inclusive initiatives which can help in balancing and connecting the remote and marginalized areas with development industries and organizations.

CUST has full commitment to make sure its stakeholders especially the student body commit to the socio-economic development of the society and engage in civic roles at different levels.

1.7.4 Principle 04: Quality and good governance

Quality and good governance go hand in hand. University governance systems shall be inclusive and comply with all the elements that are critical in facilitating the fulfillment of its mission and goals and shall strengthen institutional effectiveness and integrity. The university shall adhere to the statutes mentioned in the Charter/ Act, with strong institutional mechanisms by all the statutory authorities.

Complete compliance with the Charter/Act, and the essential elements of governance must be ensured at all levels; that is participation, rule of law, transparency, responsiveness, consensus-oriented, equity and inclusiveness, effectiveness and efficiency, and accountability.

1.7.5 Principle 05: Quality and accountability

Having a Charter from the Parliament/Public Institutions, it is the responsibility of the university to sustain a strong commitment to accountability, transparency, and public disclosure; engendering public confidence and sustaining public trust. That includes evidence of strong commitment to the requirement of accreditation councils and government regulations and other national/international quality assurance & accreditation entities, including QAA/HEC Pakistan. CUST is committed to continuous quality improvement in its pursuit of excellence which can be achieved through transparency and accountability at all the levels of the institution. As regularly practiced, the university shall make efforts to acquire accreditations from national and international councils and accreditation bodies to enhance public trust and deliver the quality standards outlined in its vision and mission statement. The university's vision to become a globalized university also contributes to achieving these outcomes as international recognition requires meticulous documentation and disclosure of QA practices along with sound evidence which enhances and expands the accountability of the HEI.

1.7.6 Principle 06: Quality and change

Quality higher education needs to be inclusive, flexible, creative, and innovative; developing and evolving to meet students' needs, to justify the confidence of society, and to maintain diversity. The university motivates and encourages the faculty members and the student body towards advanced research and innovation to meet the national and international standards of quality education. CUST is committed to strengthening and providing an environment that fosters inclusion, creativity, and innovation. The mission statement of CUST draws the attention of all the stakeholders to this principle and puts the responsibility on every stakeholder to take ownership in implementing and achieving standards in this domain. CUST

has defined a standard mechanism of data collection, review/analysis and corrective actions to ensure or revise its processes in all endeavors including but not limited to program development, curriculum development, semester overview for course & its delivery with a focus to inculcate required skills in the students' community to prepare them for national and international professional practices and societal benefit.

1.8 Conceptual Outline (CUST Quality Policy Framework)

Following Figure 1.2 gives figurative outline of CUST quality policy framework, which is explained in the chapters to follow.

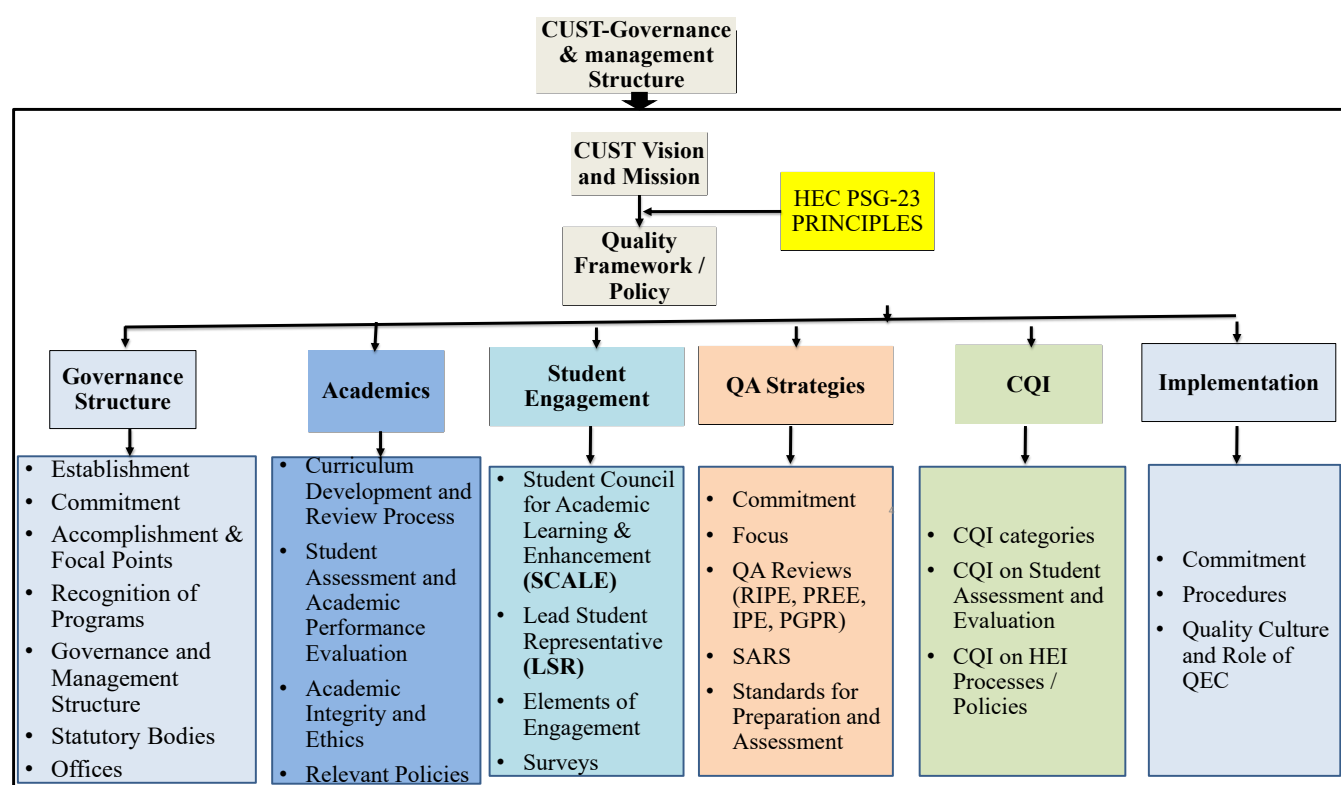


Figure 1.2: Abstract of CUST Quality Framework

Chapter 2 Governance and Management Structure

2.1 CUST-Genesis

Capital University of Science and Technology (CUST) being an academic and research provision, prepares students to become responsible and well-equipped global citizens, who could contribute in the development of the society/community. Capital University of Science & Technology (CUST) Islamabad, a federally Chartered University established through the promulgation of a federal Act No. XVI passed by the Parliament of Pakistan in 2015. Capital University of Science & Technology, contextually started functioning in 1998 as the Islamabad Campus of Mohammad Ali Jinnah University (MAJU) Karachi. Academic excellence, research & innovation state of the art infrastructure and qualified faculty, community engagement and commitment to quality collectively contributed in transforming CUST into a well reputed, renowned national institution.

2.2 Adherence

CUST is committed to achieve these values through implementing certain interventions and strategies. Faculty and students are being encouraged to take part in research and innovation activities. The required financial resources in the form of grants are provided to Faculty and students for conducting different innovative research projects. The industry collaboration and partnership for specific research areas has been given due importance. Faculty and students are motivated to publish their research work in the high impact international research journals. Policies regarding inclusiveness and diversity are observed. Special and disabled students being provided support by institution student affair. University Firmly observe institutional code of ethics as envisioned through its vision and expects ethical attitude and behavior from students, faculty and staff in all professional endeavors. CUST Volunteers In -service office provides opportunities to the students for completing 65 hours of compulsory community volunteer service enabling them to become socially responsible citizen. Institutional Internal quality assurance processes are well established and help to improve the quality of academic programs on regular basis. The OBE approach has been practiced as a tool to assess PLOs and CLOs attainment level of each course, managed by portal reports and analysis.

2.3 Accomplishments and Focal Points

CUST dedicatedly accomplishes its academic and research standards, compatible with international best practices. The main pride of CUST apart from quality education and excellent infrastructure is highly

motivated, committed and professional faculty. Students at CUST are being exposed to conducive learning environment which helps to groom students' personality and interpersonal skills, enabling them to become responsible citizen. A wide range of academic programs being offered under six faculties' including, Engineering, Management & Social Sciences, Health & Life Sciences, Computing and Associate Degrees. A total of 28 undergraduate (4 ADP, BS-18) and 24 Post Graduate (15 MS/MPhil and 9 PhD) Graduate programs being offered under thirteen departments in various fields of study. A good number of graduate academic programs in engineering, computing and management sciences are being offered in the evening to facilitate relevant working professionals. CUST is striving hard towards the promotion of higher education by providing best academic and research facilities to its students and faculty, enabling them to professionally contribute and excel in accordance with job and industrial requirements. The university has huge infrastructure with highly sophisticated and well-equipped laboratories and IT structure.

Capital University of Science and Technology, as a leading private sector university in Pakistan, is highly conscious of the quality of education and the training it imparts to the students. Capital University of Science and Technology has three focal points in its planning which are: -

- Range of quality academic programs
- Training and human resource development
- University's endeavors in research

Each point is outlined below:

The first focal point is the ***range of quality academic programs***. It has the following faculties offering degrees at undergraduate and graduate levels, to prepare ***students*** for Industry:

- Faculty of Engineering
- Faculty of Computing
- Faculty of Management and Social Sciences
- Faculty of Health and Life Sciences
- Faculty of Pharmacy
- Faculty of Law
- Faculty of Associate Program

The Faculty of Engineering offers BS, MS and PhD programs in Electrical Engineering, Computer Engineering, Cyber Security, Mechanical Engineering, Mechatronics and Civil Engineering. Faculty of Computing offers programs in Computer Science, Software Engineering, AI and Mathematics. Faculty of

Management and Social Sciences offers Management Sciences, Psychology, English and Accounting and Finance while Faculty of Health and Life Sciences offers Biosciences, Microbiology and Biotechnology programs. Faculty of Pharmacy offers BS and MS in Pharmacy. Faculty of Law offers BS in Law, Faculty of Associate Program offers Associate Degree in Business Administration, Accounting & Finance, Commerce and Computing. The programs are tailored not for the popular market but for the real need of our country's economy and manpower development.

