**6.5.1. Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes by constantly reviewing the teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals**

Internal Quality Assurance Cell (IQAC) is a body of high importance in the university system. It serves as a sounding board for the management in its quest for excellence and helps to bring out quality improvements in several domains. The IQAC debates on a variety of subjects including teaching and learning processes, academic and physical infrastructure, student progression, faculty empowerment etc., and provides recommendation to the university to take appropriate steps.

The academic and administrative structure of HBNI is unique. The CIs and OCCs are administratively independent; they are also solely responsible for several academic functions such as selection and admission of students, infrastructure development and student support as first responders, proposal/ revision of courses to support their mission programs, etc., at the same time following uniform, predominant guidelines arrived at the university level. The CIs and OCCs accordingly have their own bodies/ forums that look at quality improvements with regard to academics as well as administration. In addition, HBNI central office also drives the quality movement, designing and implementing new processes/ procedures across the CIs/OCCs, to enhance the delivery of quality measures.

At HBNI, IQAC was first set up in 2014 and its functioning has been strengthened in the recent years. Considering the distributed structure of HBNI, a few additional forums with wider participation from CIs/OCCs, e.g. the Standing Committee of Deans (SCD) were also mandated with deliberating the quality improvement initiatives. Two quality improvements that have been institutionalised due to deliberations in IQAC and SCD are described below in brief:

1. Timeline for Ph.D. programs: it was noted that the total time taken for award of Ph.D. degree after submission of thesis needed to be reduced to enable students to move on in their career. The procedural steps after submission of synopsis by the student were reviewed and it was concluded that the review of thesis can be accelerated by forwarding the thesis to three reviewers simultaneously instead of two. This was deliberated in several meetings of SCD and has now been implemented in the Academic Ordinances issued in 2018.
2. Feedback from stakeholders: The feedback from the students indicated that a broader choice of courses would be of great benefit to the students. The ordinances have accordingly been modified to permit students to acquire course to the extent of 40% by self-study of courses offered by NPTEL or other MOOC platforms or credit seminars.

In the current academic year (2023-2024), IQAC at HBNI has made the following contributions:

1. A faculty induction program was conducted in June 2023, Jan 2024 and March 2024, for the new faculties to brief them about the academic process at HBNI.
2. For improving the quality of education, HBNI Central Office conducted interaction meeting with the students and faculty members of CIs and OCC at their respective institutes. Interaction meeting with students and faculty of Chemical sciences and Engineering Sciences students of BARC, Mumbai were organized on June 22, 2023 and July 12, 2023 respectively at Mumbai. An interaction meeting with the students of IPR, Gandhinagar was held on Nov 9, 2023 at IPR, Gandhinagar.
3. Discussed different initiatives to enhance interactions and collaborations between faculties of HBNI to realize resource sharing, student mobility, co-guidance of programmes and joint courses etc.
4. In order to facilitate interdisciplinary research among the students and faculties, discussion meetings on specific disciplines were proposed to conduct in the different CIs of HBNI.
5. In order to provide awareness on non-scientific topics, it was proposed to conduct webinars on general topics.
6. A course was organized jointly by HBNI and INSTN, France on “Structural Integrity Assessment of Mechanical Components: Concepts & Procedures” at HBNI, Mumbai from March 9-15, 2024.
7. A unique value added course was organized on “Disaster Management-Challenges in Chemical, Biological, Radiological and Nuclear (CBRN) Emergencies” for the benefit of students/faculty members.
8. To promote/popularize science, HBNI Alumni cell organised talks by alumni and distinguished speakers on career opportunities in science and engineering for the benefit of students of HBNI. HBNI Placement Cell organized special lecturers and webinars by eminent academicians, engineers, technologists and alumni of HBNI on diverse topics. Some of the topics covered are (1) From PhD to Independent faculty, (2) Musings of a scientist: Incremental steps towards commercialization, (3) Bridging the gap: Navigating the transition from academia to industry. (4) Climate Change and Hydrogen Technology for steels in 2030. (5) Role of nuclear energy in India’s Energy Mix, (6)BARC: The glorious 70 and the enchanting 30 ahead – Scientific ideas engineered into reality: Past to Present and Future (7) Career in DAE: A pedestal to unparalleled opportunities (8)Science and Scientist: some inspiring stories, (9) Nuclear Power: the need, the public perceptions and realities, (10) Experience in Design, Construction and Commissioning of LWR Plants.