The second focal point of Capital University of Science and Technology is ***training and human resource development***. In addition to pure academic programs, the University runs training programs, seminars and workshops for its ***student population*** to make them well-informed and beneficial for the industry, public sector and community at large. The Capital University of Science and Technology believes in contributing to the development of professional manpower of the country. The focus is not only on the professional skills but also on personality building and inculcating ethical values among its graduates.

The third focal point is the ***university's endeavors in research***. The Capital University of Science and Technology is deeply conscious of the fact that research and development are the main tools that the countries use to transform their developing economies into developed ones, through the future population i.e., ***students*** at present. The Capital University of Science and Technology has matured Masters and PhD programs in Computer Sciences, Engineering, Management Sciences and Life Sciences. The Capital University of Science and Technology is investing heavily in facilities, technology and faculty development to promote research in meaningful and purposeful areas. For further details refer relevant policy sections.

2.4 Recognition of Programs

All the programs being offered at CUST are recognized by the Higher Education Commission (HEC) and relevant Councils (e.g., Pakistan Engineering Council, Counting Council, Pharma Council etc.).

2.5 Governance and Management Structure

University has a very inclusive governance structure. Board of Governors being highest body manages overall administrative, academic and financial matters and approves policies related to institutional structure of the university. The board has power to supervise and approve institutional strategic, administrative, academic, financial, appointments & promotions and quality & relevance plans and policies. The Executive Committee being executive body of the university supervised all academic and managerial affairs of the university as per act and statues. The Academic Council is the apex academic

body of the university with a power entrusted as per act to devise strategies/ standards associated with research, education and assessment activities of university. Beside these CUST have many other bodies/committees operating under different domains supporting smooth functions of university administrative and managerial affairs, see Figure 2.1, 2.2, and 2.3.

The Capital University of Science and Technology has a well-defined management structure which is influential in not only future planning and institutional growth but also in day to day running and Quality Management System of the university. Please refer to Figure 2.1, 2.2, and 2.3, for the details of management and Organogram of Capital University of Science and Technology Islamabad.

An integrated Quality Management System (QMS) is in place at Capital University of Science and Technology which ensures the quality of education and maintains the academic standards. Besides the regular departments of examination, registration, and student affairs, the following university bodies play active part in overall QMS at different levels; *all these bodies work for the benefit of student to provide them a well-structured educational system to meet the present and future needs of their profession and society.*

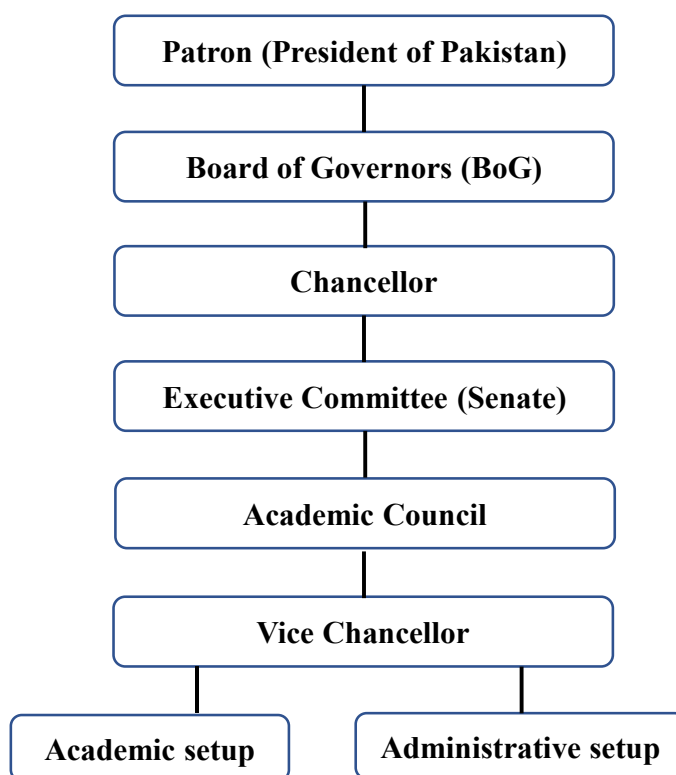


Figure 2.1: CUST Management (high level)

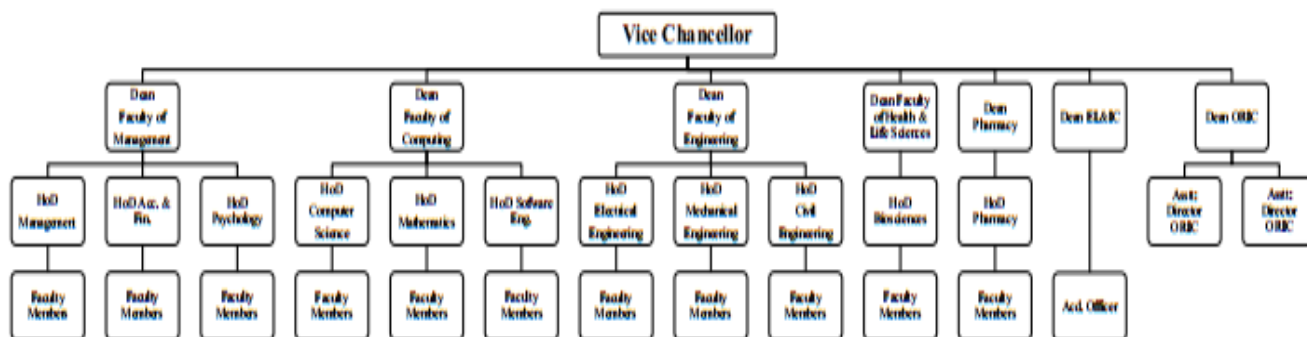


Figure 2.2: (a) CUST Management (Daily Operational level) – Part-A

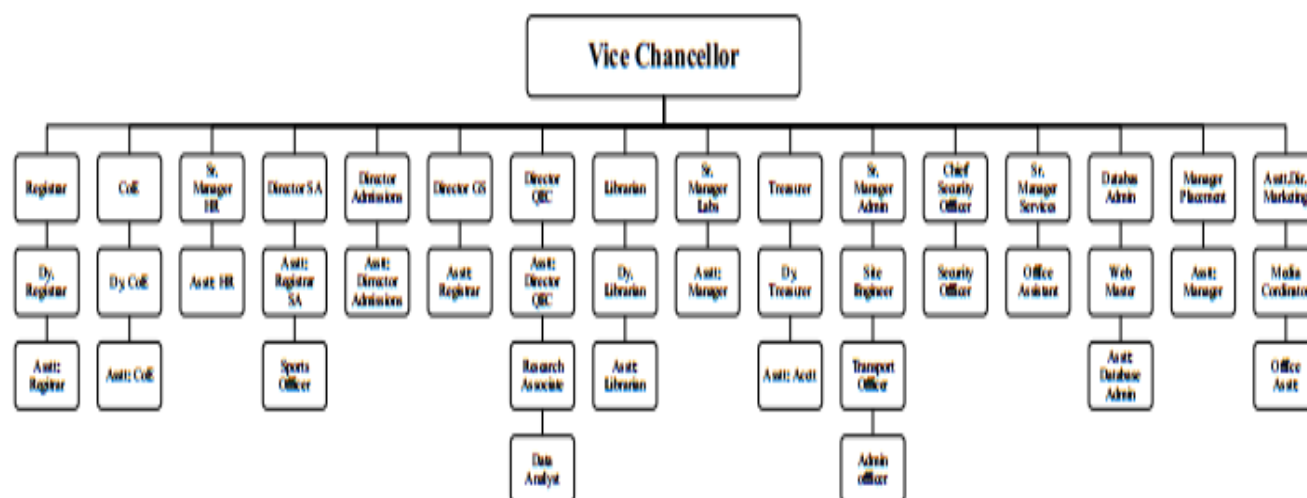


Figure 2.3: (b) CUST Management (Daily Operational level) – Part-B

2.6 Statutory Bodies & Boards

University Level:

- Board of Governors (BoG)
- Academic Council
- Quality Assurance Committee (QAC) and Quality Enhancement Cell (QEC)
- Office of Research, Innovation and Commercialization (ORIC)
- External Linkages and International Collaborations (ELIC)
- Board of Advanced Studies and Research (BASR)

- Selection / Promotion Board
- Discipline Committee
- Admission Committee

Faculty Level:

- Board of Faculty (BoF)
- Industrial Advisory Board (IAB)

Department Level:

- Departmental Faculty Meeting
- Board of Studies (BoS)
- Curriculum Review Committee (CRC)
- Industrial Outreach Committee (IOC)
- Department Program Team (DPT)
- Quality Assurance Committee (QAC)

The above bodies have defined roles (setup, role, responsibilities, actions, record keeping etc.) as per the Act of the university.

2.7 University Offices

Brief role of each office is given:

Vice Chancellor: The Vice Chancellor (VC) is the overall incharge and custodian of the entire university on behalf of the Chancellor and the Patron. VC runs daily affairs of the university as per the charter and guidelines of the governing bodies / councils for the benefit of the students' professional studies and growth.

Deans of the Faculties: Dean assists the VC in academic matters of the respective faculty. In each faculty, there are number of departments and their programs which are taken care by the Dean.

Heads of Departments (HoD): An HoD is in charge of the department and its programs. He is in direct contact with the departmental faculty and the students to address their academic and administrative needs. He submits principal matters to the Dean of his faculty or to the VC, as the case may be.

Quality Enhancement Cell (QEC): It is an important set up of the university that carries out, evaluates and improves quality policy and its procedures in collaboration with the university departments and with due contacts with HEC. The cell has a notified team that runs its affairs.

Office of Research, Innovation and Commercialization (ORIC): This office looks after research, innovation and commercialization of study projects / research work in terms of quality research, patents, copyrights, guidelines, industry demands etc. It also collects and disburses data / information related to collaborations and funding opportunities etc. The office has designated team that runs its daily matters.

Students Affairs: This office deals with the students' matters including but not limited to their transport matters, ID cards, student functions, discipline issues etc. which are related to execute academics, safety and security of the student population.

Graduate Studies: This office deals with the graduate students enrolled for MS or PhD. It keeps an eye on students' progress and issues intimations whenever needed to safeguard their study program. It also carries out various processes necessary for completion of graduate degree programs of students.

Admissions: This office is assigned duties to advertise admissions, guide students and their family for admission procedures, undertake admission tests, issue offer letters, collect & analyze documents and forward data of admitted students to registration office for student enrollment.

Registration and Attendance: This office registers a student in a program referred by the Admissions. This office prepares timetable in consultation with the departments and is responsible to assign auditoriums, help to conduct class attendance and ensure compliance to attendance policy. This office deals with all academic / registration affairs of students. It also prepares the "Calendar of Activities". It keeps complete file record of every student.

Examinations: This office holds mid-term and final-term exams of all programs being offered in the university as per the "Calendar of Activities". It prepares date sheets and distributes among the students through university portal. It also resolves issues and matters related to examination conduct in a transparent way. The office maintains all record of examination. It also completes data and its analysis required to notify degree completion, transcript and the Convocation.

Treasurer and Finance: This office deals with the financial matters such as fee challans, remuneration to faculty & staff, tax matters and budget preparation for approval by the competent authority.

VIS (Volunteer in Service): VIS helps student to do VIS activities – a pre-requisite for the degree award as per HEC guidelines. This office shortlists number of Govt. and Non-Govt. organizations which perform social activities and signs MoUs with them to place CUST students safely and professionally for VIS works. At the end of VIS work, this office evaluates VIS of each student and

submits result to the Examination for “Satisfactory” or “Unsatisfactory” VIS activity which appears on student’s transcript.

Directorate of Environment and Sustainability (DSE): DSE performs activities related to SDGs which are the seventeen sustainable development goals defined by the UN. Through these activities, the student population becomes aware and responsible to undertake effective sustainable activities in their profession and in the society. DSE does work mostly in collaboration with all departments of the university. It also makes annual submissions to the UI GM ranking of the university.

Managers Administration, Security & HR: These offices do the administrative tasks of the university as per their assigned duties.

Complete details of each Office are available separately as per the Act of the university.

Chapter 3 Academics

Academics is the key aspect of an HEI (Higher Education Institution) wherein details of curriculum development and review processes, student assessment & their academic performance evaluation and Academic Integrity & ethics are focused to ensure compliance to the quality policy. Matters related to Continuous Quality Improvement (CQI), Rules & Regulations (General policies), and various other policies are discussed under separate heads, hence this section shall be read in relation to all other relevant sections and policies discussed or referred in the quality policy framework document.

3.1 Curriculum Development and Review Process

The curriculum development and review process at CUST follows a structured and comprehensive approach aligned with national and international academic standards. The university ensures that its academic programs remain relevant, rigorous, and industry-focused.

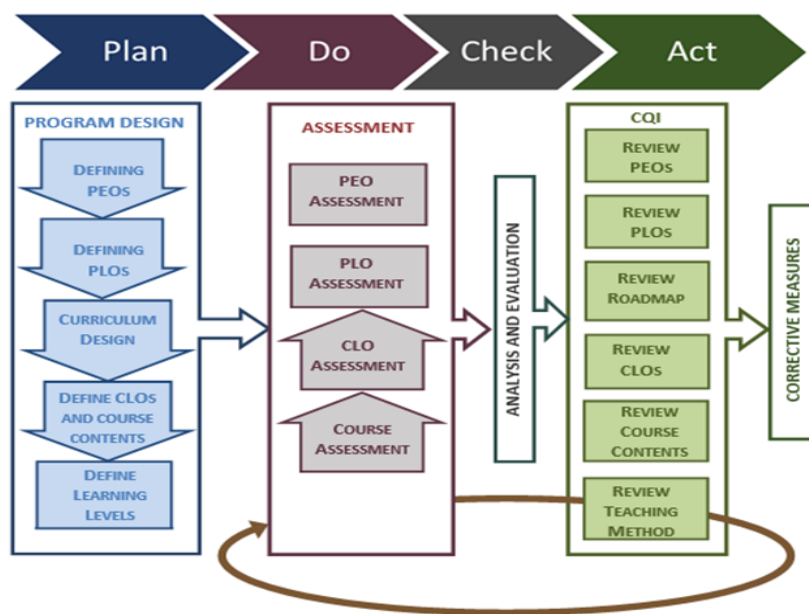


Figure 3.1: Curriculum Design and Student Assessment Process

The curriculum development process is aligned with student needs and industry requirements, ensuring relevance and applicability to job market demands. An interdisciplinary approach is encouraged by integrating multiple disciplines, broadening students' learning experiences, fostering critical thinking, promoting innovation, and addressing societal challenges. This model equips students with the necessary skills and knowledge to contribute effectively to community development, societal progress, and human well-being. As shown in Figure 3.1, this structured approach ensures that academic programs remain dynamic, responsive, and aligned with evolving

industry and societal needs. The process of **curriculum design** is a top-down process that commences by defining Program Educational Objectives (PEOs) and linking them to the University's Vision and Mission. Program Learning Outcomes (PLOs) are either adopted (e.g., those of Pakistan Engineering Council's) or defined to explain focus and details of the SKILLS that are to be developed in students during and at the time of their graduation to make them professionally and ethically acceptable in their respective profession and in the society. These PLOs are further aligned with the PEOs. These PLOs are assessed through direct and indirect assessments. Finally, to achieve PLOs through direct assessment, Course Learning Outcomes (CLOs) are defined along with desired taxonomy (learning domain and learning levels). Further parts of Figure 3.1 are explained in CQI chapter.

There are different bodies and stakeholders who are involved in the curriculum development and review process. The description and role of each one of them is explained in Table 3.1 below.

Table 3.1: Curriculum Development and Review - Description and Roles

Type of Entity	Brief Description and Role
<i>(a) Curriculum Development Process</i>	
Curriculum Review Committee (CRC)	CRC is a setup of program faculty at departmental level. It receives input from faculty, students' feedback on courses etc., and input of accreditation bodies. CRC makes a discussion on the inputs and proposes changes / recommendations for placement before the BoS after review by the HoD (Head of Department).
Industrial Outreach Committee (IoC)	It is a departmental committee with a focus to engage industrial professionals for their input related to the needs of Industry and to provide students with an opportunity to do internship. The input of this departmental committee is also to review curriculum and suggest changes. Input of IoC is considered by CRC and discussed in BoS.
Board of Studies (BoS)	BoS is a statutory body at the department level consisting of members as per the University Act including Industry representative.
Board of Faculty (BoF)	It is also a statutory body at the faculty level constituted as per the act of the university; it considers the recommendations of BoS and makes recommendations for

Type of Entity	Brief Description and Role
	the Academic Council (AC) after due deliberations. BoF may refer back any recommendation of the BoS for re-evaluation on the basis of input of its members which also have representations from the industry.
Industrial Advisory Board (IAB)	It is a statutory body constituted at the faculty level having at least one senior industry professional representing each program of the faculty. The board reviews the curriculum and gives suggestions for improvement as per the industry need. Input of IAB is presented and discussed in the AC.
Academic Council (AC)	It is one of the main statutory higher-level bodies that receives input of BoFs and, may be those of IAB, of all faculties and accepts / rejects their input after deep discussions. The approvals by AC are adopted for further compliance and practice.
<i>(b) Review Mechanism</i>	
Stakeholders' involvement	Stakeholders are the ones as defined in the Act of the university. Students are the key stakeholder and their input is gathered in the form of surveys (course feedback, exit, alumni, meetings with counselors etc.). Faculty input is also obtained during faculty meetings, course review reports, quality assurance meetings etc. Industrial experts are regularly involved as members of BoS, BoF, IoC (Industrial Outreach Committee at department level), IAB (Industry Advisory Board at faculty level), and during events such as Industry Open House etc. Input of Accreditation Councils and other stakeholders is also considered in every academic aspect specially related to Academics. AC (management stakeholder) gives final approval of inputs.
Periodic Reviews	Academic programs undergo periodic internal and external reviews to ensure compliance with regulatory requirements and quality benchmarks.

3.2 Student Assessment and Academic Performance Evaluation

CUST follows a robust assessment and evaluation framework to ensure the academic performance of students is measured effectively and fairly. The assessment system includes multiple evaluation tools to support a holistic learning environment. As shown in Figure 3.1 above, direct assessment is a bottom to top approach wherein course assessment is done through formative and summative assessments. The University follows a standardize relevant grading policy where students’ performance is mapped against predefined learning outcomes. In each of the above assessments, CLO assessment checks skills development at course level. PLO assessment is a check at course and program level (weighted average of a number of pre-defined courses). PLO assessment has indicative link with PEO assessment but PEOs are primarily checked using input from alumni and employers’ feedbacks. Figure 3.2 explains the assessments’ types and their ingredients which have been elaborated briefly above.

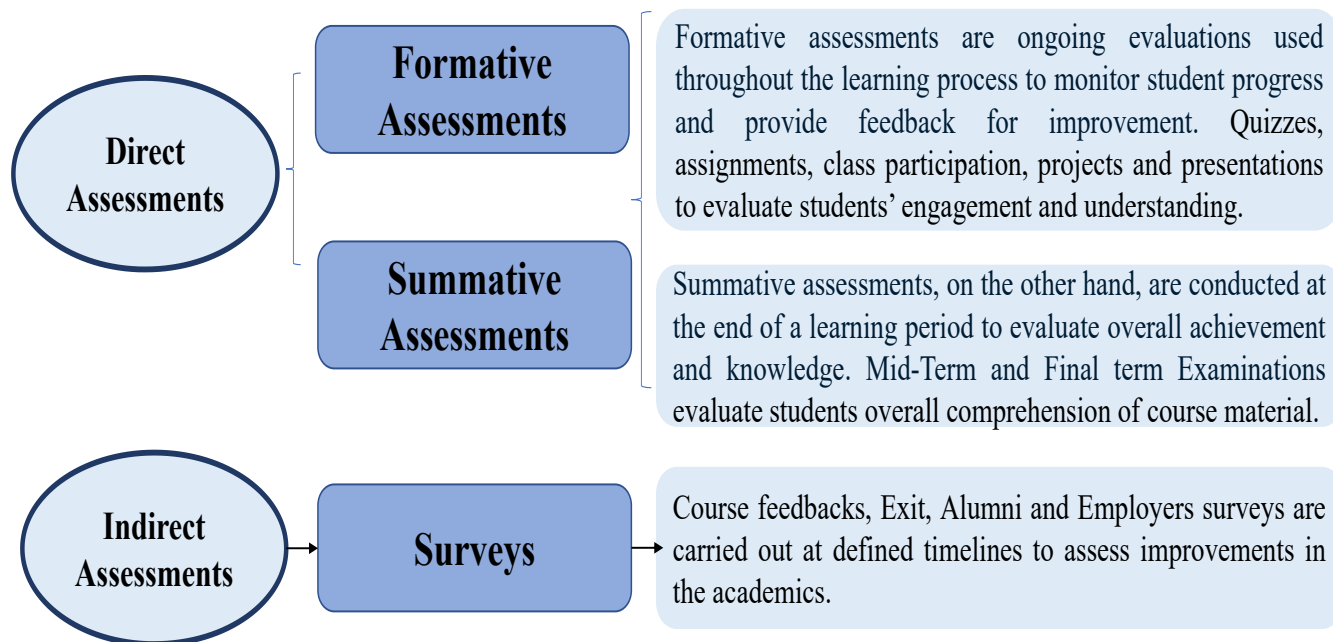


Figure 3.2: Student Assessments

3.3 Academic Integrity and Ethics

Academic integrity and ethics are fundamental to CUST’s educational philosophy. The university upholds strict ethical standards to foster a culture of honesty, transparency, and professionalism among students, faculty, and staff. Table 3.2 gives description of ethical standards being exercised at CUST.

Table 3.2: CUST Ethical standards

Ethical Standards	Description
Code of Conduct	A well-defined academic integrity policy is enforced to address issues such as plagiarism, cheating, and falsification of data.
Ethical Research Practices	Research conducted at CUST adheres to ethical guidelines, including responsible data collection, citation practices, and avoidance of conflicts of interest.
Training & Awareness	Regular workshops on academic ethics, research integrity, and professional conduct.
Fairness & Transparency	All evaluations, disciplinary actions, and assessments are carried out impartially to ensure equal opportunities for all students.
Conflict of Interest	Faculty and staff members must disclose any potential conflicts of interest in academic and research activities.
Ethical leadership	Promotes integrity, accountability, and responsible decision-making.

By adhering to these principles, CUST ensures that academic policies reflect its commitment to excellence, continuous improvement, and ethical responsibility in higher education.

3.4 Relevant Academic-Policies

CUST has been practicing a crisp and clear academic environment wherein high standards of quality are defined, displayed, practiced, monitored and revised upon need. These policies include:

3.4.1 General Policies / Rules and Regulations

This is a published public document available at <chromeextension://efaidnbmninnibpcapjpcglclefindmkaj/https://cust.edu.pk/wpcontent/uploads/2024/11/Regulations.pdf> and provided to every student at the time of admission. It explains comprehensively the rules and regulations which are applicable to run and review matters related to all academics. Its chapter 1 titled Undergraduate Regulations includes text related to Definitions, Admissions, Credit Hour, Academic Year, Assessment of Tuition Fee, Credit Transfer Policy, Registration, Add/Drop Courses, Withdrawal, Repeat & Substitute a Course, Semester Break, Change of Program, Attendance, Examination and Grading, Retake of Final Examination, Review of Grade, Probation and Expulsion, Undergrad degree requirements, Medal Award Policy, Quaid-i-Azam Gold Medal and Removal of difficulties. Each of 2nd and 3rd Chapters focus MS/MPhil and PhD

regulations, respectively. They cover Definitions, Admission Requirements, Degree Requirements, Registration, Assessment of Tuition Fee, Course Examinations, Retake of Final Examination, Probation & Expulsion, Thesis Submission and Defense. Chapter 3 further elaborates Comprehensive Examination, Research Synopsis, Research, and Removal of difficulties. Chapter 4 is on The University Dress Code and chapter 5 is about Students' Discipline.

3.4.2 Scholarship Policy

CUST is committed to promote excellence for which it has a variety of scholarships for students e.g., merit, PGC, need-based, disabled, kinship, sports, contingency, and faculty development. The details are available at <https://cust.edu.pk/scholarship/#1670584851530-21d8112c-7d55>.

3.4.3 Additional CUST Policies

Visit <https://cust.edu.pk/policies/> to see details of following policies:

- Faculty Handbook 2019
- Quality Assurance Policy
- Anti-Harassment Policy at Workplace
- Lab Safety
- Promotion Appointment Policy
- Admission Policy
- Fee Refund Policy and Student Evaluation Policy
- Grading Policy for Undergrad Programs
- Grading Policy for Graduate Programs
- Discipline Policy
- Appeal Procedure
- Publication Policy
- Academic Freedom Policy
- Research Policy
- Degree Issuance Policy
- VIS-Cust Policy & Procedure
- Environment, Health, and Safety (EHS) Policy
- Policy of Banning Drug and Tobacco use on Campus

- CUST Drug and Tobacco Committee
- Graduate Assistantship Policy
- Research Ethical Review Policy
- Virtual Learning Education (VLE) policy

Chapter 4 Student Engagement

Students play a critical role in ensuring the quality of education at CUST through their active engagement in various academic and institutional processes. They participate in institutional self-assessments and accreditation procedures, contributing valuable insights that help maintain and enhance educational standards. Additionally, they play a key role in program development and curriculum reviews, ensuring that courses remain relevant and effective. Their feedback, gathered through structured surveys, focus groups, and open forums, provides essential input for continuous improvement. Furthermore, students assist in implementing action plans following reviews, helping to translate recommendations into meaningful changes that enhance the overall learning experience. The brief of main components of student engagement are as follows.

4.1 Student Council for Academic Learning & Enhancement (SCALE)

This is a student body established at the faculty level. It is an elected student body responsible for representing students in academic and institutional matters. Its key roles include:

- Providing feedback on academic programs.
- Participating in decision-making processes.
- Collaborating with faculty and administration on quality enhancement initiatives.

4.2 Lead Student Representative (LSR)

The **LSR** is also an elected student body that acts as the primary link between students and university leadership. The LSR is responsible for:

- Coordinating student feedback and submissions.
- Facilitating student participation in governance and review processes.
- Representing student concerns at institutional meetings.

4.3 Elements of Students Engagement

Figure 4.1 elaborates the five (5) key elements of students' role in improving the institutional Quality Assurance (QA) mechanisms. Students' involvement through structured feedbacks at various stages and in various categories; their engagement in policy implementation, monitoring, evaluation and reviews are

extremely important. But the success lies with the support and resources to be provided by the institute for their orientation, trainings and professional developments to have constructive input by the students for the uplift of quality mechanisms.

Feedbacks	Policy Implementation	Monitoring and Evaluation	Student's role in external Review	Support and Resources
• Student surveys • Evaluations • Open Forums • Direct communication	• Ensure students engagement activities are inline with Quality Policy framework	• QEC annual review evaluates student engagement initiatives.	Their roles are extremely important in • RIPE Process • In discussions with external review panels.	• Training and Orientation programs • Professional development opportunities through VIS, entrepreneurship, and professional development trainings.

Figure 4.1: Elements of Student engagement in improving the institutional QA mechanism.

4.4 Students' Surveys

CUST QEC conducts semester-wise surveys, as internal reviews regularly through devised HEC, QAA quality assurance processes. Each Department in pursuance of OBE under its CQI cycle assesses academic programs PEOs, PLOs and CLOs attainment level through ODOO web portal. The results of the same along with action taken has been incorporated in the program CQI report resulting in closing of the loop. Feedback surveys serve as an important assessment tool for gathering information in the form of quantitative and qualitative responses from the important stakeholders of the university therefore, QEC CUST conducts six surveys as advised by HEC QAA regularly. The surveys include the Freshman Survey, Course and Teacher Evaluation Survey, Faculty Satisfaction Survey, Exit Survey for Graduating Students, and Alumni and Employer Survey. These surveys are conducted at the beginning or end of the semester or after two years depending upon their nature, as prescribed by the Higher Education Commission. The survey results are gathered and a detailed report with the findings and recommendations along with an executive summary is prepared which is then shared with the Vice Chancellor after the approval from the

competent authority, the same is communicated to the concerned departments to take further action and relevant measures for the improvement of the quality of education at CUST. The course and teacher evaluation survey are assessed on set benchmark KPIs categorizing courses and faculty on the basis of the student's feedback into set categories. The actions taken on such surveys are shared back by the departments to QEC to ensure compliance.

Chapter 5 Quality Assurance Strategies

5.1 Commitment

CUST pursued well devised strategic processes safeguarding academic standards and quality of students learning. The well-defined institutional quality policy gave detailed guidelines, ensuring accomplishment of high standards related to quality of academic programs and mainly focuses on the improvement of students learning experiences. The policy document clearly elaborates the significant compelling intrusions for protecting CUST academic programs reputation among students, employers and accreditation agencies. The academic programs being offered at CUST ensure that students are receiving quality education, fully equipped with requisite skills set and knowledge required as per job requirements. The academic standards and high level of student learning experience enhanced student satisfaction and success lead to improve retention rates and employability. Maintenance of academic standards at program level, demonstrates institutional commitment towards regulatory compliances, safeguard the accreditation requirements and recognition. CUST follows a rigorous continuous quality improvement mechanism/ feedback system, implemented through different well structure quality tools available through web portal and manually. These internal and external quality tools devised as per HEC directions are being used to acquire feedback of stakeholders, assess institutional effectiveness and identification of areas where further improvement required.

QEC in collaboration with university departments conducts regular internal periodic program reviews and assessment through different quality tools for obtaining students, faculty, alumni and employer's feedback. The prominent quality tools and processes are being used are Periodic Surveys like Course & Teacher, Faculty Satisfaction, Exit, Alumni and employer, Self-Assessment Reports (SARs, PREE), Institutional Performance Effectiveness (Internal RIPE) and Post Graduate Program Review (Level 7&8 Programs PGPR). These tools help to identifies different areas where remedial actions need to be taken through a detailed implementation plan, addressing discrepancies and contributes towards further improvement.

5.2 Focus

This section focuses on the current QA Practices that are regularly followed and implemented at CUST as a mandate entrusted to HEIs via HEC QAA. At CUST, Quality Assurance (QA) practices are regularly implemented in line with the mandate given to Higher Education Institutions (HEIs) by the Higher Education

Commission (HEC) through its Quality Assurance Agency (QAA). These QA processes contribute significantly to the professional development of faculty in teaching, learning, and research competencies. Under the updated PSG-23 QA Framework, the QA system focuses on two main types of evaluations: the Review of Institutional Performance and Enhancement (RIPE) and the Program Review for Effectiveness and Enhancement (PREE), assessed against 16 and 8 standards respectively. RIPE is structured into three tiers—Strategic Development, Academic Development, and Institutional Development—and evaluates the institution’s performance over the previous academic year. External RIPE reviews are conducted every three years, while internal RIPE reviews take place annually. Similarly, PREE reviews are conducted both internally and externally on an annual basis, assessing academic programs and resulting in formal Program Assessment Reports submitted to HEC. Additionally, Program and Graduate Program Reviews (PGPR) are also conducted annually, both internally and externally, to further enhance academic quality. Documentation for external reviews is continuously prepared to ensure compliance with HEC’s Performance Evaluation Standards, while input from relevant councils and governing bodies is also incorporated for ongoing program improvement.

5.3 Review strategies

There are two types of review strategies, as shown in Figure 5.1 and explained below:

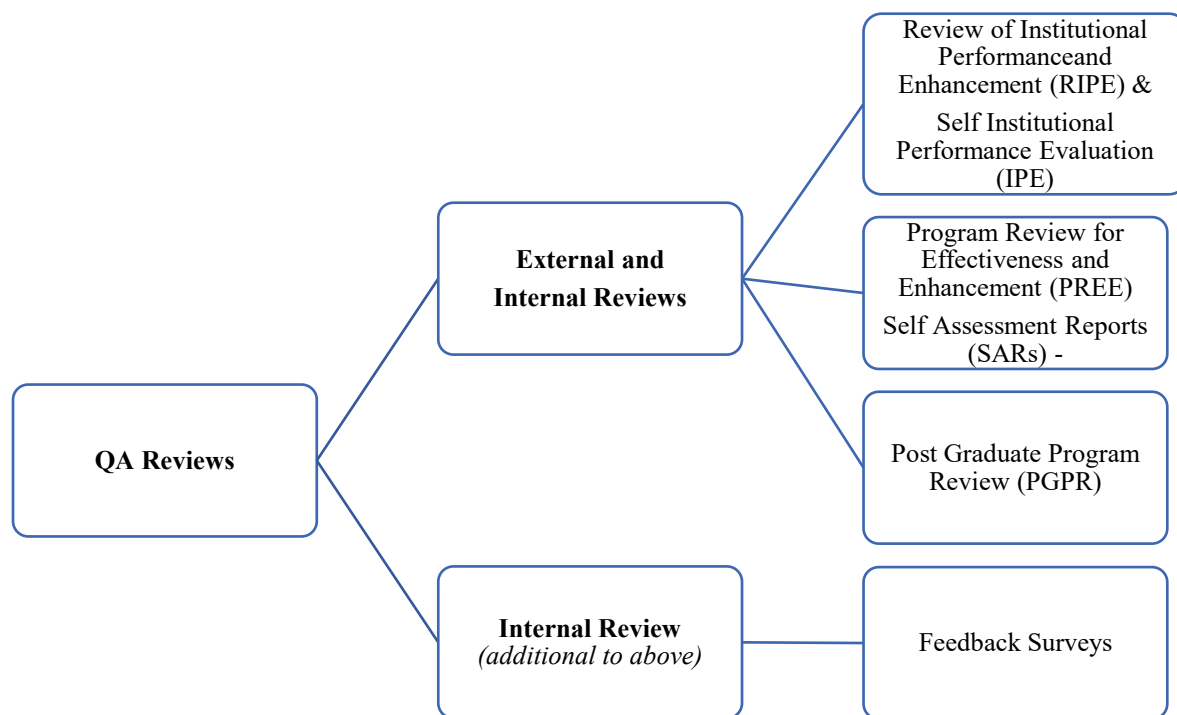


Figure 5.1: QA Review Strategies

5.3.1 Review of Institutional Performance and Evaluation- RIPE

The RIPE process is a structured annual review (refer Figure 5.2) designed to assess the institutional academic performance of Higher Education Institutions (HEIs). The Institutional Quality Circle (IQC), in coordination with the Institutional Quality Assessment and Effectiveness (IQAE) Office, oversees and executes the process systematically.

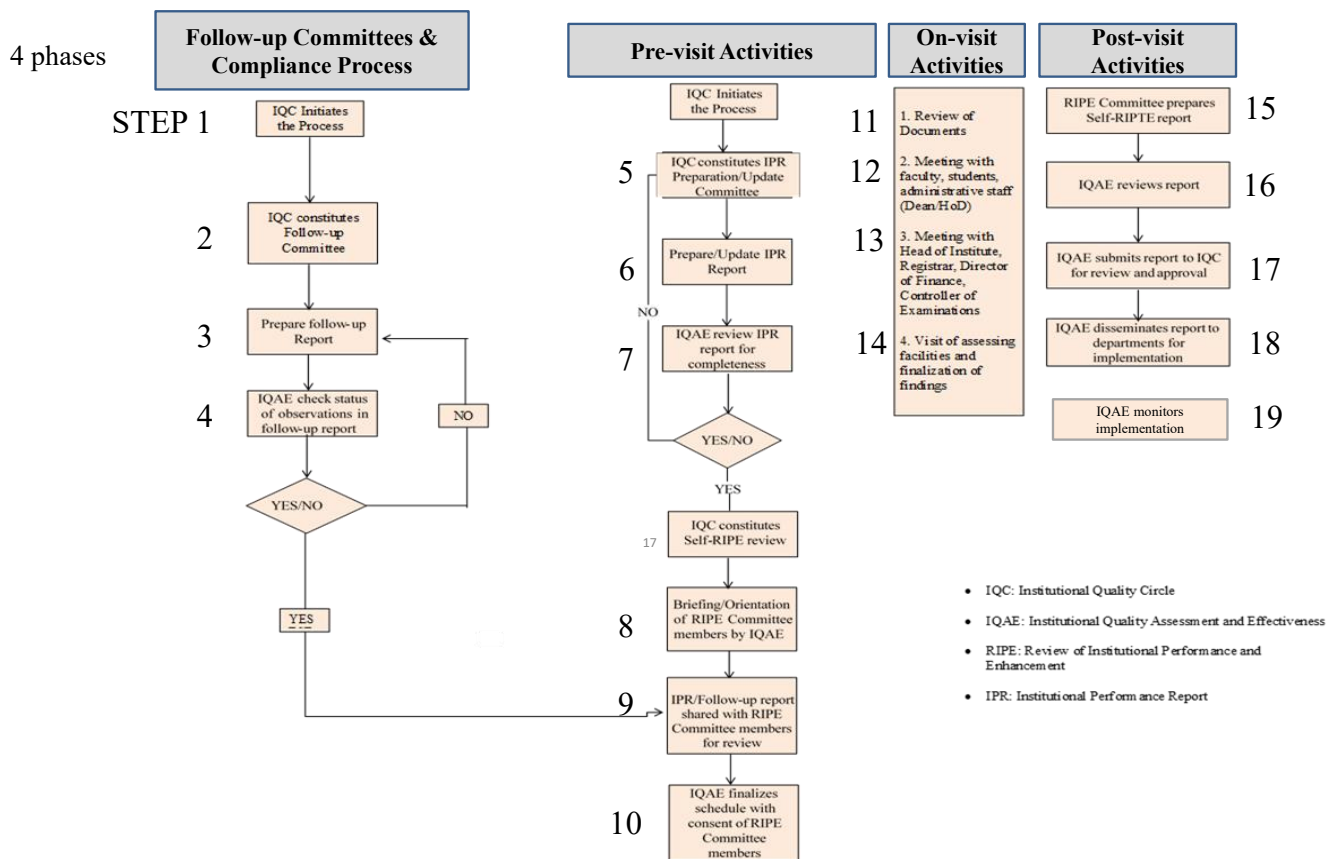


Figure 5.2: A structured flowchart representing the RIPE (Review of Institutional Performance Enhancement) process

The process is broken down into four main phases, as represented in the flowchart (Figure 5.2).

Phase-1: Follow-up Committee & Compliance Process

- Step 1: The IQC initiates the process, ensuring that RIPE is conducted annually before June 30.
- Step 2: IQC constitutes a Follow-up Committee that includes two senior faculty members (professors) and one representative from IQAE.

- Step 3: The Follow-up Committee prepares a follow-up report, monitoring previous recommendations and corrective actions from the last review.
- Step 4: IQAE checks the status of observations in the follow-up report:
 - If observations are incomplete or unresolved, the report is sent back to the Follow-up Committee.
 - If the report is complete, the process advances to the pre-visit activities.

Phase-2: Pre-Visit Activities

- Step 5: IQC initiates the RIPE process by constituting an IPR Preparation/Update Committee.
- Step 6: The IPR Committee prepares or updates the Institutional Performance Report (IPR), ensuring compliance with RIPE's 16 quality standards.
- Step 7: The IQAE office reviews the IPR report for completeness:
 - If the report is incomplete, it is sent back for revision.
 - If the report is complete, the IQC constitutes a Self-RIPE review committee.
- Step 8: The IQAE organizes an orientation session for RIPE Committee members, briefing them on RIPE standards, HEC expectations, and the review process.
- Step 9: The finalized IPR and follow-up report are shared with RIPE Committee members for review.
- Step 10: The IQAE schedules the review visit, in consultation with the RIPE Committee.

Phase-3: On-Site Visit

The RIPE Committee conducts an institutional visit following a structured plan:

- Step 11: Review of Documents: The RIPE Committee verifies documentary evidence provided in the IPR.
- Step 12: Meetings with stakeholders:
 - Faculty, students, and administrative staff (Deans, HoDs)
 - Heads of Institution, Registrar, Finance Director, Examination Controller
- Step 13: Assessment of institutional facilities, including:
 - Classrooms, libraries, auditoriums, transport, sports facilities, and cafeteria.

- Step 14: The RIPE Committee finalizes observations and findings before concluding the visit.

Phase-4: Post-Visit Activities

- Step 15: The RIPE Committee prepares the Self-RIPE report, summarizing findings, recommendations, and improvements needed.
- Step 16: The IQAE reviews the report for consistency and adherence to quality standards.
- Step 17: The IQAE submits the report to IQC for approval and signing off.
- Step 18: The IQAE disseminates the finalized RIPE report to departments for implementation.
- Step 19: The IQAE monitors implementation through IQC, ensuring compliance with institutional Continuous Quality Improvement (CQI) policies.

5.3.2 Program Review for Effectiveness and Enhancement (PREE)

The Program Review for Effectiveness and Enhancement (PREE) is a structured method used to assess the quality and sustainability of academic programs at levels 5-8 of the Program Qualification Framework (PQF). It ensures that programs meet high-quality assurance (QA) standards and continuously improve student learning. CUST conducts PREE as part of its internal quality assurance (IQA) processes, while external reviews are carried out by the Higher Education Commission (HEC) and the Quality Assurance Agency (QAA) for advanced levels (7 and 8). PREE follows the Precepts Standards and Guidelines (PSG) 2023 and the Quality Assurance Framework (QAF) to promote a culture of quality across institutions. The Quality Enhancement Cell (QEC) oversees the self-review process, ensuring departments are prepared and managing procedures, templates, schedules, and follow-ups. Departments conduct self-assessments based on eight PREE standards, using relevant evidence to evaluate program performance. The review process concludes with the development of an action plan by the department, guided by recommendations from the assessment team. The PREE process follows a structured sequence of steps, ensuring thorough program assessment and continuous quality enhancement. The flowchart (Figure 5.3) illustrates the procedural steps involved in the self-assessment and evaluation process, linking each phase to responsible stakeholders and decision-making authorities.

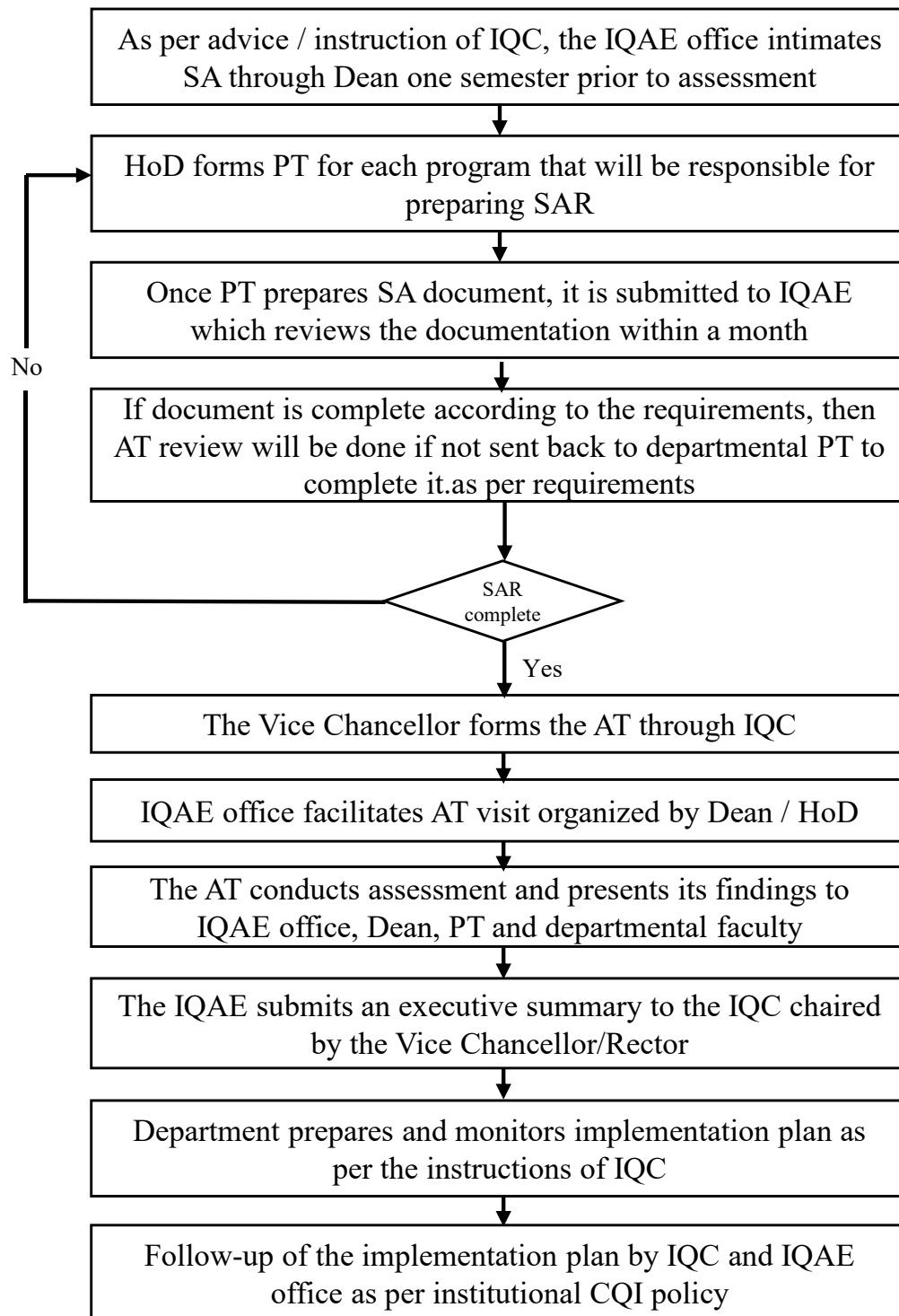


Figure 5.3: Flowchart of Program Review for Effectiveness and Evaluation (PREE) Process

The process (of Figure 5.3) is further explained below:

a) Initiation of Self-Assessment

- The QEC office initiates the self-assessment process at least one semester before the assessment cycle ends, through the Vice Chancellor (VC) or Rector.
- If a program undergoes self-assessment for the first time, the department is given an academic year for preparation.
- The Institutional Quality Circle (IQC) is constituted under the leadership of the VC, including Deans, Heads of Departments (HODs), and representatives from non-academic departments.
- The composition and notification of IQC are formalized through the Registrar's office.

b) Formation of Program Team (PT)

- The QEC coordinates with departments through Deans/HODs to establish a Program Team (PT) responsible for self-assessment.
- Each PT consists of 2-3 faculty members specializing in the respective program area.

c) Preparation of Self-Assessment Report (SAR)

- The PT prepares a comprehensive Self-Assessment Report (SAR) within one semester, ensuring all aspects of program quality and performance are covered.
- The SAR is submitted to the IQAE/QEC office via the Dean for review.

d) Review of SAR by IQAE/QEC

- The IQAE/QEC office reviews the SAR within one month to verify compliance with PREE standards.
- If the document is incomplete or lacks supporting evidence, it is returned to the department for revision.
- If found satisfactory, the Vice Chancellor (IQC) forms an Assessment Team (AT) in consultation with QEC recommendations.

e) Constitution and Functioning of the Assessment Team (AT)

- The AT consists of 2-3 faculty members, including at least one external expert.

- The QEC schedules a 2-3 days assessment visit in coordination with the department.
- During the visit, the AT interacts with HODs, PT, faculty members, and students to evaluate the program's effectiveness.

f) Conducting the Program Assessment

- The AT reviews the self-assessment report, gathers stakeholder feedback, and identifies areas of best practices and common challenges.
- The assessment findings are presented in an exit meeting with QEC, Dean, PT, and faculty members.

g) Finalization and Dissemination of Assessment Report

- The QEC submits an executive summary of the AT's findings to the IQC chaired by the VC/Rector.
- The department formulates an implementation plan based on AT recommendations, including corrective actions, assigned responsibilities, and timelines.

h) Follow-up and Continuous Quality Improvement

- The QEC monitors the implementation plan and ensures corrective actions are taken.
- The progress of the implementation plan is reviewed at least once per semester.
- The SAR findings and action plans become part of the Yearly Progress Report (YPR), maintaining a continuous cycle of quality assurance and program improvement.

5.3.2.1 Self-Assessment Reports (SARs)

Self-assessment is an important toolset for assuring the academic quality of a program and provides feedback to the department /faculty and university administration to prepare the required improvement action plan. The basic purpose of the self-assessment exercise is to maintain and enhance academic standards enabling the promotion of students' learning, verifying academic programs, and ensuring institutional objectives and goals. Relevant documentation/ data of programs were gathered against eight set standards and thirty-one attributes through the Self-Assessment process, reviewed critically, and suggested important remedial action/steps for future improvement of the program. Recently with the

launch of the Higher Education Commission, Precepts, Standards, and Guidelines in 2023, the process has been revamped and the program assessment reports will be conducted under the revised standards from the year 2024 onwards. SARs also include data, its assessment and evaluation from various students' surveys, already explained in section on Student Engagement.

5.3.2.2 Standards for SARs Preparation and Assessment

CUST has adopted the eight (8) standards of HEC-PSG-23 for preparation of SAR and defined rubrics against each standard. The standards are:

Standard 1: Introduction and Program Details - Mission, Objectives & Outcomes

Standard 2: Curriculum Design and Organization

Standard 3: Program-Specific Facilities

Standard 4: Student Advising and Counselling

Standard 5: Teaching Faculty/ Staff

Standard 6: Institutional policies and process control

Standard 7: Institutional Support and Facilities

Standard 8: Institutional General Requirements

The rubrics are defined after a CQI for each standard. Figure 5.4 shows sample of rubrics defined for standard 1, the remaining rubrics are available with CUST QEC/IQAE, on which trainings are given to the faculty involved in preparation and assessment of SARs (details of trainings are available).

Standard 1: Introduction and Program Details - Mission, Objectives & Outcomes					
Weight = 0.10					
	Overview of institute <i>(Give institute's brief introduction regarding its establishment, recognition by HEC, key specific focusses, range of faculties, etc.)</i>				
	Overview of department <i>(Give its brief introduction with history, programs being offered, accreditation history etc.)</i>				
1	University Vision and Mission statements are well defined and published <i>(Annex approval from relevant bodies)</i>	5	4	3	2
2	Departmental and program missions are defined and are in line with university vision and mission <i>(Provide table to relate key phrases)</i>	5	4	3	2
3	Program has well-defined admission criteria and other academic policies (e.g., credit transfer, examination etc.) and such information is available publicly <i>(provide brief details and evidence as Annexure)</i>	5	4	3	2
4	PEOs are defined, publicized and are in line with university vision and mission <i>(Provide table to relate key phrases)</i>	5	4	3	2
5	Processes are defined for PEOs evaluation, assessment and application <i>(Annex evidences of approvals of processes)</i>	5	4	3	2
6	For PEOs, CQI report contains results, analysis, recommendations and SAR explains the actions taken on deficient results. <i>(Annex or refer CQI report key findings and actions by the department)</i>				
7	Stakeholders are involved in defining and assessment of PEOs <i>(Provide minutes of relevant meetings where stakeholders are involved for defining PEOs and Annex details of latest Employer's and Alumni Surveys with results and analysis)</i>	5	4	3	2

Figure 5.4: Sample Rubrics for SAR preparation and assessment

5.3.3 Post Graduate Program Review (PGPR)

At Capital University of Science & Technology (CUST), the Postgraduate Program Review (PGPR) is a structured and systematic process aimed at ensuring the continuous improvement and quality assurance of MS and PhD programs. The process involves both internal and external reviews, conducted in accordance with the guidelines provided by the Higher Education Commission (HEC).

The internal review is carried out by the university's Quality Enhancement Cell (QEC), which collects and compiles data, prepares documentation, and conducts preliminary evaluations of the academic and research activities of each program. This includes a thorough review of curriculum design, faculty credentials, student feedback, research output, and available facilities.

Following the internal review, an external review panel—comprising subject experts from other institutions—is invited to conduct an on-site evaluation. The panel reviews the documentation prepared by QEC, interacts with MS and PhD faculty members and research scholars, and visits academic and research facilities. The panel also meets with Deans and Heads of Departments (HoDs) to gain further insights into institutional practices and academic governance.

PGPR exercises were successfully conducted at CUST on January 31 – February 1, 2024, and February 17 – 18, 2025. The external reviewers appreciated the university's commitment to academic quality and found that the documentation and practices were largely aligned with HEC standards. Review reports were submitted with findings and recommendations for continuous improvement.

Through this comprehensive PGPR process, CUST ensures that its postgraduate programs maintain high standards of academic excellence and remain responsive to evolving educational and research needs.

5.4 Acquiescence to Accreditation Councils

CUST rigorously follow the accreditation councils' standards and guidelines about programs accreditation. The professional accreditation councils have accredited CUST eight undergraduate programs being offered under Computing, Engineering, Pharmacy and Management Sciences faculties. These councils primarily evaluate the academic programs quality, ensuring that program meet all the standards and criteria requirements at international level and prepare graduates with requisite skills and competence successfully for the job market. All eight academic programs are well rated and assigned high category of accreditation both by national and international accrediting bodies.

5.5 Summary

All above mentioned external and internal quality tools used under different quality assurance processes being practiced by QEC, CUST as per requirement of professional councils and HEC, QAA. The feedback received from stakeholders contributes towards safeguarding the quality of academic standards and students learning experiences. The effective role of faculty and university management in the creation of education ecosystem and in observance of university governance has also been monitored through different IQA and EQA processes. The feedback plays key role in the improvement of quality of teaching & learning, research, faculty and overall university governance.

Chapter 6 Continuous Quality Improvement (CQI)

6.1 Categories of CQI

There is always continuous need of quality improvement depending upon the feedback and input of stakeholders and activities being executed to run the operations. CUST follows a comprehensive Continuous Quality Improvement (CQI) process. Institutional CQI is broadly categorized into:

- (a) Student Assessment and Evaluations &
- (b) HEI processes / policies

Each one of them with their tools and focus are depicted in Figure 6.1 and explained in following sections.

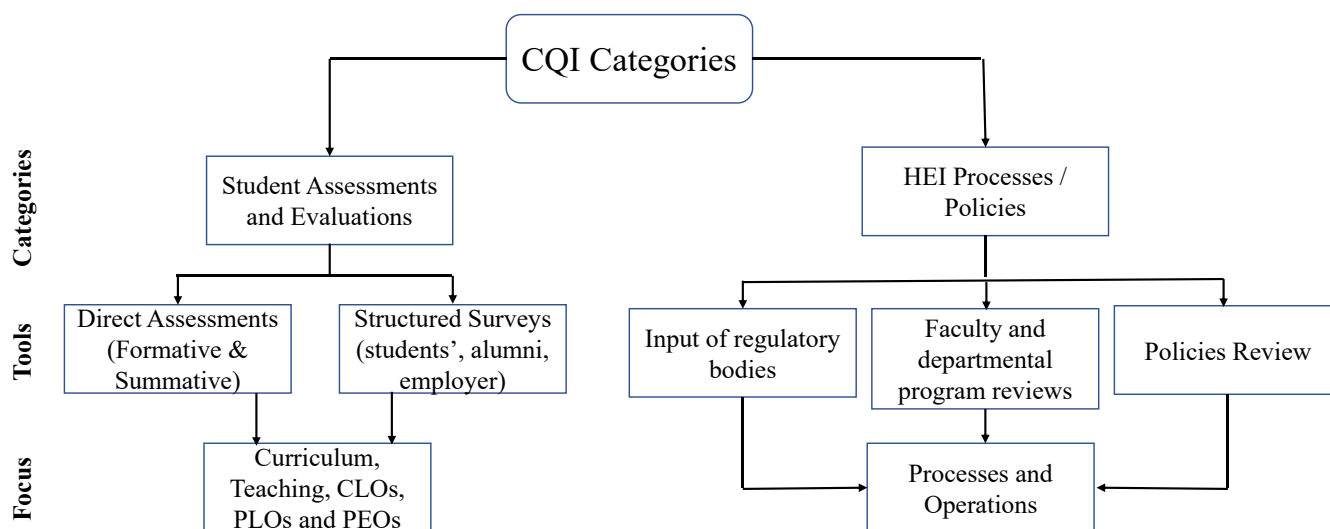


Figure 6.1: CQI Categories

6.1.1 CQI on Student Assessment and Evaluations

Refer to Figure 3.1 that shows “Curriculum Design and Student Assessment Process”. After designing curriculum, following process is adopted for CQI.

The 1st step is the assessment which is a bottom to top approach that starts from course and goes to its CLO and PLO assessment. Then from individual course, it moves to program level PLO assessment wherein number of courses make weighted contribution to program level assessment. PEO assessment is based on alumni and employers’ surveys and is indirectly assessed with program level PLOs as well.

The 2nd step is Analysis and Evaluation of assessments against defined KPIs (Key Performance Indicators) on the three cycles (Figure 6.2) before doing the 3rd step of CQI.

CUST follows a comprehensive Continuous Quality Improvement (CQI) process based on three simultaneous assessment cycles: Course Learning Outcomes (CLO) assessment, Program Learning Outcomes (PLO) assessment, and Program Educational Objectives (PEO) assessment. These cycles ensure continuous evaluation and enhancement of the academic programs to maintain their relevance and effectiveness.

Curriculum review is conducted at two levels using these assessment cycles:

- **Course-Level Review:** This includes evaluating CLOs and their mapping to PLOs, reviewing course content, teaching methodologies, and course activities to ensure effective learning outcomes.
- **Program-Level Review:** This focuses on reviewing PLOs, mapping them to the degree roadmap, and modifying courses to align with the Outcome-Based Education (OBE) system. It includes curriculum design, assessment, and CQI as ongoing processes.

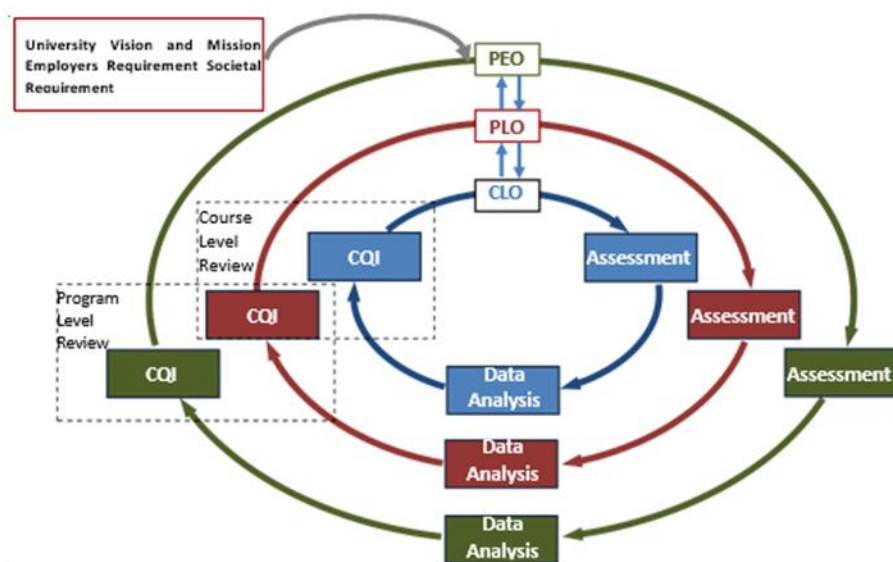


Figure 6.2: CQI Cycle for Program Curriculum improvement

At CUST University, the curriculum assessment follows a cyclic process, ensuring continuous improvement and alignment with educational objectives.

In the 3rd step, the results are analyzed in Continuous Quality Improvement (CQI), where PLOs, roadmaps, program structure, individual CLOs, course contents, and teaching methodologies are reviewed and refined. Any necessary Corrective Measures are implemented, looping back into the program design for further enhancement. Meanwhile, curriculum design follows a top-down approach, beginning with PEOs linked to PLOs, structuring the curriculum roadmap, defining course content, and establishing learning levels based on educational taxonomies, ensuring a well-structured, continuously evolving academic framework.

6.1.2 CQI Practices in HEI Processes and Policies

HEI processes include (a) Input of regulatory bodies (HEC and Councils), (b) faculty and departmental program reviews including CQI reports of first category of CQI, and (c) Policies reviews. For the CQI of this category, input based on facts and against KPIs is analyzed, reviewed and finalized in meetings of various statutory bodies. After detailed discussion, necessary changes /amendments in above mentioned documents are approved and adopted to run the routine matters of the institute. The details and brief roles of statutory bodies have already been mentioned in other chapters of this document.

Chapter 7 Implementation

7.1 Commitment

Capital University of Science and Technology, established an Internal Quality Assurance Cell (QEC), as per HEC's PSG-2023 QA framework, to achieve excellence and commitments made under the Quality Policy, through continuous improvement in quality following HEC, QAA guidelines. The QEC has to act as a focal point for planning, implementing all internal and external quality assurance policies and practices as per set standards/tools. One of key function of QEC/IQAE is to manage internal quality processes at both program and institutional level. The function of liaising with external quality assurance bodies like QAA HEC and accreditation council is also the responsibility of QEC/IQAE. It plays very important role in developing institutional quality culture through enhancing the quality of academic programs being offered. The core responsibilities of the office of QEC/IQAE includes following: -

- Promoting public confidence that the standard of academic awards is safeguarded and that quality is assured and enhanced
- Systematic internal review of academic standards and the quality of teaching and learning in each subject area
- Systematic review of academic affiliations and partnerships with other institutions to ensure effective management of standards and quality of programmed
- Facilitating external review of programmed and the institution
- Coordination and liaison with QAA_HEC for implementation of HEC's guidelines related to quality assurance
- Coordination between accrediting departments and accreditation councils for timely accreditation of programmed from respective councils
- Facilitating in establishment and functioning of IQAE sub-offices at campuses, constituent units and affiliated institutions
- Supervision of sub-offices of IQAE at campuses, constituent units and affiliated institutions
- Actively participating in meetings of all statutory bodies
- Capacity building of all internal stakeholders on QA-related activities
- Ensuring institutional alignment with the national qualification's framework of Pakistan at associate degree programmed, bachelor, master's, and doctoral level

- Developing and enhancing quality assurance processes to affirm that the quality of provision and the standard of awards are being maintained
- Fostering curriculum, subject and faculty/staff development, together with research and other scholarly activities
- Developing and enhancing procedures for student partnership in quality assurance activities
- Ensuring that the institution's quality assurance procedures are aligned with national arrangements for maintaining and improving the quality of higher education.

7.2 Procedures

Figure 7.1 shows various steps adopted for implementation of quality policy mechanism.

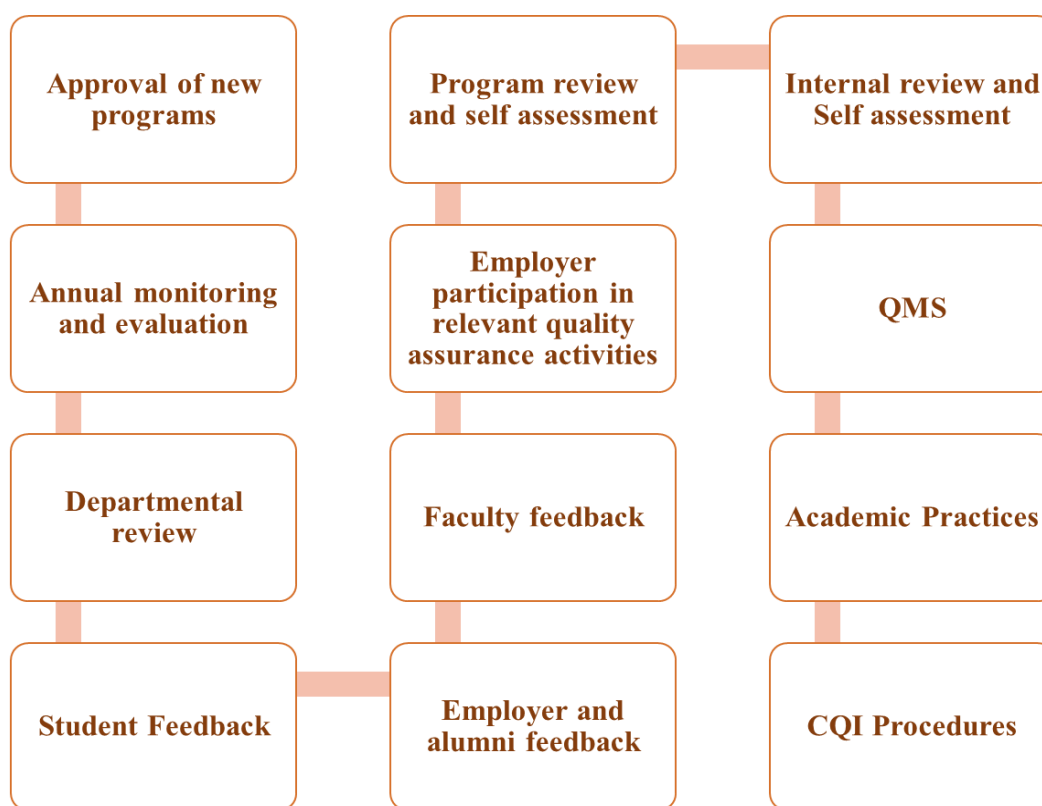


Figure 7.1: Procedures for Quality Assurance Mechanisms

7.3 Quality Culture and Role of IQC

The CUST Quality Framework, aligned with the university's vision and mission, is committed to elevating educational standards by establishing strong internal quality assurance mechanisms and fostering a culture of quality at all levels. This framework integrates quality assurance into academic practices and promotes

a conducive learning environment for students. All institutional stakeholders are dedicated to institutionalizing this culture of quality through active participation and commitment.

The Institutional Quality Circle (IQC), designated by the Higher Education Commission (HEC) under the PSG-2023 QA Framework, serves as the highest centralized forum for quality assurance. Chaired by the Vice Chancellor, the IQC comprises all statutory positions along with two student representatives and is recognized as the highest quality policy forum under CUST's institutional governance framework. As a decisive and delegated authority, the IQC is responsible for facilitating and maintaining both Internal Quality Assurance (IQA) and External Quality Assurance (EQA) processes while supporting overall institutional quality improvement.

Acting as a key tool of the Institutional Quality Assurance & Enhancement (IQAE) Office, the IQC plays a pivotal role in fostering a robust quality culture within the institution. It is primarily responsible for developing and reviewing university academic policies and ensuring the continuous enhancement of students' learning experiences while maintaining academic standards. The IQAE Office regularly apprises the IQC forum of key observations and queries raised under IQA and EQA components of university performance reports. It also ensures that appropriate remedial actions are taken and implemented by the relevant university departments and offices.

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